

Investment Promotion Report of China's Logistics Industry 2014-2015 Simplified Version



Deloitte Research

Investment Promotion Agency of Ministry of Commerce, P. R. China

Development & Research Center of the State Post Bureau

June 2015

Contents

I Overview of the Global Logistics Industry and Investment & Development in China	1
1. China leads the continuous growth in global logistics market.....	1
2 Foreign businesses speed up deployment in China's logistics industry	3
II Overview of the development and drivers of China's logistics industry.....	5
1. History and current situation in the development of China's logistics industry.....	5
1.1 The logistics industry in China has grown exponentially with the infrastructure continuously improved.....	5
1.2 Total social logistics costs remain at a higher percentage over GDP.	8
1.3 Logistics enterprises have lower profit margin and high-end logistics enterprises are yet to be found	9
2. Factors in policy, science and technology, and market are profoundly driving the boom in China's logistics industry.....	13
2.1 "One Belt One Road " will push forward the economy, trade and logistics development in Central and Western China as well as in surrounding countries.....	13
2.2 Urbanization is likely to gradually improve the level of logistics in under-developed regions.	14
III Express sector: experiencing explosive growth with the integratd development and cross- industry competition as prevailing market theme.....	16
1. Explosive growth in synch with growth of e-commerce	16
1.1 Current situation in express sector.....	16
1.2 Growing in synch with e-commerce.....	17
2. Competitive analysis of China's domestic express industry.....	19
2.1 Classification of subjects in domestic express industry.....	19
2.2 Investment direction and focus by different types of express enterprises	21
2.3 Analysis of enterprise competitiveness in China's express sector.....	21
3. Analysis of go-global efforts on domestic express enterprises	22
4 The development across the boundary between e-commerce and express sector	24

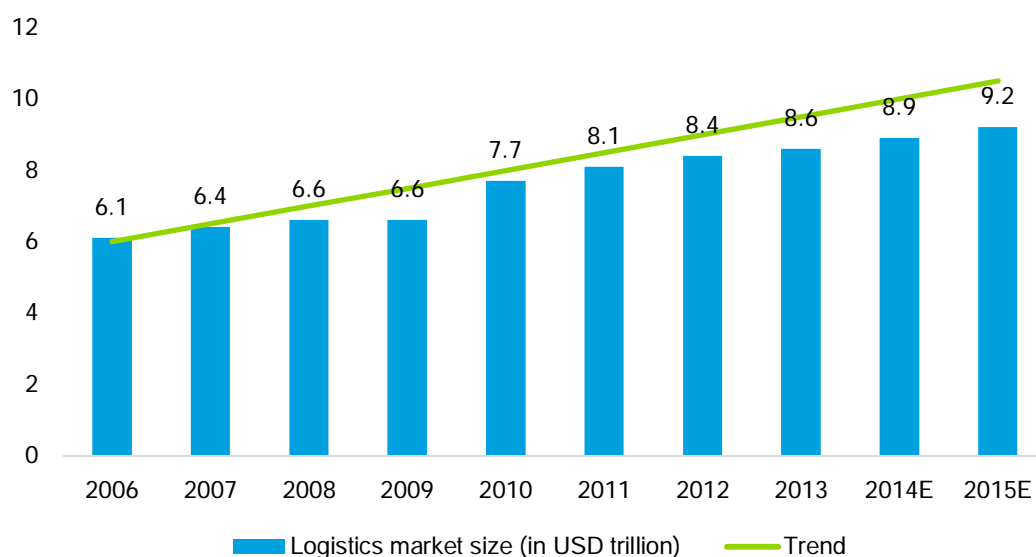
5. The future of China's express sector	26
IV Logistics supply chain: a differentiated development across different industries	27
1. Analysis on development in automobile logistics	27
1.1 Sale of automobiles continues to grow in China and automobile logistics market continues to expand	27
1.2 A higher percentage in vehicle logistics outsourcing but a lower level in logistics service quality	29
1.3 A higher logistics cost ratio in China's automobile industry without large national service providers	30
1.4 Vehicle manufacturers seek help from logistics for transformation and logistics service providers strive to expand service offerings.	32
2. Analysis on development in cold chain logistics.....	33
2.1 Growth in global cold chain market will remain at 8% in 2017 and China's cold chain logistics lags behind.	33
2.2 Growth in China's cold chain logistics is accelerating with unbalanced development across regions.....	35
2.3 Policies, market and capital have combined to boost the growth in China's cold chain market.....	37
2.4 Demand fueled by the new urban economy surges, bringing innovation to business models in cold chain business	39
V Analysis on investment trends in China's logistics industry	40
1. Logistics has become a focal point in foreign investment in China	40
2. Analysis on foreign investment by Chinese logistics enterprises.....	42
VI Development trends of China's logistics industry	44

I Overview of the Global Logistics Industry and Investment & Development in China

1. China leads the continuous growth in global logistics market

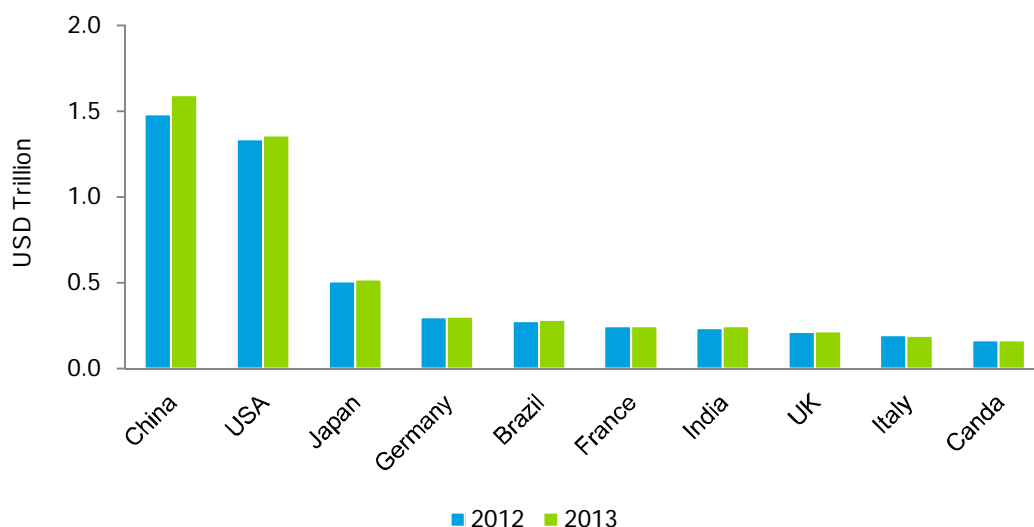
Along with the deeper-level progress made in the global and regional economic integration and the widespread usage of information technology especially the internet in recent years, the logistics industry in the world has undergone profound changes and has received ever increasing attention. Today, modern logistics has grown to be a huge system that includes contract logistics (third-party logistics), ground transportation (logistics provided through highway and railroad systems), express delivery and parcel delivery, freight forwarding, fourth-party logistics and distribution companies. Latest data from Armstrong & Associates indicate that the global logistics market had grown in sheer size by 29.58% from USD6.62 trillion in 2009 to over USD8.5 trillion at the end of 2013, representing an annual compound growth rate of 6.69%. Country wise, China's logistics market grew to the size of USD1.59 trillion to account for 18.6% in the world in 2013, making it the world's largest logistics market two years in a row. US took the second place with a logistics market size of USD1.36 trillion, representing 15.8% in the world. It is estimated that, fueled by the economic recovery in many countries in the years to come, the global logistics market size will continue to grow rapidly, likely to reach USD9.18 trillion by the year of 2015.

Fig. 1-1 History of the development in the global logistics industry



Data source: Armstrong & Associates Inc. , Deloitte Research

Fig. 1-2: Logistics market size by country/region in 2012/2013



Data source : Armstrong & Associates Inc. , Deloitte Research

Below table displays the ranking of China’s logistics competitiveness in the world by sub-indexes. It shows that the weakness in China’s logistics industry mainly comes from its customs clearance efficiency, timeliness of delivery and logistics service ability and quality, of which the customs clearance efficiency is a governmental responsibility while all the others need to be improved by businesses themselves. The relatively higher ranking in trade and transportation infrastructure indicates that the large scale investment in infrastructure driven by the government in recent years has effectively improved the logistics infrastructure in China. However, the logistics “software”, namely logistics service, remains an area in urgent need of transformation and upgrade so as to enhance logistics enterprise’s ability to provide high-end service and uplift service quality.

Table 1-1: Ranking of China’s logistics competitiveness in the world by sub-indexes

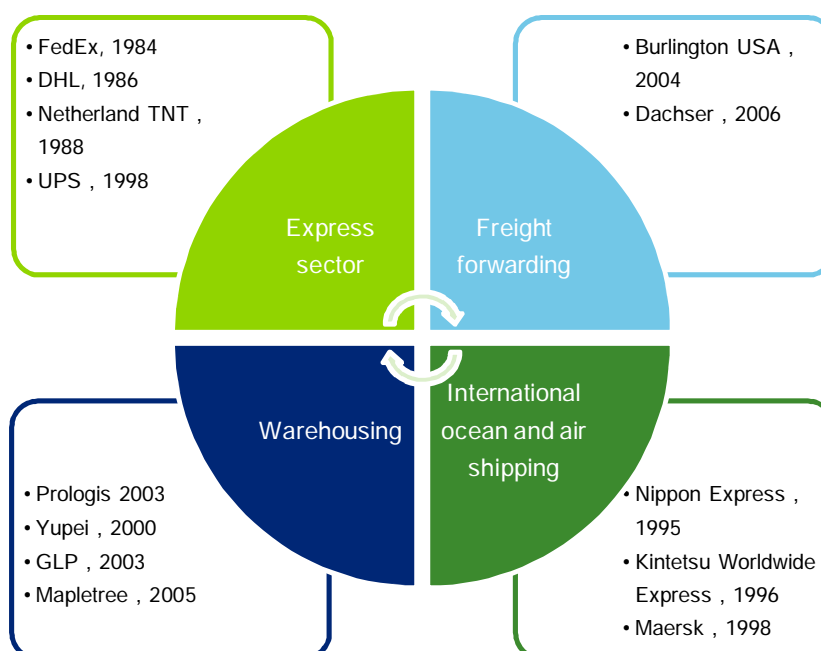
Sub-index	China’s ranking
Customs clearance efficiency	38
Quality of trade and transportation infrastructure	23
Delivery of goods at competitive pricing	22
Logistics service ability and quality	35
Ability in tracking and tracing goods	29
Timeliness of delivery	36

Data source: World Bank, Deloitte Research

2 Foreign businesses speed up deployment in China's logistics industry

Multinational logistics companies entered the Chinese market at the beginning of China's reform and opening up to the outside world, mainly by forming joint ventures due to policy restriction. To fulfill its commitment to join WTO, China started to fully open up its service sector since 2005. As a result, the logistics industry was opened to foreign investment, symbolizing a turning point in the development of China's logistics industry. However, as shown in the table below, foreign logistics enterprises started establishing wholly-owned enterprises in China as early as 2004. UPS paid USD100 million in acquiring the stakes previously held by the Chinese party of Sinotrans joint venture at the end of 2004. FedEx bought out the related business from DTW Logistics in 2005, indicating that the multinational companies had made strategic moves in an effort to grab the share in China's domestic market by operating wholly-owned subsidiaries. This also explains why China saw a surge in foreign investment in its logistics industry around the years of 2004 and 2005.

Fig. 1-3: When, how and in which business did multinational logistics companies enter China



Data source : Deloitte Research

Nowadays, multinational companies have, by capitalizing their lead in scale, capital, technology and management, gradually shifted from running joint venture operations to wholly-owned enterprises, from single to multiple business, and from concentrating on logistics operation in central cities to building national logistics networks. To this end, many multinational companies have expedited the pace in their investment and deployment in China. While demonstrating a pronounced competitive edge in high-end logistics business, they are making every effort in penetrating each segment of the logistics market in China. In the meantime, the increasing scale and diversified way of investment in China by international logistics companies will lead Chinese enterprises to further integrate into the global logistics industry. The table below lists some significant events in the investments in China by multinational enterprises:

Table 1-2: Major investments and acquisitions by multinational companies in China

Multinational company	Year	Major investments and acquisitions in China
UPS	2004	Paid USD100 million to acquire stakes in the joint venture and the right to directly control the international express delivery service in 23 cities in China.
	2007	Established UPS international air transshipment center in Shanghai Pudong International Airport.
FedEx	2005	Invested USD150 million in building a new Asia Pacific transshipment center in Baiyun International Airport in Guangzhou.
	2006	Paid USD400 million to acquired the joint venture and DTW Group's express delivery network in China.
	2012	Plan to invest over USD100 million to build a new center for international express delivery and freight in Shanghai Pudong International Airport.
DHL	2006	Invested USD30 million to build a new logistics center in Waigaoqiao Bonded Logistics Park in Shanghai.
	2007	Concluded an agreement with Shanghai Airport Group to invest USD175 million to build DHL North Asia Hub in Shanghai Pudong International Airport.
	2007	Paid USD660 million to purchase back 50% stakes in Exel Freight Forwarding Co., Ltd. to convert it to a wholly-owned company.
TNT	2007	Paid RMB800 million to acquired HOAU – then the largest private highway freight company in China.
	2010	Plan to invest Euro170 million in the next five years to develop the delivery market by land in China.
Schneider Logistics	2007	Acquired the Chinese Baoyun Logistics Co. Ltd.
YRCW	2008	Paid USD44.7 million to acquire 65% stake in YRC – the largest Chinese highway freight forwarding company.
Ceva Logistics	2012	Purchased back all the outstanding shares of the joint venture to convert it to a wholly-owned subsidiary of an international logistics supplier.

Data source : Collected and sorted by Deloitte Research

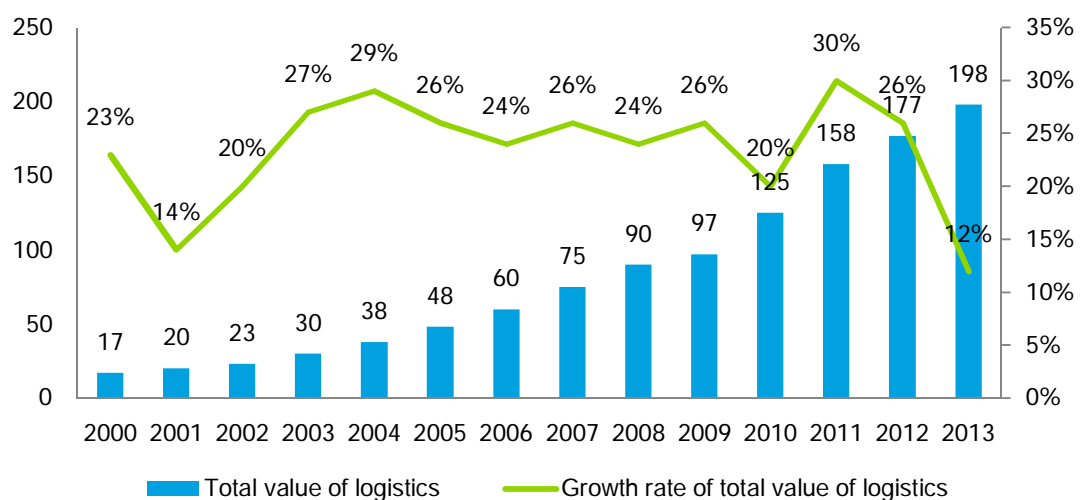
II Overview of the development and drivers of China's logistics industry

1. History and current situation in the development of China's logistics industry

1.1 The logistics industry in China has grown exponentially with the infrastructure continuously improved

The total value of logistics industry has been growing steadily. China's logistics industry in China has shown a trend of gradual growth while overall remaining steady over the course of the past few years. Data from the State Statistics Bureau show that in the years from 2000 to 2013, the total value of social logistics in China grew 3.3 times at an annual compound growth rate of 19%, indicating that spurred by the rapid growth in economy and the tertiary industry as well as progress made in urbanization in China, the logistics industry has been growing at full speed.

