



CHINA: Logistics and Distribution Industry

Access Dynamic and Emerging Markets

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INTRODUCTION

This report provides an overview of China's logistics industry, with closer look at three key industries: pharmaceuticals, chemical/petrochemical, and retail. (See Glossary at page 22 for key terms used).

EXECUTIVE SUMMARY

China Logistics Industry

Market overview. China's logistics market grew at 13% annually in the last few years to reach a value of \$490¹ billion in 2006. However, less than 20% of the market is provided by 3PLs, which are characterized by low service levels and poor technology. The 3PL landscape is very fragmented with about 18,000 3PLs and with virtually no company having a national network.

Regulatory environment. Over-regulation and local protectionism at the provincial and local level has hindered the development of nationwide transport networks. The licensing process for foreign companies is also complicated. However, there is increasing government attention in this issue and the 11th Five Year Plan promises to improve regulations and introduce more adequate industry standards.

Key market dynamics. There are six key trends in the logistics sector: 1) continued growth in logistics market; 2) increased outsourcing to 3PLs; 3) increasing foreign presence; 4) consolidation and increasing quality of domestic 3PLs; 5) de-regulation and standardization and 6) greater use of technology

Key opportunities and market entry options. Opportunities for US companies exist in several areas such as specialist 3PLs, supply chain management services, warehousing, software, and technology products. Different market entry options are possible and companies should carefully evaluate pros and cons of each option before making a decision.

Focus on three key industries

Pharmaceuticals. Pharmaceutical logistics face issues of poor product handling, fragmentation, traceability, cross-selling, and channel loading. However, the industry is gradually moving towards greater consolidation and improvement in wholesalers' quality, and consequently in logistics practices. A notable exception is a handful of key distributors able to provide nation-wide coverage and virtually full control on the supply chain management on behalf of their customers.

Chemicals/Petrochemicals. In the chemicals industry, the main issues are that of Health, Safety and Environment (HSE), which were largely ignored in the past. However, with multinationals leading the way, there is greater focus on safe transportation of hazardous chemicals. There is also increasing regulations ensuring that chemicals are properly handled and transported.

Retail. Logistics in the retail segment is characterized by a low level of development with lack of regulations especially in ensuring food safety along the supply chain. There is very limited independent "cold chain" in China. Cost remains one of the biggest barriers to the improvement of logistics in this sector.

¹ Dollar values are calculated using USD-RMB exchange rate of 7.75

CHINA LOGISTICS INDUSTRY

Overview

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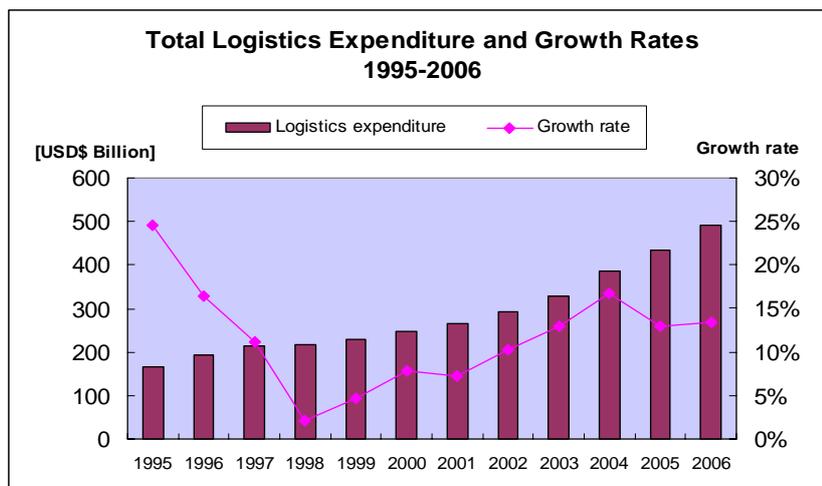
Market Overview. The logistics² and distribution market in China presents significant opportunities for US companies. Growth is driven by increasing import and export of goods as well as rising importance of domestic markets. Key logistics facilities are concentrated in the Yangtze River Delta, Pearl River Delta and Bohai Bay Regions, with other emerging logistics hubs in Tier II and Tier III cities like *Shenyang, Chengdu, Chongqing, Nanjing, Ningbo*, to mention a few. China has also opened up its logistics industry since joining the WTO, and WOFEs are now permitted for most logistics functions. However actual licensing and business registration is still complicated and with high capital requirements.