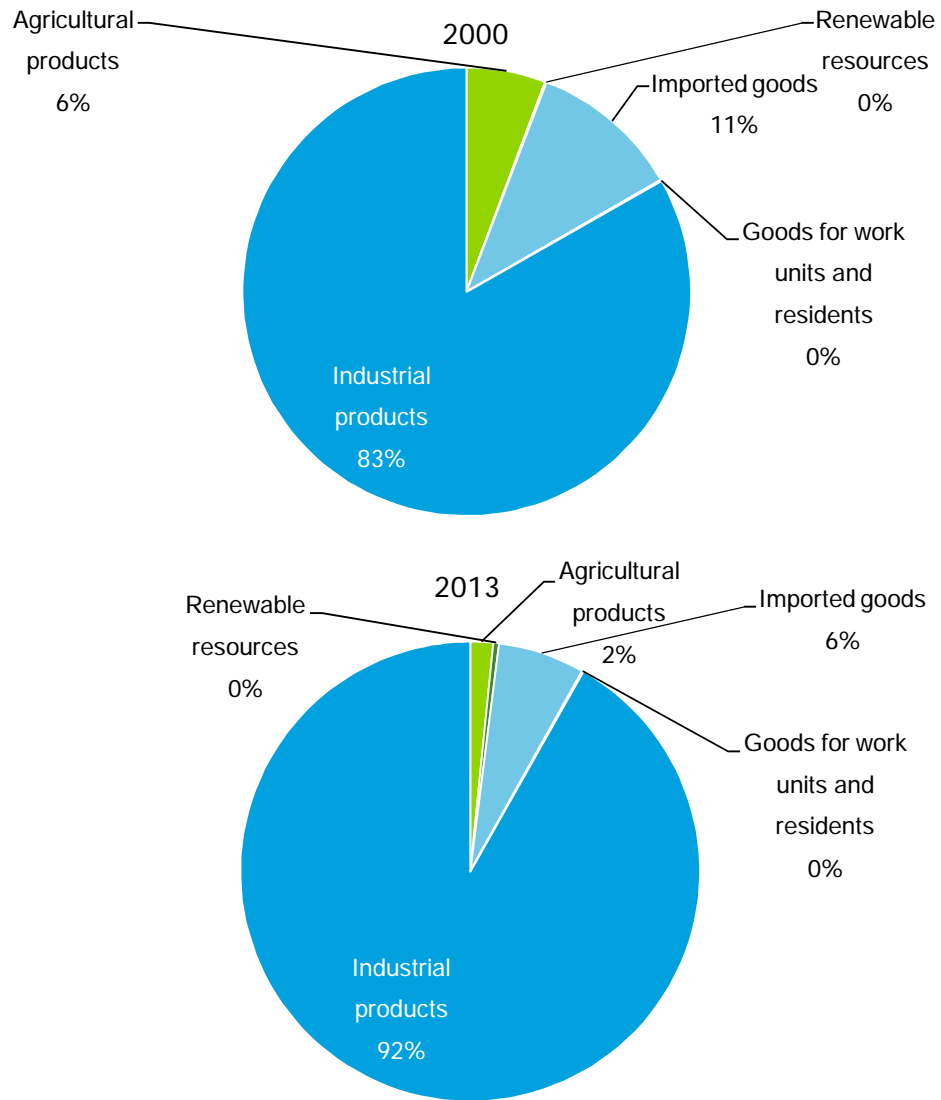
Fig. 2-1: Total value of logistics and growth rate 2000-2014



Data source : State Statistics Bureau, Deloitte Research

The percentages of logistics in agricultural products, renewable resources, imported goods, goods for work units and residents over total value of logistics remained unchanged or declined in 2000-2013, while logistics in industrial products increased steadily and became the main factor in driving the logistics development. The total value of logistics in industrial products in 2013 reached RMB181.5 trillion, growing at 9.7% on YOY basis and representing 91.8% of total value of social logistics.

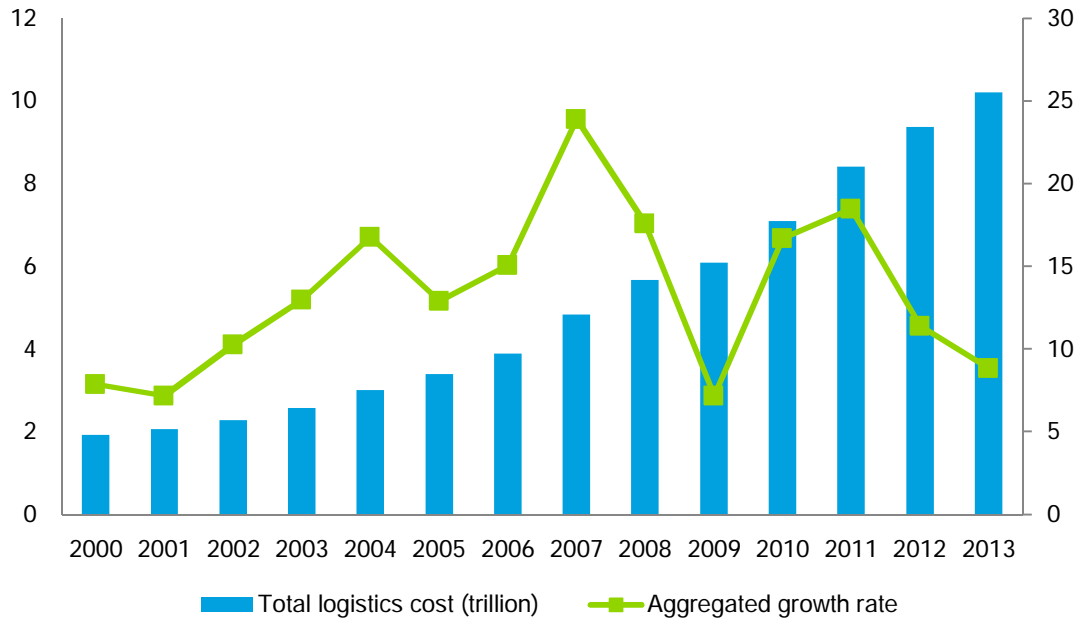
Fig. 2-2: Segment shares in China's logistics market 2013/2000



Data source : State Statistics Bureau

Growth in total logistics cost slows. Estimated on the total costs in social logistics, the annual compound growth rate is 13%, far higher than the average international annual growth rate of 8%. A close comparison reveals that the growth rate in the total value outpaces that in the total costs of national social logistics, suggesting that the value of the goods per unit logistics cost is increasing, which symbolizes that China's logistics is marching toward carrying more high-valued products and is also somewhat related to the upgrade in consumption and industrial transformation.

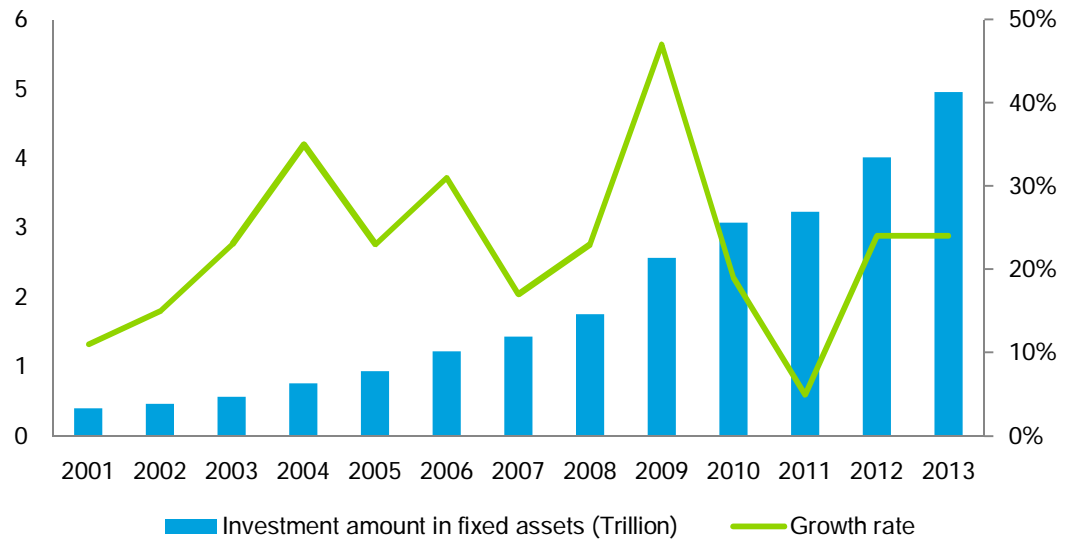
Fig. 2-3: Total logistics costs and growth rate in China



Data source : The State Statistics Bureau

Investment in logistics fixed assets has grown rapidly. The investment in fixed assets grew continuously in 2000-2013 at a compound rate of 13%. It fluctuated dramatically during the 12th Five-year Plan period.

Fig. 2-4 Investment in logistics fixed assets and growth rate

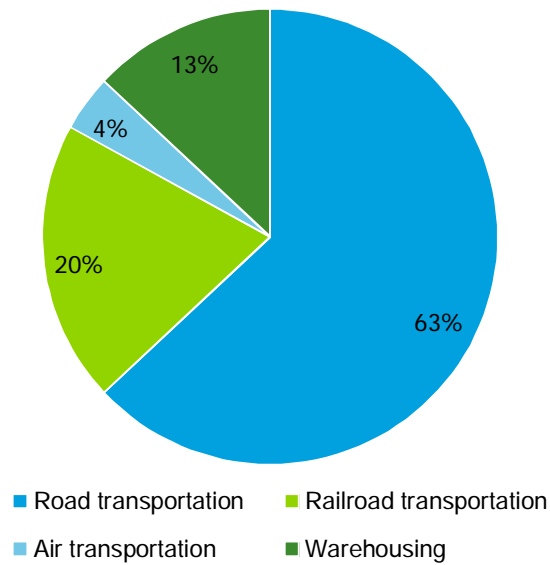


Data source : The State Statistics Bureau

From the view of the composition of investment in logistics fixed assets in China in 2013, the investment in road transportation grew rapidly and reached 2.1 trillion yuan at 18.5% on YOY basis; the investment in railroad transportation was still in a relatively concentrated phase and reached 651 billion yuan at 6.3% on YOY basis; the investment in air transportation kept steady growth and reached 128 billion yuan at 14.3% on YOY basis; the investment in

warehousing showed high-speed growth and reached 420 billion yuan at 32.7% on YOY basis.

Fig. 2-5: Composition of investment in logistics fixed assets in China in 2013

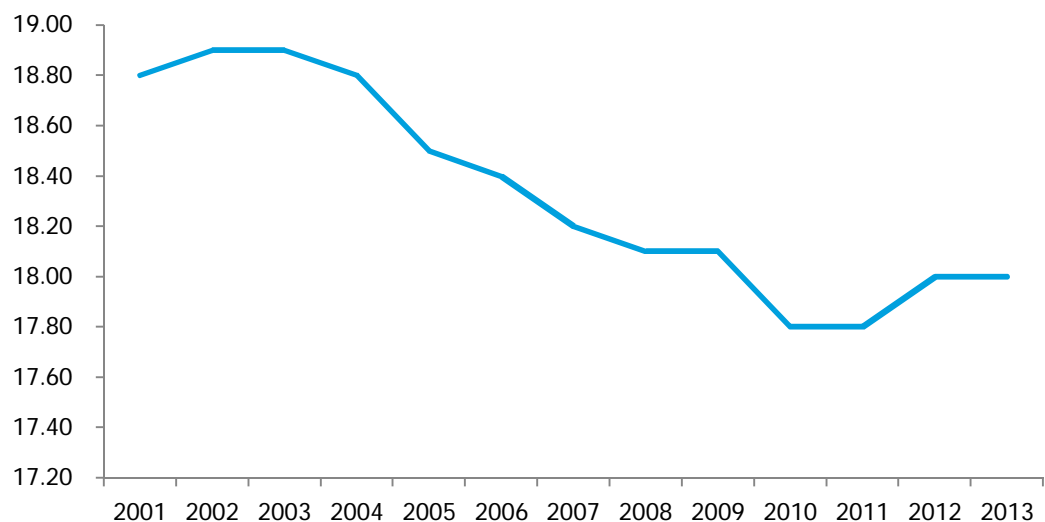


Data source : The State Statistics Bureau

1.2 Total social logistics costs remain at a higher percentage over GDP.

It has long been a widespread concern that social logistics costs have taken an unproportionately higher share of GDP. Results from domestic and foreign statistics show that China has had the highest costs-over-GDP ratio in logistics for many years in the past. Although it showed some signs of slight decrease in the past ten years, it has rebounded recently. Many factors have contributed to the social logistics costs on the higher side in China, among which the industrial structure, commodity pricing, the distance between locations of production and consumption as well as irrational distribution of industries are all affecting the costs. In the meantime, the higher costs are also attributable to the lower level of distribution management system and enterprise management style.

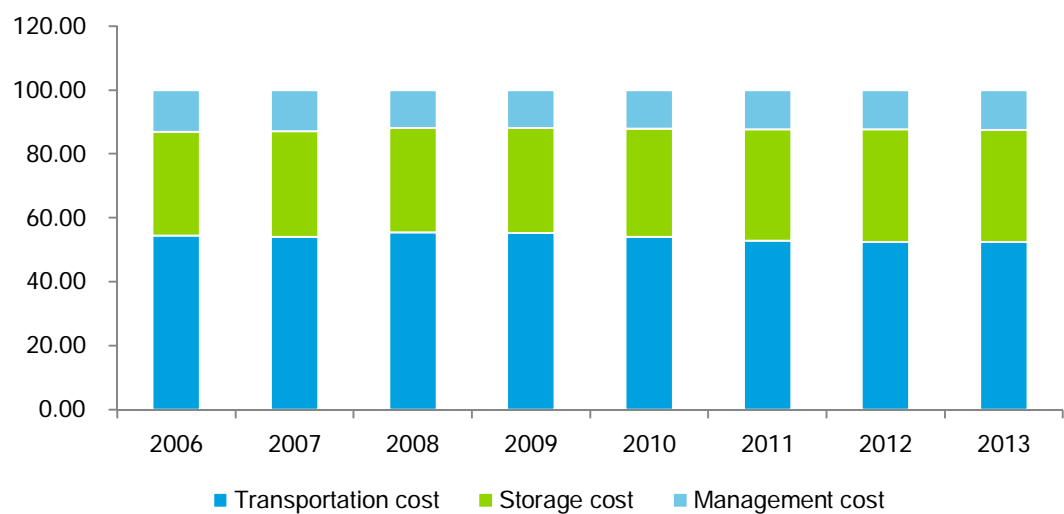
Fig. 2-6: Ratio of total logistics costs over GDP (%)



Data source : Wind, Deloitte Research

A dissection of the structure of logistics costs in China reveals that transportation costs have taken the biggest chunk, but have followed a decreasing trend from 2006 to 2013. The percentage of storage costs has risen slowly while that of the management cost has stayed largely unchanged, identifying the hike in the cost of land usage and warehousing as the main factors driving the rise of logistics costs in recent years. Excluding the natural rise in the land price, a booming e-commerce has fueled the enthusiasm in warehouse construction by e-businesses, and in the meantime, various logistics industrial parks have been established in many places in China, all pushing up the warehousing prices from the demand side.

Fig. 2-7: Composition of total social logistics costs



Data source : Wind, Deloitte Research

1.3 Logistics enterprises have lower profit margin and high-end logistics enterprises are yet to be found

High social logistics costs have not translated into high profit for the logistics enterprises in China. A survey conducted by China Logistics Information Center indicates that in 2013, China's leading logistics enterprises had a profit margin of 4.1% from their prime business operations, which was 1.4 percentage points lower than that from industrial enterprises above designated size for the same period.

Currently, most Chinese logistics enterprises operate in mid-to-lower-end markets and offer similar products and services. Without much pricing power and on the edge of being integrated, they have been squeezed in the supply chain dominated by large customers and foreign logistics enterprises. On the other hand, high-end logistics markets that have high technical contents, service added-value, and require high professionalism and usually the ability to operate a global network, such as medicine logistics, vehicle logistics, international express delivery, fashionable and ready-made garments and cold chain logistics are under the monopoly of international logistics giants. According to the latest statistics from Armstrong & Associates, Sinotrans is the only Chinese enterprise that ranks among the top

20 third party logistics enterprises in the world in 2013. All the other listed logistics enterprises are from the developed countries and regions such as Europe, USA and Japan.

Table 2-1: Revenue of third party logistics service providers in the world

Third party logistics service provider	Revenue(US\$ Millions)
DHL	31,432
Kuehne + Nagel	22,587
DB Schenker Logistics	19,732
Nippon Express	17,317
C.H. Robinson Worldwide	12,752
CEVA Logistics	8,517
DSV	8,140
Sinotrans	7,738
Panalpina	7,293
SDV (Bolloré Group)	7,263

Data source : Armstrong & Associates Inc.

Now, 80% of international express delivery business has been monopolized by the four international giants of DHL, FedEx, UPS and TNT and is still growing by more than 10% annually. Comparatively, China Post and Sinotrans are operating in very restrained markets. Information shows that the four international giants offer express delivery services at prices usually lower than EMS by 10-15%, making it a difficult task for Chinese express delivery service providers to compete with their international counterparts for international express delivery business.

State-owned logistics enterprises dominate the top 50 logistics enterprises list in terms of revenue and quantity

The 2014 top 50 logistics enterprises in China is dominated largely by centrally-owned or state-owned enterprises followed by privately or individually-owned enterprises. Foreign wholly-owned enterprises or joint ventures between China and foreign countries are rarely seen on the list. 8 of the top 10 enterprises are centrally-owned, state-owned enterprises or enterprises wholly-owned by state-owned enterprises with the exception of one individually-owned and one Hong Kong-funded enterprise, ranking in the 9th and 10th place respectively. Centrally-owned and state-owned logistics enterprises have shown much higher operating revenue than logistics enterprises of other nature. Toward the end of the list, the number of

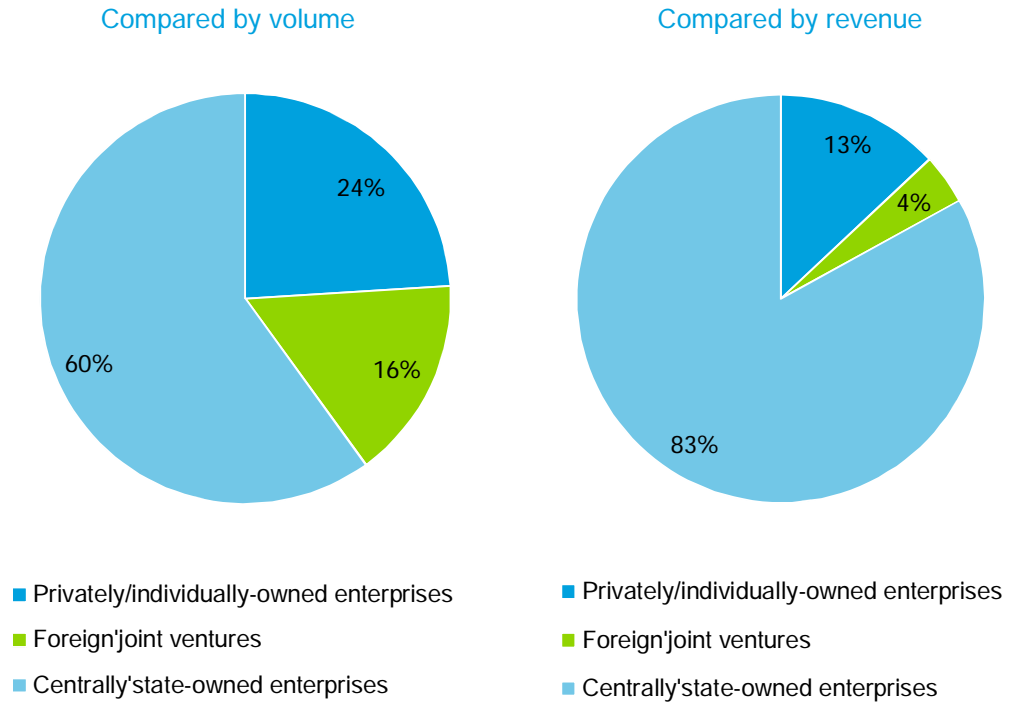
centrally-owned and state-owned enterprises dwindles while that of privately or individually-owned enterprises, foreign enterprises or joint ventures between China and other countries increases.

Fig. 2-8 Types of logistics enterprises in China

State-owned	Foreign-owned	Privately-owned
<ul style="list-style-type: none"> including branches from different state-owned institutions such as Sinotrans, Sinotrans & CSC, China Shipping Group, China Post, China Railway Freight, China Railway Express, Air China Cargo, as well as logistics companies owned by large scale manufacturing enterprises including PetroChina and Sinopec. These enterprises usually are leaders in the market segments prohibitive to logistics enterprises of other nature, including offshore shipping and domestic mail delivery services. 	<ul style="list-style-type: none"> including enterprises invested by capital from foreign countries, Hong Kong, Macao and Taiwan, such as FedEx, DHL, UPS, Kerry Logistics, and Global Logistics Properties. They are usually the world's top 500 logistics service providers with global network, rich experiences, huge talent pool, higher business management ability, keen market insight, mature operational concept, ample customer resources and diversified financing channels. 	<ul style="list-style-type: none"> These enterprises are huge in number and spread across every market segment, such as road transportation, domestic express delivery and warehousing etc. Some such as SF Express, YT Express, STO, and YUNDA have built a national network and have grabbed some market shares. Privately-owned enterprises tend to deploy in the segments with lower threshold and gain competitive advantage by offering lower prices.

Data source : Deloitte Research

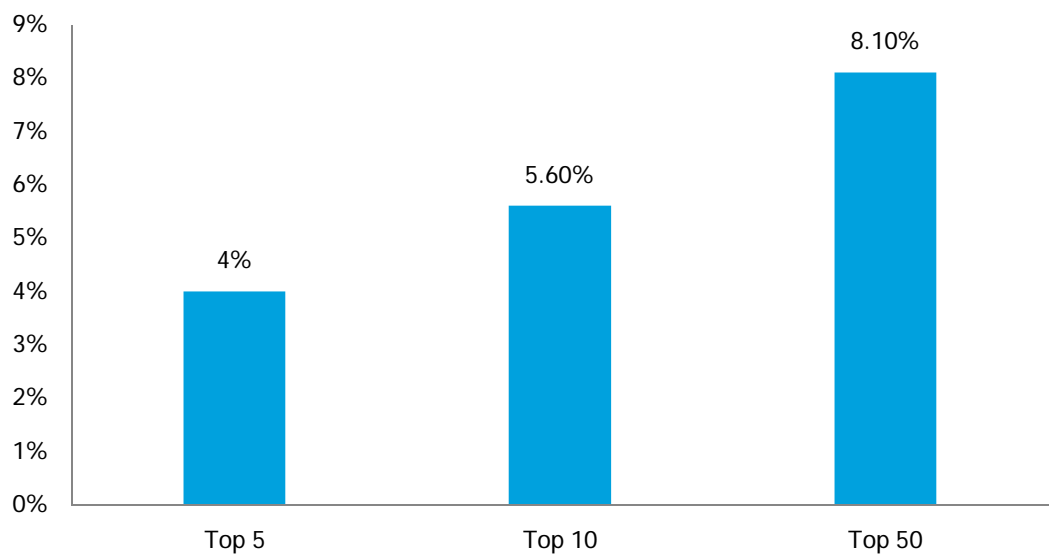
Fig. 2-9: Comparative analysis of top 50 logistics enterprises



Data sources : Deloitte Research

Compared to the centralization of logistics enterprises in China, the total revenue from top 50 enterprises only accounted for 8% of total social logistics costs in 2013, indicating that the Chinese logistics market is highly decentralized and the larger size of state-owned enterprises is a result of prior monopoly in this sector. Given that China is a more open society now, the logistics industry will show a greater development potential in the future if state-owned enterprises may merge with foreign enterprises to create a mixed ownership and market-oriented reforms are carried out.

Fig. 2-10: Centralization in Top5, Top10 and Top50 logistics enterprises in 2013



Data source : Wind , Deloitte Research

2. Factors in policy, science and technology, and market are profoundly driving the boom in China's logistics industry

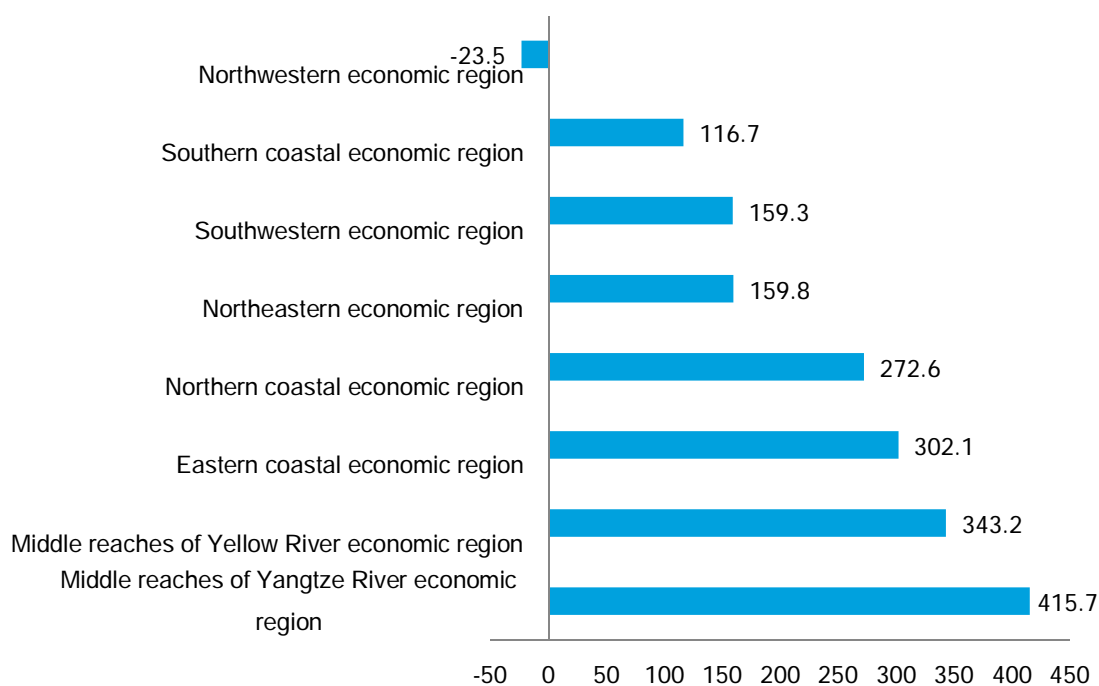
2.1 "One Belt One Road" will push forward the economy, trade and logistics development in Central and Western China as well as in surrounding countries.

From September to October of 2013, Chinese President Xi Jinping put forward two strategies in line with Eurasia economic integration: the Silk Road economic belt strategy and the 21st century maritime Silk Road economic belt strategy, abbreviated as "One Belt One Road" strategy. By preliminary estimation, the total population along the "One Belt One Road" is 4.4 billion with an aggregated economy of USD21 trillion, accounting for 63% and 29% respectively in the world. As a national strategy first advocated by China and propelled by highest-level government officials, "One Belt One Road" is profoundly and strategically significant for China on its way to build a modern society and become a world leader.

"One Belt One Road" will affect 9 provinces, autonomous regions and municipalities in Western China including Shanxi, Gansu, Qinghai, Ningxia, Xinjiang, Chongqing, Sichuan, Yunnan, and Guangxi. 5 provinces in Eastern China including Jiangsu, Zhejiang, Guangdong, Fujian, and Hainan will also be involved. Some framework plans have been in place for certain regions and constructions have kicked off. Local industries such as culture, tourism, trade, finance, transportation and infrastructure will benefit first.

The transportation industry in the northwestern economic region and southwestern economic region will first feel the impact. Currently, the growth rates in terms of the volume of freight for these two regions linger at the bottom among the 8 economic regions in China, but a huge room to grow is expected in the future.

Fig. 2-11: Growth% in the volume of freight for the 8 economic regions in China in 2013



Data source : Wind, Deloitte Research

Internally, “One Belt One Road” is planned on the need of continuously opening up and developing the West while transforming the East into an international-market-oriented economy. It is a new strategy in driving the continuous open policy in the coastal regions and inland China. The expedited approval of transportation infrastructure projects including the railroad projects in the central and western region by the National Development and Reform Commission will soon turn this region into a part of the high-speed rail network in China. Building a greater transportation network, constructing a transportation hub and reducing logistics costs are critically needed in the places such as Yunnan, Guizhou and Guangxi.

Externally, “One Belt One Road” does not put restrictions on the regions or countries that it radiates. All the countries en route the ancient land and maritime silk roads as well as China’s amicable neighbors may be included. While Russia, Central Asia, South Asia, Southeast Asia are where we are heading first, countries in the Middle East and East Africa are at the crossroad of “One Belt One Road”. In longer term, countries from the Commonwealth of Independent States, Europe and Africa are likely to be involved. The future projects in the progression of “One Belt One Road” may relate to more countries and entities and will be more open. In 2014, the bilateral trade volume between China and the countries and regions along the route of “One Belt One Road ” approached RMB7 trillion, growing at about 7% and representing 1/4 of China’s total import and export value in the same period.

All the provinces and municipalities that “One Belt One Road “concerns are in the process of making their own development plans. Once these plans are approved, we will soon see an upsurge in the investment in and construction of infrastructure, interconnection and interworking. We are certain that the “One Belt One Road” will give a boost to rapid improvement and development of the overall level of logistics in Western China.

2.2 Urbanization is likely to gradually improve the level of logistics in under-developed regions.

The National Plan on New Forms of Urbanization (2014-2020) (“Plan”) distributed by the Central Committee of the Communist Party of China and the State Council in March 2014 specifies the need to foster and develop a few new urban agglomerations in the central and western regions in China. Plan lays out the strategic structure in urbanization, namely “Two-horizontal & Three-longitudinal”. Beijing-Tianjin-Hebei, Yangtze River Delta and Pearl River Delta urban agglomerations need to enhance the ability of small and medium cities and towns within their sphere to gather population and economic activities to funnel population and industries migrating from downtown megacities to surrounding areas and other cities or towns. In the meantime, efforts need to be made to relocate the labor intensive industries to the central and western regions to absorb the labor force returning from the East and the local peasant-workers, fostering and developing a few new urban agglomerations while speeding up the development of urban agglomerations around Chengdu-Chongqing, Central Plains, the Middle Reaches of Yangtze River and Ha’erbin-Changchun.

The three mega urban agglomerations of Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta combine to have contributed 36% of GDP with 2.8% of national land and 18% of population. However, under the ecological and environmental pressure as well as intensifying international competition, they are in urgent need of adjusting, optimizing, transforming and upgrading the economy. Therefore, it is imperative to foster and develop a few new urban agglomerations in the central and western regions that have more resources and environment carrying capacity, such as Chengdu-Chongqing, Central Plain, and Middle Reaches of Yangtze river, which undoubtedly will give rise to incremental demands for logistics and supply chain.

Meanwhile, Plan has dedicated one chapter *Intensify Comprehensive Transportation Network Support* on building comprehensive urban transportation hubs and one section *Improve Agricultural Products Distribution System* on logistics issues concerning agricultural products, cold chain and urban distribution. Among the current 8 economic regions, the Middle Reaches of Yangtze River, Southwestern, Middle Reaches of Yellow River, Northwestern and Northeastern regions have an agriculture-over-primary-industry ratio of over 10% (the ratios for Northern coastal, Eastern coastal and Southern coastal regions are lower than 7%), demonstrating the potential of improvement in consumer products and cold chain logistics in the five regions.

III Express sector: experiencing explosive growth with the integrated development and cross-industry competition as prevailing market theme

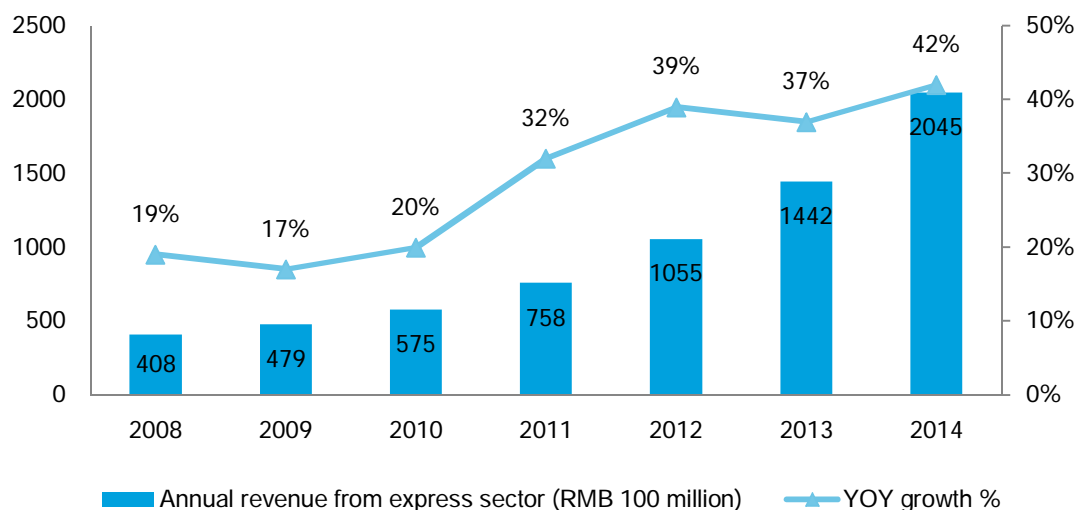
1. Explosive growth in synch with growth of e-commerce

1.1 Current situation in express sector

Global logistics market continues to grow According to the data from Global Express Association, the logistics industry contributed USD140 billion, or 0.19%, to global GDP in 2013. The international logistics market has grown by an average 7% annually for the past five years. EU is the biggest contributor to international express delivery market, accounting for almost half of global international business volume while express sector originating from Africa and Middle East with a destination in Asia Pacific and Central and South America has fastest growth. In terms of the intra-region and cross-region market segments, EU's intra-regional business volume represents 80% of international business volume and is a distant leader in the segment. North America, EU and Asia Pacific regions have posted the largest cross-region business volume.

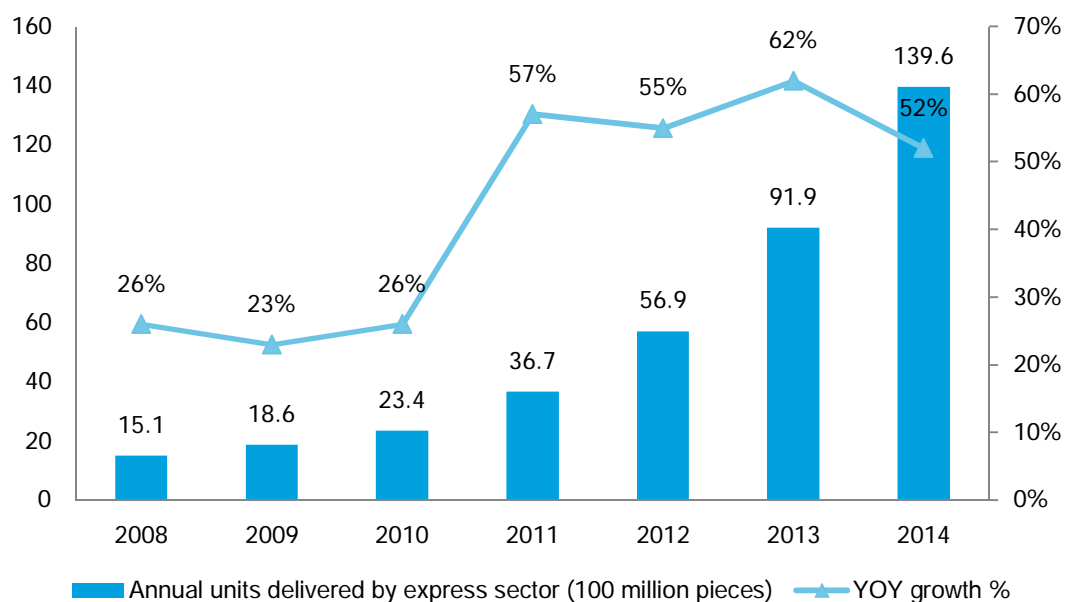
China has the largest express delivery market. Amid a slowing macro economy and the slump in traditional economic sectors, express sector has provided a new engine to China's economic growth in recent years. Since 2008 up to now, the industry has delivered 14 billion units, more than 9 times of the 1.5 billion units in 2008. At an average annual compound growth rate of 45.1%, China has leapt to the largest express delivery market in the world. In the same period, revenue from express delivery business has jumped from RMB40.8 billion to RMB204.5 billion, increasing four times and posting an average annual compound growth rate of 30.8% in seven years. The revenue contribution of express sector to the entire post industry has risen fast from 43% in 2008 to 64% this year.

Fig. 3-1: Revenue growth in China's express sector 2008-2014



Data source : Development & Research Center of the State Post Bureau

Fig. 3-2: Express delivery business volume and growth 2008-2014



Data source : Development & Research Center of the State Post Bureau

1.2 Growing in synchrony with e-commerce

1.2.1. Overview of development in e-commerce

Data from China E-commerce Research Center (CECRC) show that China's e-commerce transactions generated a total volume of RMB10.2 trillion in 2013, growing by 29.9% on YOY basis, and are forecast to reach RMB13.5 trillion for the year of 2014 and continue to maintain a growth rate of over 30%. iResearch predicts that China's e-commerce transaction volume will break the RMB20 trillion level by 2017.

From a market segment perspective, B2B contributed over 80% of e-commerce market and is still holding a leading position while online retail represented by B2C and C2C is fast

catching up and is taking increasing shares. In the past 7 years, China posted an average annual growth rate of 90% in its online retail sales, which in 2013 accounted for 8% of the total retail sales of consumer goods compared to about 6% for the same period in the United States. In 2013, the total number of online shoppers in China arrived at 312 million.

The cross-border e-commerce business volume in China reached RMB3.1 trillion in 2013, accounting for 0.7% of global cross-border e-commerce business volume, 14% of total e-commerce business volume and 12% of import and export transaction volume in China.

1.2.2. Major modes of growing in synch with online retailing

Table 3-1: Major modes of growing in synch with online retailing

E-commerce mode		Typical enterprise	Express delivery mode	
B2B		Alibaba	batch logistics+ precision delivery	
B2C	Open platform	Tmall, Tencent	Third-party logistics	
	Self-running operation	Comprehensive	JD.com, Suning, Gome, Amazon, Vip.com, Dangdang, yhd.com	
		Vertical	Sfbest.com, womai.com, benlai.com, beibei.com, jumei.com	Self-built logistics by e-business Express delivery enterprise enters e-commerce
		Brand	Miui, Vancl	E-business-owned warehouse Delivery service outsourcing
C2C		Taobao, Eachnet	Third party express delivery	

Data source : Development & Research Center of the State Post Bureau

Note: “sfbest.com” and “Vancl” highlighted in grey are of the vertical and brand types respectively under self-running operation, and are both of the type of “self-built logistics by e-business” and “express delivery enterprise enters e-commerce” in terms of express delivery mode.

2. Competitive analysis of China's domestic express industry

2.1 Classification of subjects in domestic express industry

As at the end of 2014, over 11,000 enterprises have been authorized to operate express delivery business. Numerous brands have emerge in the market but the big ones have taken the majority of the market share with the top 10 brands occupying 60-70% of the market.

The express delivery industry has witnessed an intensifying trend in mergers and acquisitions in recent years. Leading domestic enterprises are expanding their service networks through M&A, and franchise while foreign capital has sought to quickly enter China's market by M&A and restructuring. Generally speaking, the express delivery industry in China is getting more concentrated and divides into five groups, each having its own focus and characteristics in terms of market of primary operation, pricing, management and service.

Table 3-2: Classification of major players in the express delivery market in China

Type	Major brands	Market of primary operation	Pricing characteristics	Management & Service
Leading enterprises	Postal EMS, SF	Mid-to-high express delivery end market	Higher price, disciplined pricing and stable operation	Complete main national network, diversified types of products and services; with own all-cargo aircrafts, unquestionable advantage in speed and quality.
Three Tongs and One Da	STO, YT, ZTO, Yunda	E-commerce market	Medium price, relatively disciplined pricing and generally stable operation	Operating mainly on franchise with standardized management, able to provide higher-level e-commerce express delivery service as well as some services in mid-to-high-end market

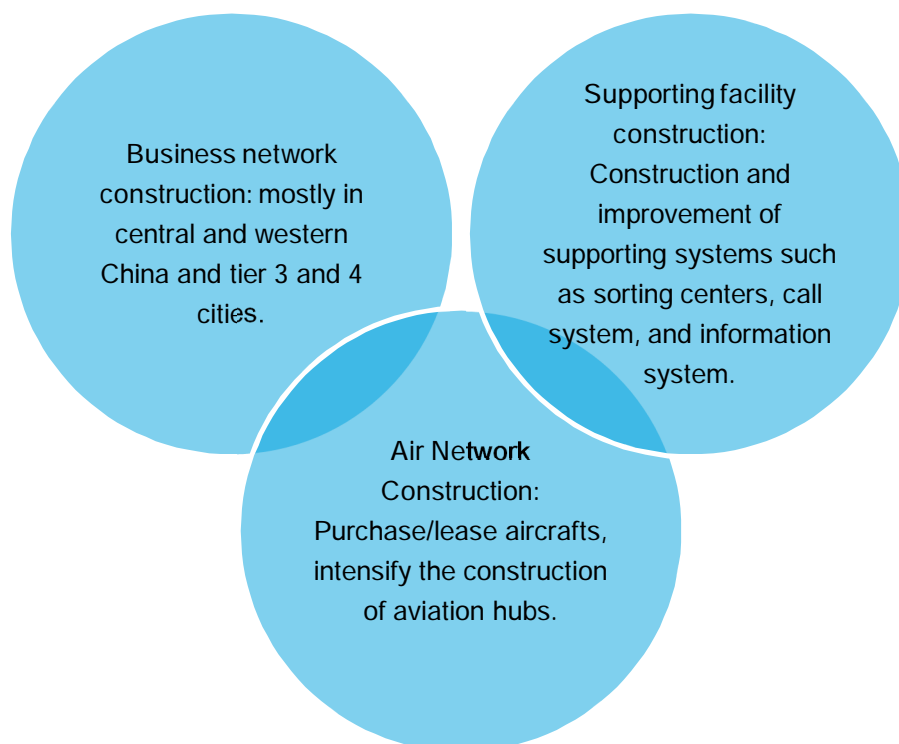
Type	Major brands	Market of primary operation	Pricing characteristics	Management & Service
Other enterprises that run an indiscriminate business	ZJS, TTK, Best Express, UC, etc.	E-commerce market	Medium to low price, relatively disciplined pricing, less stable operation.	Operating mainly on franchise with less standardized management. Most customers are price-sensitive individuals and small businesses.
Regional express delivery enterprises	Wuxi SF, Dongguan Century Sincere Express, Yiwu Jieda, Zhengzhou LS Express, etc.	A certain local market, focus on local distribution business.	Very low price, undisciplined pricing, low operational stability	Rely on specialized and speedy service for survival but lack of capital strength and ability to build channels, thus difficult in financing.
Foreign enterprises	FedEx, UPS, DHL, TNT and Yamato, OCS, Kerry Logistics, etc.	Business-purpose delivery	High price, disciplined pricing, relatively stable operation.	In a dominate position in international market with abundant capital and advanced management.

Data source : Development & Research Center of the State Post Bureau

2.2 Investment direction and focus by different types of express enterprises

An observation of the investments made by major express delivery enterprises reveals that in recent years they focus their investments on business network construction, air network construction and supporting facility construction.

Fig. 3-3 Major Fields of investment by express enterprises



Data Source: Deloitte Research

2.3 Analysis of enterprise competitiveness in China's express sector

As one of the fastest growing emerging markets with greatest potential, the express delivery market in China delivered an annual operational volume of 13.96 billion units and operational income of over RMB200 billion in 2014, translating to an average 10.3 units per person. Despite the tremendous achievement, China's express delivery market is still in the phase of preliminary development and has a long way to go before catching up with the advanced international level.

From the perspective of industry scale, although China's express delivery business volume has leapt to the top in the world, the total revenue from express delivery is low and the service quality is unsatisfactory. As far as the service level is concerned, compared with the big four international express delivery companies that offer plentiful categories of products and are able to deliver quality services with commitment on delivery time, the express delivery service provided by the Chinese enterprises are usually labeled with low price, unidentifiable product offerings, overloaded warehouses, delay in delivery, and destroyed, damaged and missing parcels. On the competitiveness side, the international big four have their own air shipping capacity. FedEx alone has over 600 aircrafts while the total number of aircrafts owned and operated by express enterprises in China is only 68. The big four have

deployed processing centers around the globe and information systems and automated technical equipment have been widely used. To the contrary, the Chinese express delivery is crippled by the policy bottleneck with regards to usage of land for construction, entrance into cities by express delivery vehicles, trunk transportation, and the costly last kilometer. The Chinese enterprises are usually smaller in scale, weaker in capability without core competency surrounding technology, brands, quality and service. In addition, the industry is facing tough challenges in security situation and regulation.

The opening-up of the express delivery market in China has attracted foreign express enterprises that are applying for permission to enter or expanding their operation in China. Now enterprises with different forms of ownership such as state-owned, privately-owned, and foreign enterprises are competing in this market. 5 out of the world top 500 enterprises have invested and operated in China's express delivery market while some transportation, logistics, e-commerce businesses have started their own express delivery services, triggering a capital influx into this field.

3. Analysis of go-global efforts by domestic express enterprises

Although Chinese express delivery enterprises are in their early stage of "go-global" attempts, the process has shown a pronounced acceleration since the beginning of 2014. Enterprises with business license to operate international express delivery service have increased in number from 236 in 2010 to 371 in 2013, among which there are 5 enterprises are making direct investment in foreign countries in 2014 including China Postal Airlines, SF, STO, Yunda and YT, compared to only China Postal Airlines in 2006.¹

We have conducted research on the enterprises that have made foreign direct investment from two angles – "width" and "depth". "Width" mainly refers to the geographic coverage by the express delivery network. "Depth" contains two aspects. One is the available types of products offered by the enterprises entering the market. The other one is the mode of investment in the target market by the investing enterprises. The type of products and mode of investment are indicators reflecting the investing enterprise's customer base, diversity in customers, scale of enterprise, depth of delivery and operational capability.

Internationalization is gaining momentum with improvement in both the "width" and "depth".

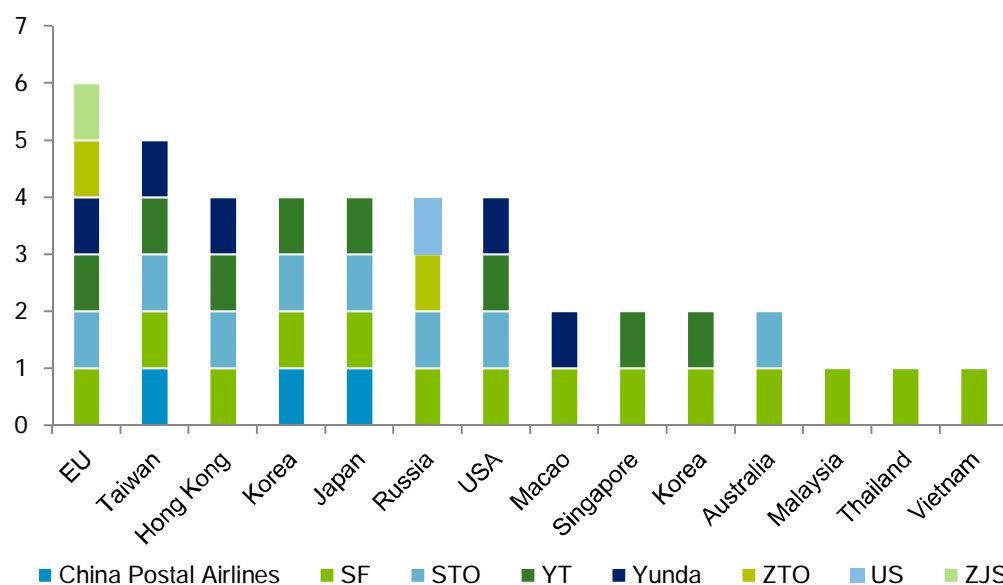
Width :

In China, most of the enterprises running international express delivery operations conduct international express delivery of export goods through establishing agency relationship with international enterprises. By the end of 2013, only three Chinese express delivery enterprises had made overseas investment, which had largely concentrated in less competitive nearby Asian markets such as Hong Kong, Macao, Taiwan, and Southeast Asian countries. The development of cross-border e-commerce expedited the "go-global" pace of Chinese enterprises in 2014 when the investment shifted to developed countries and

¹ China Postal Airlines is a subsidiary of China post express logistics co., LT

regions such as USA, EU, Japan, and Korea as well as emerging markets (Russian being the largest one where SF and enterprises falling into the “Tong-Da-category” all opened Sino-Russia direct line). Such a change is a reflection of international trade flow and country character in cross-border e-commerce transaction.

Fig. 3-4: International networks constructed by Chinese express delivery enterprises in 2014²



Data source : Development & Research Center of the State Post Bureau

(Note: including express delivery enterprises that have established or are planning to establish overseas outlets through FDI and those that have opened direct lines between China and other countries by working with foreign counterparts.)

Depth :

From the perspective of types of products, the international express delivery market is dominated by B2B business while China’s share in this segment is small. SF has the widest service portfolio from B2B to B2C and C2C; China Postal Airlines mainly carries international EMS (largely consists of B2C and C2C deliveries) as well as cargo shipping and chartered airplane service. Enterprises that fall into the “Tong-Da-category” focus their service on international online shopping delivery. So far, no enterprises are providing comprehensive international supply chain service, nor are they able to provide local express services in overseas markets.

In terms of mode of development, the major modes of investment taken by Chinese express delivery enterprises include: Greenfield investment, cooperation with foreign counterparts and minority investment. Since the entrance into the overseas market, no Chinese enterprises have completed an M&A deal. They have chosen to expand their business through organic growth, forming a strategic alliance or cooperating with local agents.

4 The development across the boundary between e-commerce and express sector

E-commerce businesses enter express sector

Express delivery plays a decisive role in the development of the scale, region and types of online shopping. Facing the fierce competition in the online retail business, the cost and quality of express delivery service are key to enhancing online retailers' competitiveness.

The cost of express delivery determines, to a large extent, the profitability of online retailers. Chinese consumers are still highly price sensitive. According to a survey from iResearch, in 2013, commodity price remains a top factor, by 70.3% that affects online shopper's selection of websites and online stores, while shipping cost, at 33.9%, is in the fourth place. Among the promotions most favored by online shoppers, "free shipping for single purchase over a certain amount" ranks the third at 20.2%. This indicates that retailers must keep their prices low if they want to win more customers. The survey shows that warehousing cost makes up 24% of the entire logistics cost for online retailers, relative to 55% of distribution and delivery cost, among which, end delivery cost accounts for 52% compared to 37% costs in long distance trunk transportation. Apparently, express delivery cost represents a significant component of online retailer's logistics cost. Generally speaking, the cost to build and run a logistic system will offset that in outsourcing to a third party if at least 2000 orders are placed in a city.

Express delivery, to a large extent, determines online retailers' service quality. Survey from iResearch also indicates that in 2013, among the major contents for which online shoppers consulted a customer service representative, 55.3% of people chose mode of distribution, ranking the second, suggesting that distribution is a major concern by consumers.

With the express delivery price and service quality becoming a key factor in online retail competition, self-run B2C online retailers represented by Jingdong and Sunning have deployed their own express delivery capability to quickly fill the void in the market left by express delivery enterprises such as SF and enterprises that fall into the "Tong-Da-Category" that cannot catch up with the rising demand. Liu Qiangdong, founder and CEO of Jingdong gives three reasons for its decision to build a logistics system: first, China does not have logistics enterprises that can rival global giants in logistics. Second, the logistics costs in China are too high. Mature markets such as Europe and Japan have a logistics cost lower than ours by 10%. Third, the franchise mode prevailing among express delivery enterprises has made it difficult to standardize service.

In the e-commerce industry, most top ranked self-run e-commerce enterprises have already made the move of completely or partially building their own logistics system. In other words, the majority of the leading online retailers have more or less chosen to enter the express sector and most of them have seen their market share increasing afterwards. See Table 3-2 for details.

Table 3-3: self-run logistics vs. third party logistics

Items to compare Logistics mode	Service quality	Geographic coverage	Degree of specialization	Logistics cost
Self-run logistics	Controllable, may be constantly improved, easy to provide customized service	Have advantage within a certain geographic region but hard to cover a wider region.	Less specialized	Huge investment, higher fixed cost but lower marginal cost
Third party logistics	Hard to control or provide customized service	Cover a wider region and more population	Specialized service	Lower fixed cost but relatively higher marginal cost.

Data source : Development & Research Center of the State Post Bureau

Express enterprises enter e-commerce

Corresponding to the trend that online retailers have cross the boundary to enter express delivery arena by building their own logistics capacity or even offering logistics services to other retailers, in 2012, some leading express delivery enterprises started to test the water of running their own online retail business. At a glance, 8 leading express enterprises that started operating online retail business have opened 10 websites, which may be classified by operational status into three types. First, early explorers with unsatisfactory results, including four websites, namely Aimaiwang by STO, zjsbuy.com by ZJS, CRE Mall by CRE and ytoxn.com by YTO. The second type includes two websites with mediocre results, namely ule.com by China Post and sfbest by SF. Although they can survive and in operation with fast growth, their market share are neglectable due to fierce competition. The third type are newly opened and put in operation recently including four websites that focus on cross-border online shopping, namely sfbest.hk by SF, 4000121131.com by YTO, sunnytao.hk by Sinotrans and ebuyda.com by Yunda.

The cross-boundary development between e-commerce and express sector in the world

It is not uncommon in the international market to see e-commerce enterprises stepping in the express sector territory. As an example, Amazon has produced impressive results through self-run logistics. However, express enterprises seeking to do business in e-commerce are rarely seen. International express enterprises focus on e-commerce express delivery and logistics market rather than entering the upstream industry to open up their own online stores.

Amazon, the first e-commerce business that runs own logistics system, has witnessed its online business prosper continuously with the enhanced logistics ability. According to its 2013 annual report, online sellers that used Amazon logistics service increased by 65%. In the meantime, three fourths of customers who used Amazon logistics service said that their online stores had achieved more than 20% growth in sales after signing up for Amazon's

logistics service, which provides one-stop service from warehouse management, order fulfillment to end customer delivery as well as free two-day delivery for its Prime customers. On top of these, Amazon launched one-hour express delivery service. In 2014, Amazon started offering “Prime Now” one-hour delivery service to its Prime customers in New York, available on “tens of thousands of daily supplies”. Amazon plans to expand the service to places beyond New York.

Facing the same competitive pressure as are Chinese enterprises from e-commerce business that have crossed the boundary into the express sector territory, foreign express enterprises have chosen a different way of fighting back: instead of crossing the boundary to run an e-commerce business, these express enterprises have focused on their primary business – express delivery and logistics, and acquired businesses that have demonstrated strength in e-commerce express delivery and logistics field, in the hope to strengthen competitiveness in the market segments of e-commerce delivery services and comprehensive logistics. UPS, for example, acquired i-Parcel, a service provider specializing in e-commerce express delivery in October 2014, and hence solidifying its position in low-cost e-commerce express delivery market. FedEx, on the other hand, acquired Genco, a reverse logistics company in December of 2014, thus increasing its capacity in processing returns in e-commerce.

5. The future of China's express sector

Fig. 3-5: The future of express sector



Data source: Deloitte Research

IV Logistics supply chain: a differentiated development across different industries

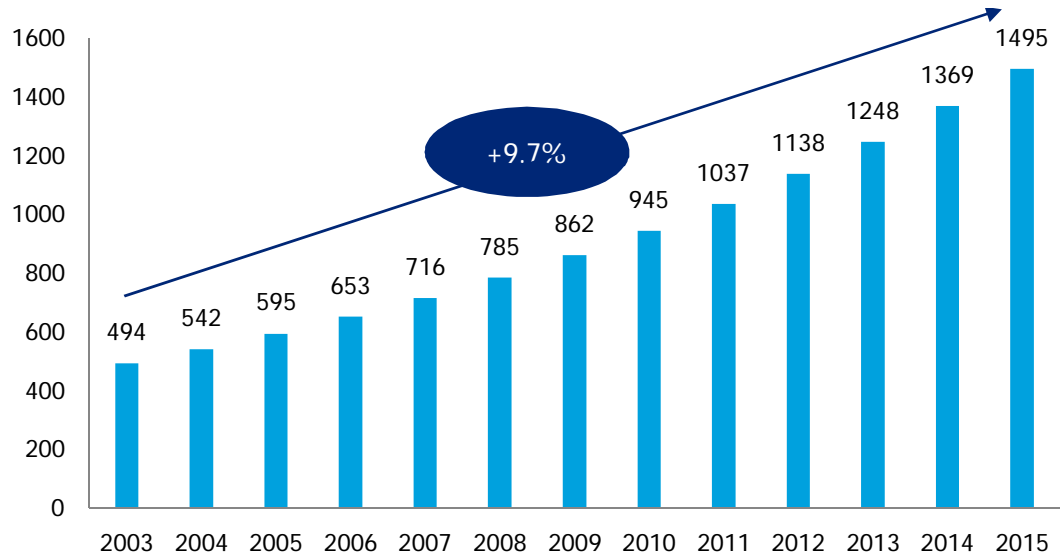
1. Analysis on development in automobile logistics

The demand for automobile logistics grows moderately and the automobile logistics market expands at about the same pace as the automobile industry, remaining at the level of 15%. The automobile industry supply chain is heading for further expansion. While providing logistics services such as delivering auto parts to factories, vehicle logistics and after-sale parts logistics etc., third party mainstream logistics enterprises in China are expanding into the field of auto parts manufacturers' supply chain management and logistics, as well as automotive after-sale market, powering the comprehensive transportation system. As a result, automobile logistics enterprises start to focus more on sharing resources in railroad and water transport in addition to highway transportation and the construction of a comprehensive transportation system. Most of this chapter is dedicated to the research of vehicle logistics.

1.1 Sale of automobiles continues to grow in China and automobile logistics market continues to expand

Since China's accession to the WTO in 2001, the automobile industry in China has been sent to a trajectory of accelerated growth fueled by a steadily growing macro economy. In 2013, more than 20 million vehicles were sold in China, firming its position as the top auto producer and seller in the world five years in a row and accounting for about one fourth of the volume of auto production and sales in the world. China is playing an increasingly important role in global auto market and is contributing most of the growth to major automobile manufacturers in the world. The rapid growth in auto sales volume has not only driven the development of automobile logistics within China but also provided vast markets for the growth in international logistics boosted by the prosperous auto import and export business. With the rapid development in finished vehicle manufacturers, China's automobile logistics market grew to the size of RMB94.5 billion in 2010 and is expected to reach RMB149.5 billion in 2015, growing at a compound rate of 9.7%.

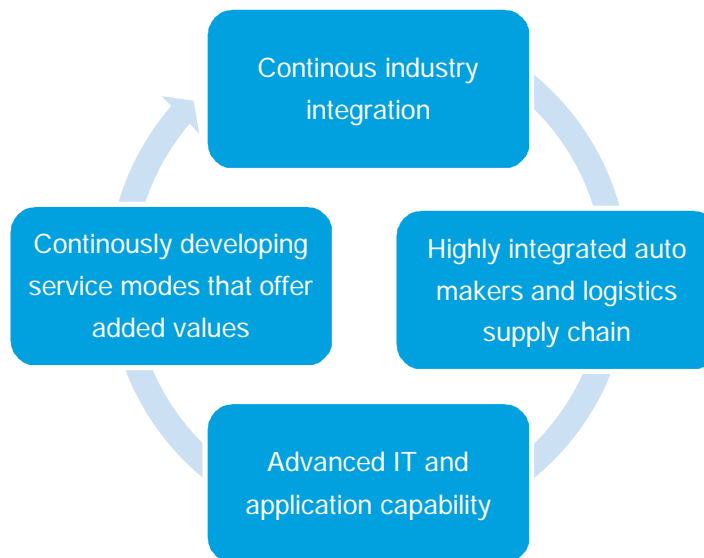
Fig. 4-2 The market size of automobile logistics in China 2003-2015



Data source: the State Information Center, China Federation of Logistics and Purchasing, China Association of Warehouses and Logistics, Deloitte Research

Compared to the development in the world, China's vehicle logistics industry is still in an early stage of development. On the otherhand, the vehicle logistics industry in the developed market such as Europe and USA, has entered a mature stage and is growing continuously and steadily, making it a benchmark, in terms of market characteristics and development experience, in China's efforts to build its vehicle logistics capacity.

Fig. 4-3: Major characteristics of the vehicle market in Europe and USA



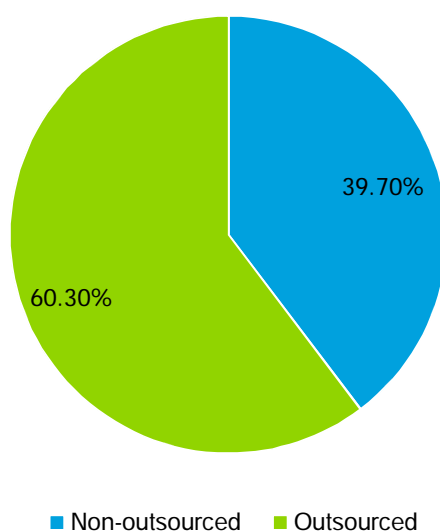
Data source: Deloitte Research

1.2 A higher percentage in vehicle logistics outsourcing but a lower level in logistics service quality

For many years in the past, Chinese manufacturers did not attach great importance to the supply chain management. Many of them built their own logistics and adopted a self-service management style, causing overall logistics outsourcing to remain at a lower level.

Comparatively, the logistics outsourcing in the Chinese auto industry is more optimistic. The vehicle logistics outsourcing ratio has gradually risen from 46% in 2003 to 60% in 2015 and it is estimated that the logistics outsourcing market size will arrive at RMB90.1 billion in 2015. The increasing ratio of outsourced logistics will enable automobile manufacturers to apply their limited resources and management ability in improving core competencies including production of automobiles and auto parts, quality control, new product R&D, and sale of products. In the meantime, a higher logistics outsourcing ratio is likely to translate into market opportunities for the emergence of specialized and professional logistics service providers.

Fig. 4-4: Vehicle logistics outsourcing ratio is expected to exceed 60% in 2015.



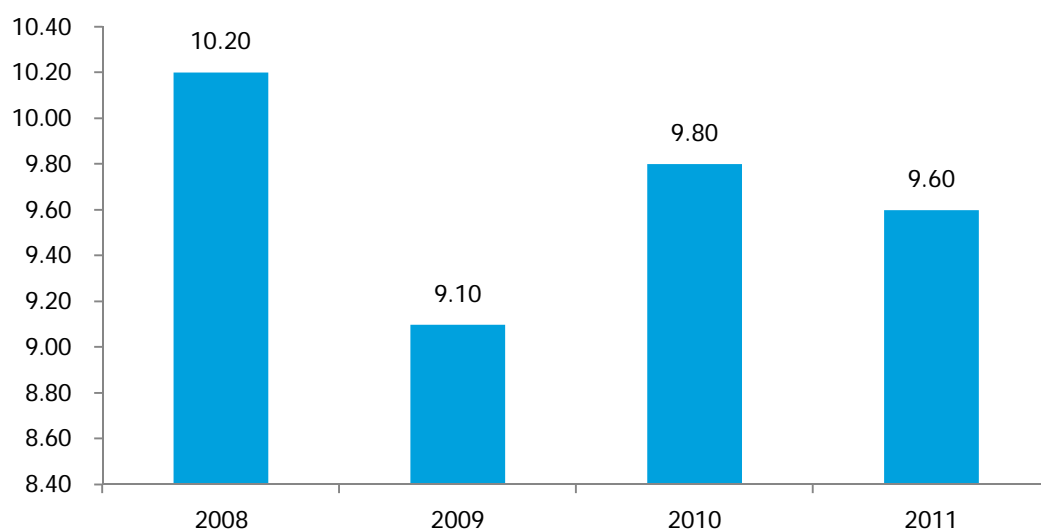
Data source: Deloitte Research

“Blood lineage” has, to some extent, restrained the business development. As most of the vehicle logistics suppliers have some genetic relationships with the automobile manufacturers they serve, they are less motivated to build and improve their ability. Particularly, the services that logistics service providers offer are often at a lower level, which limits their ability to expand horizontally and vertically. Currently, the vehicle logistics service is limited to transportation and warehousing without much customized added value or supply chain integration. In other words, most of the outsourced logistics business stays on the operational level but rather the level of strategic planning. At the time of an unusually rapid market expansion, logistics service providers have been busy competing for volume but neglecting quality improvement.

1.3 A higher logistics cost ratio in China's automobile industry without large national service providers

Data show that the logistics cost in the Chinese automobile industry remains at a higher level due to limited progress in supply chain integration and logistics management. From 2008 to 2011, the logistics cost ratio in China's automobile industry was unexceptionally over 9%, far higher than the level in developed countries. Our research reveals that the logistics cost accounts for about 5% of revenue in automobile enterprises in Europe and USA while in Japan, the ratio was a mere 2.97% in 2009.

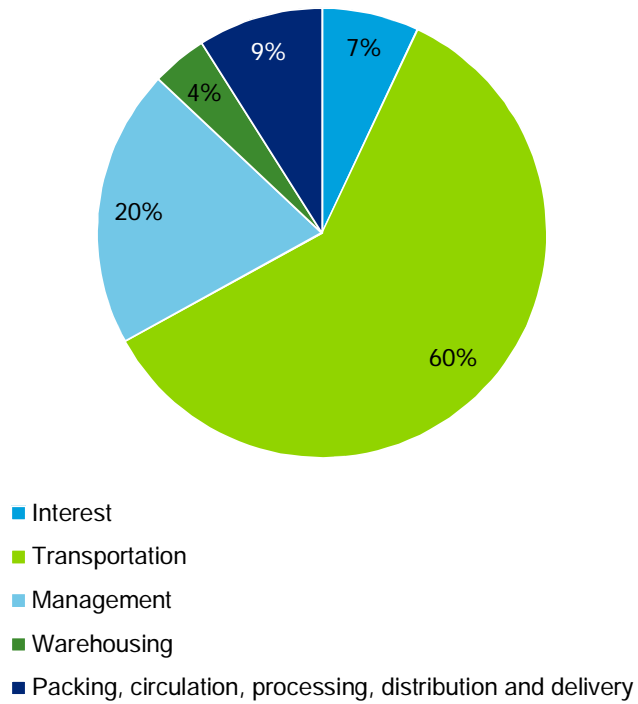
Fig. 4-5: Logistics cost ratio in the automobile industry in China (%)



Data source: Wind , Deloitte Research

In the automobile logistics cost structure, transportation takes the largest share to reach 52% of total automobile logistics cost. The demand for highly intensive knowledge, technology and capital as well as specialization in service have combined to push up the logistics management cost to account for 21% of the total logistics cost in the industry. Compared to the 30%-40% warehousing cost across the sector, warehousing cost for automobile logistics looks moderate in the cost structure.

Fig. 4-6: Cost ratio in automobile logistics



Data source: Wind, Deloitte Research

Relative to a highly integrated automobile logistics in developed countries, the profit margin in Chinese automobile industry slumps due to fierce competition and low level of industry integration. The industry, with a low entrance threshold, provides similar products and services. Transportation business, in particular, is segmented into small territories dominated by different carriers. The brutal competition among automobile manufacturing groups has put up barriers for cooperation among vehicle logistics providers affiliated to different manufacturing groups. As a result, it is difficult for logistics service providers to try to improve efficiency by creating a greater circulation or expanding service scale. At present, the vehicle logistics market is characterized with a low level of market concentration. The top five automobile logistics enterprises combine to account for less than 10% of the market and no large national service provider has loomed. In the meantime, the disorder in competition has dragged down the profit margin across the industry. Despite the premature management style in automobile logistics industry in China, the continued integration across industry, gradual infiltration of supply chain management philosophy as well as the gradual improvement in related policies and regulations will likely to turn the simple growth seen in the early stage of development into growth by value.

1.4 Vehicle manufacturers seek help from logistics for transformation and logistics service providers strive to expand service offerings.

Different phases in the supply chain are linked by logistics. With the growth of automobile manufacturers in size, intensification of division of labor on specialization and the increase of complexity in supply chain management, logistics operation will undergo a profound change.

Vehicle manufacturers are hopeful that logistics may be a force in driving business transformation. As nearly all vehicle manufacturers have successively made their national business deployment, it increases the complexity in linking different stages in the entire supply chain. Meanwhile, the drop in the profit margin in finished vehicles resulting from rising raw material and labor costs has forced manufacturers to turn to logistics for “another source of profit”. They hope to reduce transportation cost by optimizing transportation routes and lowering the percentage of land transportation. As competition among vehicle manufacturers shifts from product-focus to service-focus, it makes the timeliness, stability and reliability of their logistics system unprecedentedly important. Now, vehicle manufacturers tend to outsource logistics management function as much as possible in anticipation of enhancing logistics ability and efficiency through expertise management, which benefits vehicle manufacturers in their efforts to develop core competency.

Logistics providers strive to expand service offerings. To meet the changing demand by vehicle manufacturers, vehicle logistics providers have continuously improved their ability to offer services beyond basic storage and transportation. On the other hand, vehicle logistics providers have realized that basic logistics service will not bring high profit, instead, high value-added service ensures a sustainable development. Therefore, on top of operational optimization, they have started to put emphasis on value-added services, logistics planning and emerging business such as logistics real estates. With regards to the value-added service, logistics service providers have carried out some simple vehicle-refitting to meet customer’s demand for interior finishing or exterior spray coating. In addition, they have upgraded the relationship with main engine plants to the strategic level by getting involved in these plants’ logistics planning, which helps logistics providers plan on long-term investment and strategy. In addition, vehicle logistics providers have gradually involved in the front and back end of logistics operation to provide services such as consulting, order management, inventory management and freight auditing.

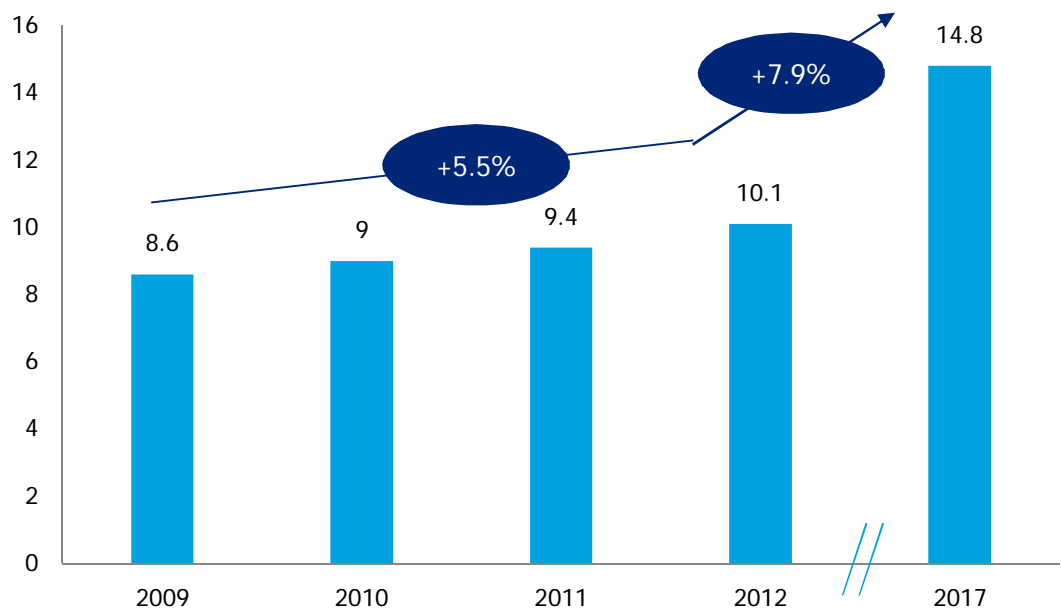
2. Analysis on development in cold chain logistics

Cold chain logistics is a low temperature logistics process based on refrigeration technology and achieved through refrigeration techniques. It has been widely used in the transportation of special commodities including primary agricultural products, processed foods and medicines in developed countries in Europe, USA and Japan. Cold chain includes market segments such as food, medicine, chemical and electronic industries, of which the food cold chain market is the biggest and provides greatest growth potential. It is also the focus of our research.

2.1 Growth in global cold chain market will remain at 8% in 2017 and China's cold chain logistics lags behind.

The global cold chain market has grown rapidly in recent years. In 2012, the market size reached USD100 billion. Based on the infrastructure construction plans in different markets and market leaders' growth forecast around the globe, it is estimated by International Association of Refrigerated Warehouses that the global cold chain industry will keep growing fast in market size in 2017 at a compound annual growth rate of 7.9%. Although Europe and America remain as the major cold chain markets, emerging markets will contribute more growth in the future as mature cold chain markets reach saturation. 68% of the growth in refrigerated warehouse capacity will come from China and India.

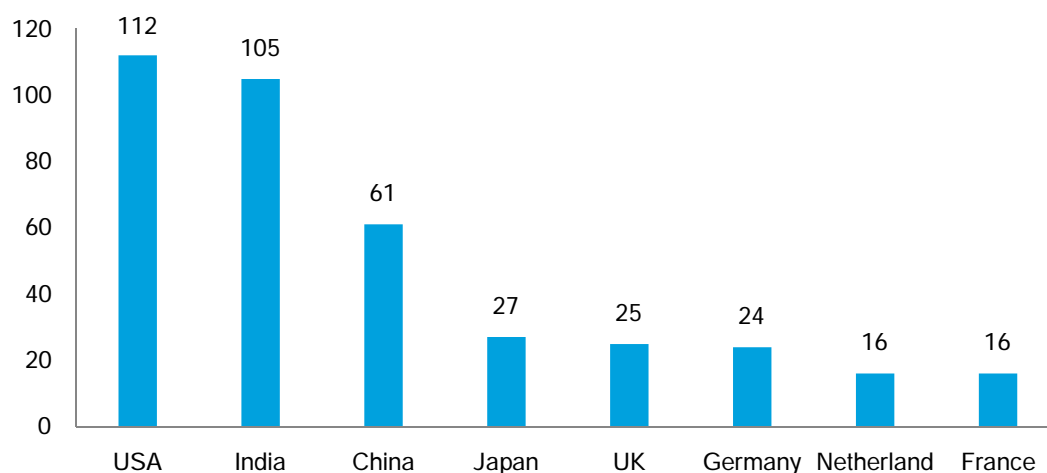
Fig. 4-8: 2009-2017 Global cold chain market size and forecast (in USD 10 billion)



Data source: International Association of Refrigerated Warehouses, Deloitte Research

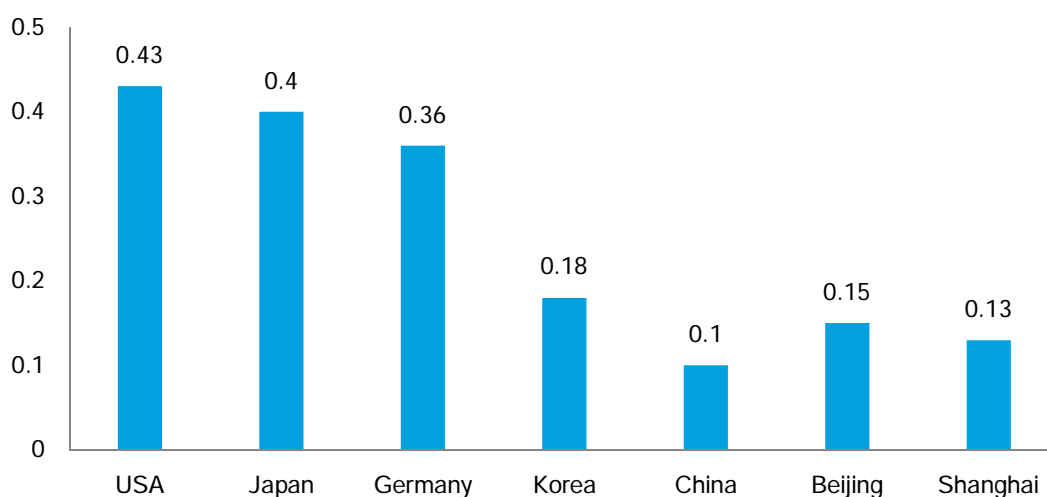
China's cold chain facility lags behind that of the developed countries. Compared to the mature cold chain markets in Europe and America, the absolute refrigerated warehouses capacity in China ranks the third in the world (only after USA and India) but per capital capacity (0.097square meter/person in 2010) is less than that of the United States in 1949 (0.123) or Japan in 1965 (0.15). The gap in infrastructure indicates that the downstream demand for cold chain has not been fully capitalized. The cold chain logistics has vast room to grow in terms of cold chain technology and management, as well as cold chain awareness

Fig. 4-9: Ranking of refrigerated warehouse capacity by country 2012 (in million cubic meters)



Data source: International Cold Chain Alliance, Deloitte Research

Fig.4-10 : Per capita refrigerated warehouse capacity in China's leading cities and other countries 2010 (in cubic meter per person)



Data source: Deloitte Research

In addition, the gap in the refrigerated warehousing ability, refrigerated transportation ratio and damage/decay ratio is apparent.

Table4-1: Comparison between China and other countries in cold chain development

	Foreign situation	Domestic situation	Analysis of reasons
Ratio of preservation by precooling	Developed countries in Europe and America : 80%-100%	Lower than 30%	Lack of cold chain technology and management methods, ignore vegetables and fruits retail refrigerated warehouse, transportation infrastructure falling behind, lack of cold chain awareness, raw and fresh foods especially fruits and vegetables are usually circulated in normal temperature.
Refrigerated warehousing ability	USA: 70.74 million cubic meters World total: 247.7 million cubic meters	61.3739 million cubic meters, very low on per capita basis	
Refrigerated transportation ratio	Developed countries in Europe and America : 80%-90% Russia, Thailand & Chile : 50%	15%	
Ratio of loss from damage and decay	Developed countries in Europe and America : less than 5%	20%-30%	

Data source: Industrial Securities Research Institute, Deloitte Research

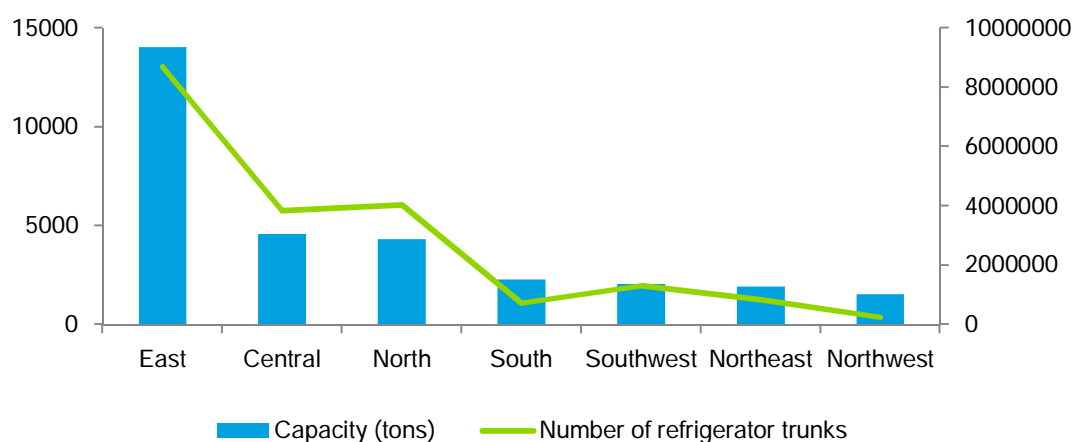
2.2 Growth in China's cold chain logistics is accelerating with unbalanced development across regions

The growth rates of China's cold chain logistics in recent years have repeatedly beat market forecast. Data from China Cold Chain Logistics Alliance indicate that in the ten years from 1998 to 2008, the refrigerated warehouse capacity only increased 2 million cubic meters while in the two years from 2008 to 2010, the capacity quadrupled. Based on the latest data provided by the Cold Chain Committee of China Society of Logistics, we estimate that public refrigerated warehouse capacity in China exceeded 70 million cubic meters in 2013.

On top of refrigerated warehouses, the number of refrigerator truck is increasing rapidly. According to the survey conducted by China Cold Chain Logistics Alliance over 680 cold chain logistics enterprises above designated size in China, there were a total of 29,444 refrigerator trucks in 2014 and a total of 3.3 million tons of new refrigerated warehouse capacity was under plan (not including ongoing constructions and second phase warehouses), a huge drop from the planned new capacity of 13 million tons in 2013. 1205 new refrigerator trucks were planned in 2014, which does not change much from 1280 in 2013, indicating the refrigerated warehouse capacity in China is reaching saturation while the increase in the demand for refrigerator trucks is stable and the probability of trunk transport and city distribution and delivery outsourcing is in rising.

The imbalanced economic development across different regions also translates into imbalanced development in cold chain logistics. Cold chain systems tend to gather around big cities and coastal regions with Eastern China being on the top followed by Central and Northern China where the number and scale of cold chain logistics parks are also on the rise, suggesting that the level of cold chain logistics development has a direct relationship with local economic development. Jiangsu Province tops the chart with 3.2 million tons of refrigerated warehouse capacity, including 370 high-temperature warehouses with 16.92 million square meters in area, 532 low-temperature warehouses with 31.88 million square meters in area, and 180 ultra-low-temperature warehouses with 8.73 million square meters in area.

Fig. 4-11: 2-13 Development of cold chain facility by region in China

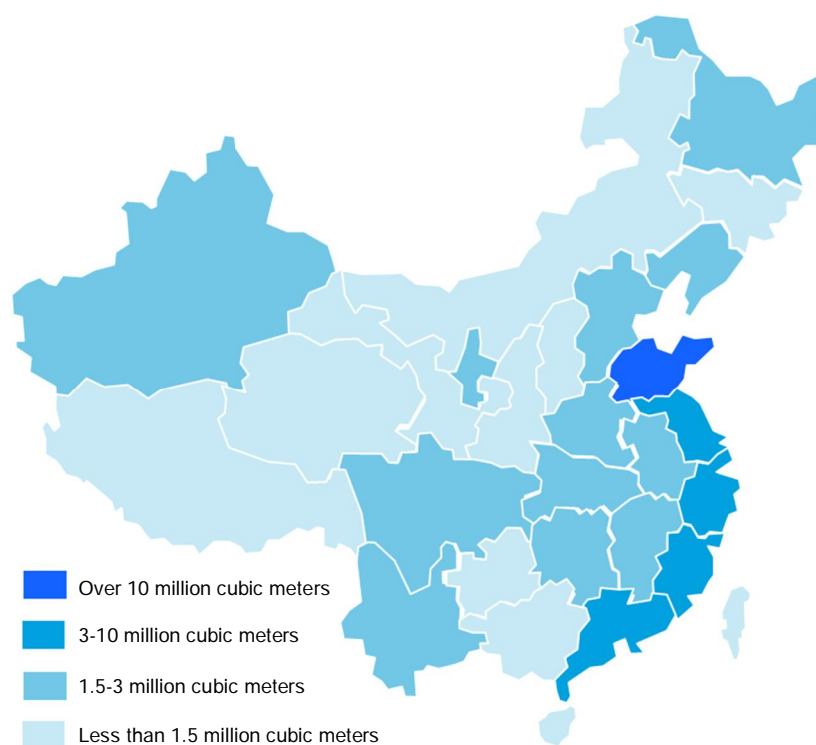


Data source : China Cold Chain Logistics Alliance, Deloitte Research

Specifically, economically developed provinces and municipalities or those where agriculture tends to concentrate have higher total refrigerated warehouse capacity and per capita capacity.

- Shandong, Fujian, Zhejiang, Shanghai, Guangdong and Jiangsu rank on the top in terms of total refrigerated warehouse capacity;
- Tianjin, Ningxia, Shanghai, Beijing, Fujian and Shandong rank on the top in terms of per capita capacity.

Fig. 4-12: 2013 Public warehouse capacity (over 1000 tons) by provinces and municipalities



Data source: Cold Chain Committee of China Society of Logistics, Deloitte Research

Despite the progress made in the refrigerated warehouses, some barriers are on the way to build a healthy cold chain industry:

- Irrational refrigerated warehouse structures with over-supply of large-scale refrigerated warehouses and short-supply of warehouses for wholesale or retail; over-supply of warehouses for meat but short-supply of warehouses for fruits and vegetables;
- Local technology on key cold chain equipment is insufficient and must rely on import. Some out-of-date refrigerated warehouses with unsatisfactory safety features and high maintenance costs are still in use and cannot meet the demand of modern cold chain development.
- Refrigerated warehouses' overall level of electronization and intelligentialization is low and is hard to synergize with modern supply chain systems.

2.3 Policies, market and capital have combined to boost the growth in China's cold chain market

Policy environment in China is getting better. A large number of supporting policies have been introduced by the state since 2009 to encourage the rapid development of the cold chain industry. *Plan on the Development of Cold Chain Logistics for Agricultural Products*, the eight-article regulation by the State Council on logistics, and nine-article regulation by the State Council on logistics are all specific on promoting the development of the cold chain industry. In the meantime, industry standards have been established and rationalized to ensure a healthy development. The standards that have been introduced include

Classification in and Basic Requirement on Cold Chain Logistics, Requirements on the Trace Management in Food Cold Chain Logistics and cold chain logistics service standards for sub-industries such as medicine, aquatic products and catering. In addition, policies have been introduced by the central and local governments to encourage cold chain infrastructure construction by offering subsidies. Ministry of Agriculture and local governments in Hainan, Xinjiang, and Guangdong have introduced policies to offer subsidy to newly built refrigerated warehouses based on their capacity.

Table 4-2: Goals of development in agricultural products cold chain logistics in 2015 announced by the state

Index	Type	2010 Level	2015 Goal
Cold chain circulation ratio	Fruit & vegetable	5%	20%
	Meat	15%	30%
	Acquatic product	23%	36%
Refrigerated transportation ratio	Fruit & vegetable	15%	30%
	meat	30%	50%
	Acquatic product	40%	65%
Product decay and damage ratio during circulation	Fruit & vegetable	20%-30%	15%
	Meat	12%	8%
	Acquatic product	15%	10%

Data source: Plan on the Development of Cold Chain Logistics for Agricultural Products, Deloitte Research

Consumer awareness on food safety increases. Food safety problems have broken out repeatedly in recent years in China, causing consumers to be more watchful on food safety and willing to pay more in exchange for food safety. The development of cold chain industry is significant for ensuring the safety of perishable foods. A recent survey indicates that more than 80% of consumers are willing to pay premium for fresher foods.

Investment continues. Fueled by policies and market demand, the total investment in cold chain logistics fixed assets in 2013 exceeded RMB100 billion, growing at 24% on YOY basis. All these factors will drive the continuous upgrade and development of the cold chain market in China in the future.

2.4 Demand fueled by the new urban economy surges, bringing innovation to business models in cold chain business

The increasing urbanization rate coupled with rapid development in chain supermarkets, chain restaurants and e-commerce channels has quickly released the market demand for cold chain warehousing and delivery service in cities and has provided ample opportunities for third party cold chain logistics enterprises. A higher urbanization rate is the decisive factor to drive the urban cold chain warehousing and delivery business. China's current urbanization rate is about 40%, a long way to go before reaching the target of 75%. In addition, among the foods consumed by urban residents, vegetables, fruits, dairy products, meat products and aquatic products that have a higher requirement for cold chain take a bigger share. Vegetables, for example, account for 54% of urban residents' food consumption but a mere 34% of that of rural residents. The sale of raw and fresh foods has risen to 20% of supermarket sales and is playing an increasingly important role to drive the business in supermarkets. However, inadequate supporting cold chain facility has bottlenecked the growth in raw and fresh foods in supermarkets. Some large supermarkets have started building their own channels of raw and fresh foods (Walmart has set up 7 raw and fresh food distribution centers in China) in order to control food safety and quality and reduce logistics costs. In comparison, numerous small and medium supermarkets and suppliers do not have the ability to purchase heavy cold chain assets and are in urgent need of supporting services from third party cold chain logistics providers.

In the catering business, the construction of central kitchens and distribution centers has created huge demand for cold chain service. As a trend in modern catering business that focuses on centralized purchase and distribution of raw materials, central kitchen has entered 50% of chain restaurants and another 30% are preparing for its arrival. However, the development of central kitchens and distribution centers requires specialized cold chain support from the beginning to the end.

The upgrade and transformation of traditional farmer's wholesale markets also put forth more requirements to cold chain business models. Wholesale markets remain as the main distribution channel for agricultural products in China and contribute a total wholesale transaction value of RMB3 trillion each year, nearly 80% of total agricultural products in circulation. The wholesale markets are barely covered by cold chain and the facility is usually outdated and does not satisfy the requirements for cold chain circulation, thus leaving a vast market behind.

From the perspective of industry chain and business models, these key demands have jointly driven the evolution and development of cold chain industry. With large room for development in sight, the total cold chain solution needs cooperation and initiatives from the government, market and businesses alike to make them successful.

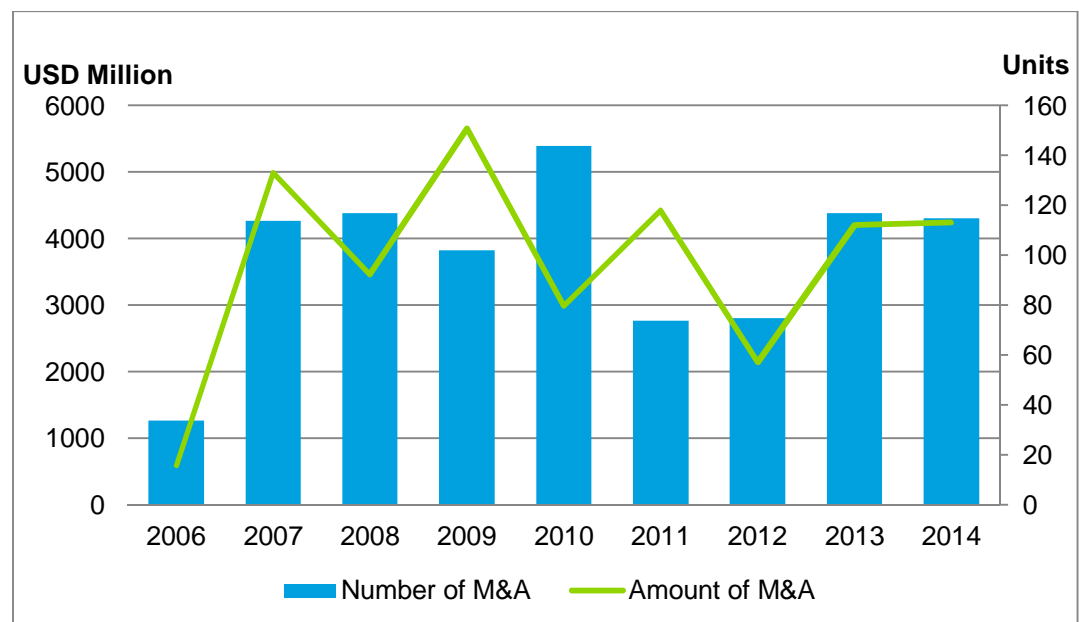
V Analysis on investment trends in China's logistics industry

Since the beginning of the 21st century, particularly after China's entrance into WTO, the Chinese government and Chinese enterprises have stuck to the guideline of combining "letting-in" with "going-out" and have strived to integrate into the global economy. However, generally speaking, in the current stage, most service sectors are characterized with enough "letting-in" but not enough "going-out". Logistics is a product of social and economic development as well as economic globalization. As a sector that was among the first to open to the outside world, logistics has been an important field for attracting foreign investment. It is more apparent in this sector that much has been done in "letting-in" but not enough has been achieved in "going-out".

1. Logistics has become a focal point in foreign investment in China

Statistics shows that in the past 10 years, the logistics sector has been a focal point in foreign investment in China (mainly in acquisition), averagely at least 7 acquisitions each year (the number declined in the two financial crises of 2008 and 2012). In 2014, there were 7 acquisitions of Chinese logistics enterprises by foreign businesses, all in the transportation and logistics infrastructure areas involving a total acquisition amount of 539 (USD million). The continuous growth in the Chinese economy and further lifting of investment in the logistics will likely make the logistics sector an important area to attract foreign investment.

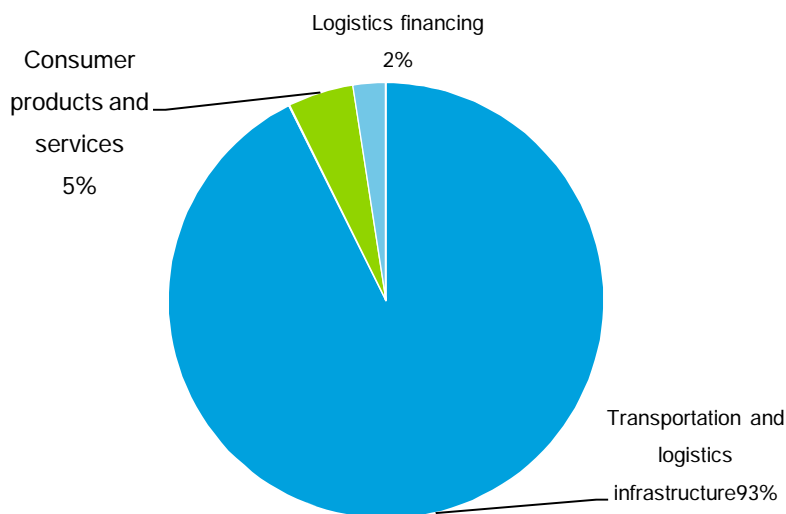
Fig. 5-1: 2005-2014 Number and amount of foreign investments in China's logistics sector



Data source: Thomson

Chinese logistics enterprises that offer basic logistics services such as transportation and logistics infrastructure are most favored by foreign investors, 93% of which concerned the logistics enterprises in transportation and logistics infrastructure. A small number of acquisitions occurred in the field of consumer products and services and logistics financial services, which the respective proportions were 5% and 2%.

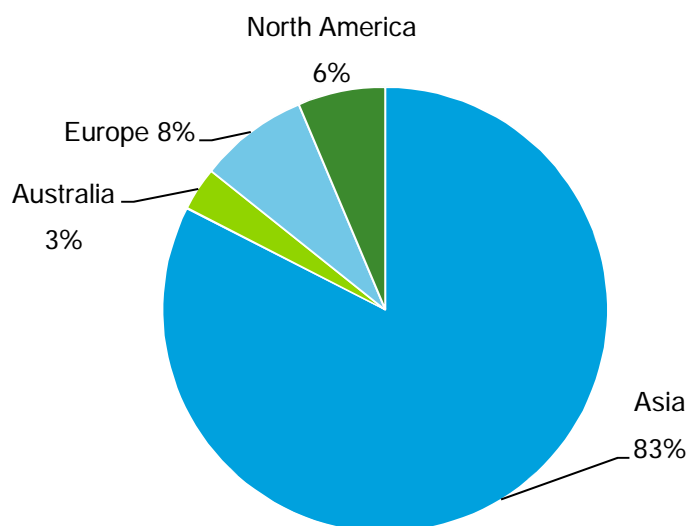
Fig. 5-2: Types of Chinese logistics enterprises acquired by foreign investors.



Data source : CVSource

Foreign capital that acquired Chinese logistics enterprises mainly comes from Asia, followed by Australia, Europe and North America.

Fig. 5-3: Source of foreign investment %



Data source: CVSource

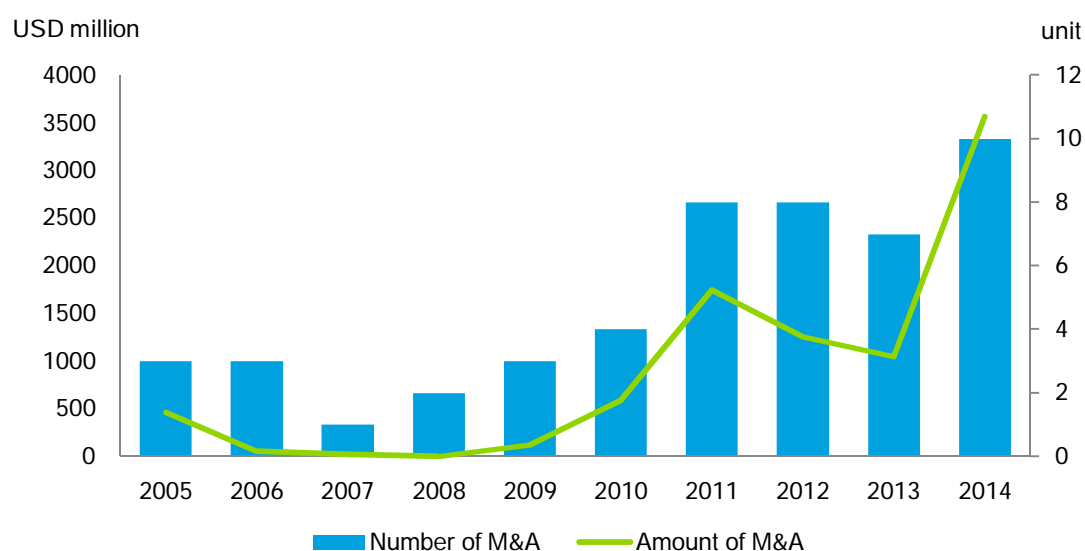
Foreign businesses choose to adopt one of the following three strategic approaches to enter the Chinese logistics market:

1. Seize real estate locations in tire1 cities for the company and for the deployment of network.
2. Proactively seek to penetrate tire2 and tire3 cities with a focus on control rate.
3. Enter the market gradually by forming partnership or acquisition and customization etc.

2. Analysis on foreign investment by China's logistics enterprises

2005 marked the year when Chinese logistics enterprises opened the chapter of overseas mergers and acquisitions. It has heated up since then and the amount of capital involved has kept rising. After the financial crisis, 2014 witnessed the climax in Chinese logistics enterprises' overseas acquisitions. The total number of mergers and acquisitions was 10 and the total capital concerned was 3565(USD million). With Chinese logistics enterprises growing stronger and policies becoming more encouraging, we will see a steady rise in the Chinese logistics enterprises' "going-out" efforts in the future.

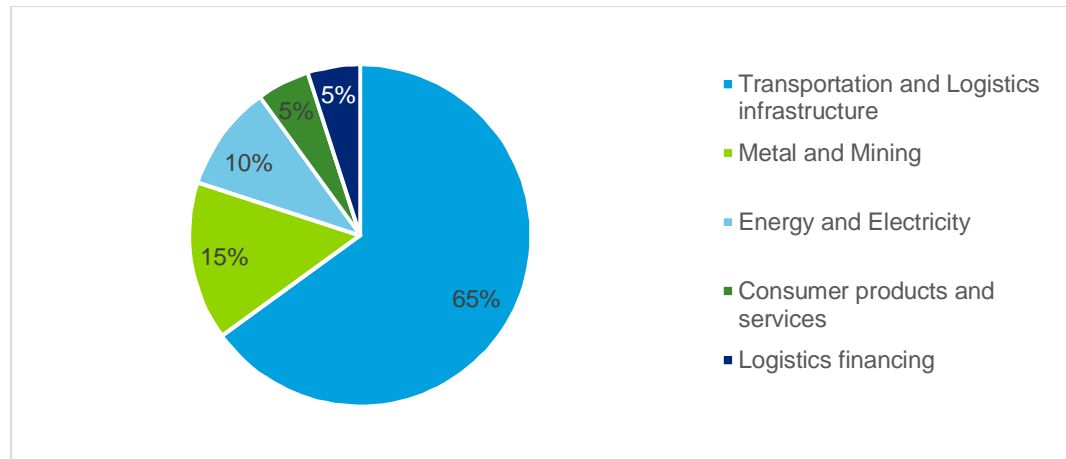
Fig. 5-4: Number and amount of overseas investments made by China's logistics enterprises



Data source: Thomson

65% of the mergers and acquisitions by the China's logistics enterprises in the past 10 years occurred in the transportation and logistics infrastructure fields, 15% occurred in metal and mining industry was 3 with a total amount of 994.58(USD million) and another 15% occurred in energy-related logistics. The remaining 10% of the mergers and acquisitions occurred in the field of consumer products and services and logistics financial services.

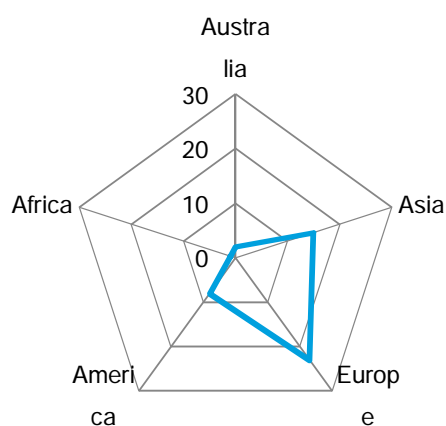
Fig. 5-5: 2005-2014 Types and amount of Chinese enterprises overseas mergers and acquisitions



Data source: CVSource

In the past 10 years, China's logistics enterprises have made a total of 49 mergers and acquisitions, among them, 15 are in Asia concerning a total amount of 694(USD million), 23 in Europe concerning a total amount of 1887 (USD million), 3 in Australia concerning a total amount of 69 (USD million), 1 in Africa concerning an amount of 185 (USD million) and 7 are in America with a total amount of 4309 (USD million). China's logistics enterprises have focused their M&A efforts in mature markets in Asia, Europe and America. They seek to make overseas deployment by mergers and acquisition to prepare for the impending “global shopping”.

Fig. 5-6 Locations of Chinese logistics enterprises overseas investment



Data source : CVSource

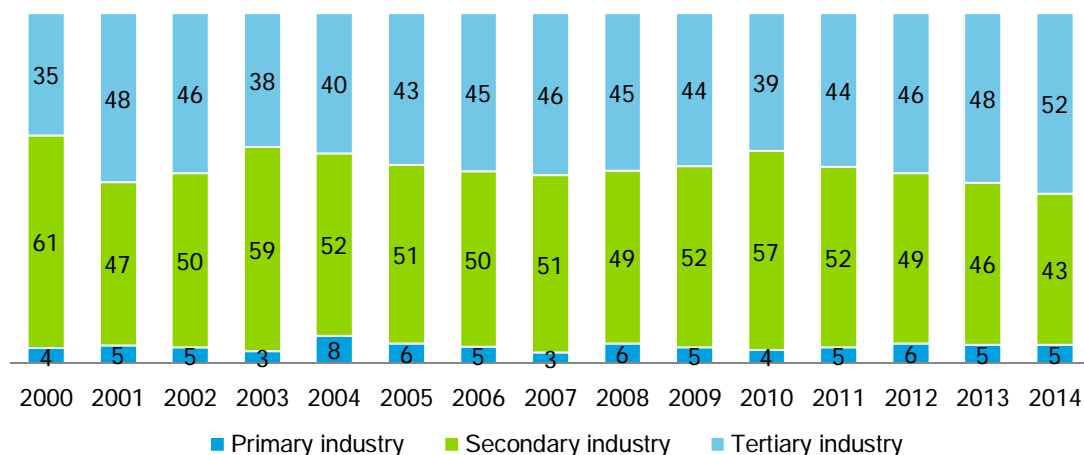
VI Development trends of China's logistics industry

1. China's economic transformation has profoundly changed the logistics industry

At present, China's economy enters a "new normal" stage. Correspondingly, its logistics industry arrives at the crossroad of upgrade and transformation. The slowdown of macro economy brings two changes to both the manufacturers and logistics industry. First, the rising labor costs have gradually shifted the Chinese manufacturing industry to the regions with lower labor costs (central and western regions). As a result, the manufacturing logistics in China will intensify investment in the central and western regions in the hope to solve the problem of imbalanced logistics across regions. Second, manufacturing enterprises have attached greater importance to logistics efficiency and put more emphasis on gaining profit from an improved logistics system, thus offering vast markets for logistics enterprises that have undergone in-depth supply chain integration.

The industrial restructuring, the shrinkage of industries with excess capacity in particular, has forced the logistics enterprises in the affected industries to make business adjustment and develop emerging fields of business. Indeed, the contributions to GDP made by the primary, secondary and tertiary industries have changed gradually since 2011. The share from manufacturing industry keeps falling (from 52% down to 43%) and that from agriculture and service sectors continue to rise (share of service sector has increased from 44% to 52%). The industries with excess capacity in China not only include those such as steel and cement that are affected by market saturation but also the automobile industry that may soon see supplies outpace demand due to "human factors" such as restrictive policies introduced by governments in many cities over vehicle ownership. The growth in the automobile value chain for the next stage will largely come from the sale and after-sale service of used cars, which will lead the supply chain investment in two directions.

Fig. 6-1: 2000-2014 Contribution % to GDP by different industries in China



2. Integration between logistics enterprises and e-commerce businesses is accelerating and cross-boundary competition is intensifying

The listing of Alibaba in 2014 symbolizes a huge success in the development of China's e-commerce platforms. The online sales and corresponding parcel delivery have been growing at more than 40% consistently. The rapid emergence of e-commerce has had a profound impact on the consumer retail business in China, destroyed the traditional distribution system on the market, and more importantly, put a higher requirement on the frequency and quantity of production – to match by demand. While e-commerce has boomed the logistics industry, it has also felt the threat from that industry. Under such a circumstance of fierce competition, e-commerce enterprises have chosen to build their own logistics systems, which, coupled with the rapid emergence of third party express delivery enterprises, have squeezed the market for the traditional logistics enterprises that used to focus on trunk transport and warehousing business. The fast emergence of e-commerce industry is now eating in the traditional logistics enterprises' profits and is nudging them to an awkward situation. Therefore, how to fully capitalize on their strength and step up cooperation with e-commerce has become a problem that traditional logistics enterprises must solve.

However, the integration between traditional logistics enterprises and e-commerce enterprises has started. On July 1, 2014, three non-stop express trains started to operate between Beijing, Shanghai, Guangzhou and Shenzhen for e-commerce only. The e-commerce express trains were a result of cooperation between e-commerce and express delivery enterprises, which made up for the slow speed of ordinary trains used for dispatching goods and made it possible for products manufactured in the Pearl River Delta and Yangtze River Delta to arrive in the Capital within 24 hours. Besides, Sinotrans has outsourced part of the delivery business to SF and other express delivery enterprises in an effort to achieve the highest efficiency by integrating multiple modes of transportation. Some traditional logistics enterprises have opened new markets and achieved an integrated development with e-commerce logistics by seizing the upstream and downstream in the e-commerce supply chain, developing big-box-item express delivery service and getting involved in providing supporting services to e-commerce parks etc.

3. The improvement of operational efficiency in the entire logistics industry heavily relies on enhancement of standardization and technology

The key to the improvement of logistics operational efficiency is technology. In recent years, emerging technologies represented by big data, cloud computing and internet of things have offered huge opportunities for the transformation and upgrade of logistics industry. The hike in labor costs has notably boosted the interest in adopting software and technologies by businesses. Take the automated sorting system deployed by SF Express as an example. It makes the sorting operation highly efficient and accurate by the adoption of technologies such as voucher, computer bar code and radio frequency identification, dramatically increasing the response speed to orders from customers. Through alliance with tmall.com and by creating a new standard in big-box-item delivery labeled as "delivery by appointment,

delivery and installation”, RRS.com has successfully broken the bottleneck in electrical appliances’ online shopping and has attracted in a short period of time well-known domestic and foreign brands such as Haier, Amazon, UNSL, Skyworth, Sanyo, Gome and Chongqing General Trading Group etc.

The standardization of service and equipment plays a key role in improving the overall logistics service efficiency and quality. The standardization of logistics system is based on standardizing hardware equipment and improved by standardizing software. In other words, on the foundation of standardizing information, facility and equipment, enhancing the standards in operation, management, and service helps upgrade the logistics industry. To that end, the government must take the role of organization and coordination while logistics enterprises must show their enthusiasm in making and implementing logistics operational standards. The implementation of these standards will be discounted without willing participation from the businesses. Lastly, improve the system to ensure implementation. Measures must be taken without delay to correct the problems found in the implementation of standards so that the stability and timeliness of standards are both given due consideration.

4. Release capacity in the international market, and regional and cross-border expansion will be new engines in driving logistics growth.

The continued structural change in e-commerce in the future is foreseeable as mobile internet becomes more popular. The penetration by e-commerce into each industry is one the rise in recent years, increasing the number of online shoppers, amount spent in and scope of online shopping. In particular, the release of demand from rural markets, tier3 and tier4 cities as well as cross-border online shopping will present great opportunities in both market development and regional expansion for the logistics industry in the three years to come.

In the meantime, the explosive growth in cross-border e-commerce business proves to be a new engine in pushing the development of e-commerce to a new high. According to the forecast by the Ministry of Commerce, the value of total import and export in China’s cross-border e-commerce in 2016 will reach RMB6.5 trillion, growing more than 30% annually. Feeling the enthusiasm by the Chinese consumers for foreign commodities, e-commerce giants as well as traditional logistics enterprises have stepped up their efforts to prepare for a booming import market. Cross-border e-commerce service is likely to give rise to new industry magnates. So far, however, the prospect in express delivery enterprises’ venture into the e-commerce territory is uncertain. It may take a long time for these enterprises to ramp up the curve in knowledge and talents to operate successfully in the e-commerce market.

5. National development strategies and policies including “One Belt One Road” and “Urbanization” present more opportunities for logistics development.

The opportunities presented by the “One Belt One Road” strategy are reflected in the need to integrate and remove obstacles in domestic logistics resources as well as the need to

connect and streamline international logistics channels. When executing the “One Belt One Road” strategy, the national logistics development strategy and construction of new forms of urbanization must be taken into account. We should focus on constructing the multimodal transport great logistics that includes railroad, highway and civil aviation, in the meantime, not ignore the microcirculation logistics that involves the urban delivery for the “last one kilometer”.

The acceleration in the construction of ports of entry will improve the circulation of domestic trade and logistics operational efficiency. When making the “13th Five-Year Plan” for the development of ports of entry surrounding the “One Belt One Road” strategy, the General Administration of Customs has proposed to further drive the opening-up in the following areas: First, for the ports in the coastal regions, the focus will be on creating some important ports that serve as regional hubs to capitalize on their radiating and leading role. Second, for the border regions, speed up the opening-up of the ports along the border by intensifying cooperation with bordering countries, and building on the “One Belt One Road” and Yangtze River Economic Belt international development strategies; Thirdly, for the inland regions, adopt new port laws to promote the opening-up of inland ports and increase the number of railroad ports in inland regions.

[About Deloitte Global](#)

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), and its network of member firms, and their related entities. DTTL and each member firm are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. Please see www.deloitte.com/cn/en/about for a detailed description of DTTL and its member firms.

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries and territories, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte's more than 200,000 professionals are committed to becoming the standard of excellence.

[About Deloitte in Greater China](#)

We are one of the leading professional services providers with 22 offices in Beijing, Hong Kong, Shanghai, Taipei, Chengdu, Chongqing, Dalian, Guangzhou, Hangzhou, Harbin, Hsinchu, Jinan, Kaohsiung, Macau, Nanjing, Shenzhen, Suzhou, Taichung, Tainan, Tianjin, Wuhan and Xiamen in Greater China. We have nearly 13,500 people working on a collaborative basis to serve clients, subject to local applicable laws.

[About Deloitte China](#)

The Deloitte brand first came to China in 1917 when a Deloitte office was opened in Shanghai. Now the Deloitte China network of firms, backed by the global Deloitte network, deliver a full range of audit, tax, consulting and financial advisory services to local, multinational and growth enterprise clients in China. We have considerable experience in China and have been a significant contributor to the development of China's accounting standards, taxation system and local professional accountants.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the "Deloitte Network") is by means of this communication, rendering professional advice or services. None of the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this communication.