3PL Overview. Outsourcing of logistics functions to 3PLs is still not the norm in China, accounting only for about 20% of the total industry. The 3PL landscape is very fragmented and characterized by a low service levels. Local protectionism has also hindered the development of nationwide networks. The inefficiencies result in significantly higher logistics cost in China than in the US (about 20% of GDP compared to 9% in US). However, there is a trend towards greater consolidation of 3PLs driven by increasing competitive pressures and need of better logistics services from customers.

Market Data

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Market Size and Growth. China logistics industry³ grew at about 13% CAGR between 2001 and 2006. In 2006, the total size of the industry was approximately \$490 billion, or about 20% of GDP. The market is expected to continue growing at about 10% CAGR from 2006 to 2010 to reach about \$720 billion in 2010.



Source: China Federation of Logistics and Purchasing

Drivers of Growth. Export of China-manufactured products is one of the key drivers of demand for international logistics. At the same time, rapidly growing local economies and rising disposable incomes have boosted domestic logistics demand, with major international retailers such as *Carrefour* and *Wal-Mart* expanding fast in Tier I and Tier II cities. Huge investments have also been committed to improve infrastructure such as roads, railways, bridges and warehouses.

² "Logistics" in this report is defined as all functions such as transportation, freight forwarding, warehousing, supply chain management etc. related to import/export and domestic activities and including both in-house and outsourced logistics.

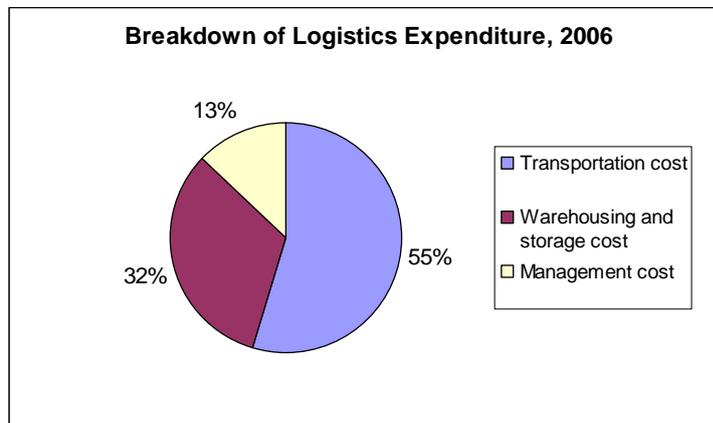
³ The size of the logistics industry is defined as the total revenue generated by logistics services in three areas (transportation, warehouse and storage, and management costs), and includes both in-house and outsourcing spending

The following table shows a snapshot of China's current infrastructure situation.

Type of Transport	Length of Transport routes (2004)	Transport Equipment	Government Investment Plans (11 th Five-Year Plan, 2006-2010)
Rail	74,408 km (track in operation)	528, 000 rail containers	<ul style="list-style-type: none"> Annual investment of \$8 billion by 2010 50% of rail investment is planned for western China projects (including world's highest-altitude railway linking Qinghai to Tibet opened in 2006)
Road	1,87 million km (highways)	8.93 million vehicles (average capacity of about 2 tons)	<ul style="list-style-type: none"> Annual investment of \$10 billion by 2010 Plans to build 0.4 million km of expressway
Sea	34,000 (shipping berths)	1,500 vessels (capacity of 37 million deadweight tons – DWT)	<ul style="list-style-type: none"> Annual investment of \$8 billion by 2010 Plans to double the number of deepwater berths Specific deepwater port projects include Shanghai, Dalian, Qingdao, Tianjin, and Shenzhen.
Inland water	123,300 km	210,000 vessels	<ul style="list-style-type: none"> Annual investment of \$1.1 billion by 2010
Air	2,05 million km (civil aviation routes)	890 airplanes	<ul style="list-style-type: none"> Construction or renovation of about 35 airports

Source: China Statistical Yearbook, 2004 and 2005: China Federation of Logistics & Purchasing

Breakdown of Logistics Expenditures. The chart below shows the breakdown of the logistics expenditures by key areas – transportation, warehouse & storage, and management. Expenditure in the three areas have grown at similar rates in the past few years leaving the percentage breakdown essentially unchanged.



Source: China Federation of Logistics and Purchasing

Industry Development. Although the overall logistics industry has grown rapidly for the past several years, it still at a low level of development and sophistication. The industry is characterized by:

- *Fragmentation* – there are about 18,000 3PLs, most of which are very small local players
- *Low levels of service* – poor service, low on-time delivery, and damaged merchandise are not uncommon. This is compounded by the low level of technology used. For example, most warehouses do not have tracking systems and goods are hand-stacked.
- *Inefficiency* – Inefficiencies in managing logistics result in significantly higher logistics costs in China than in the US - 20% of GDP spent on logistics in China versus 9% in the US.

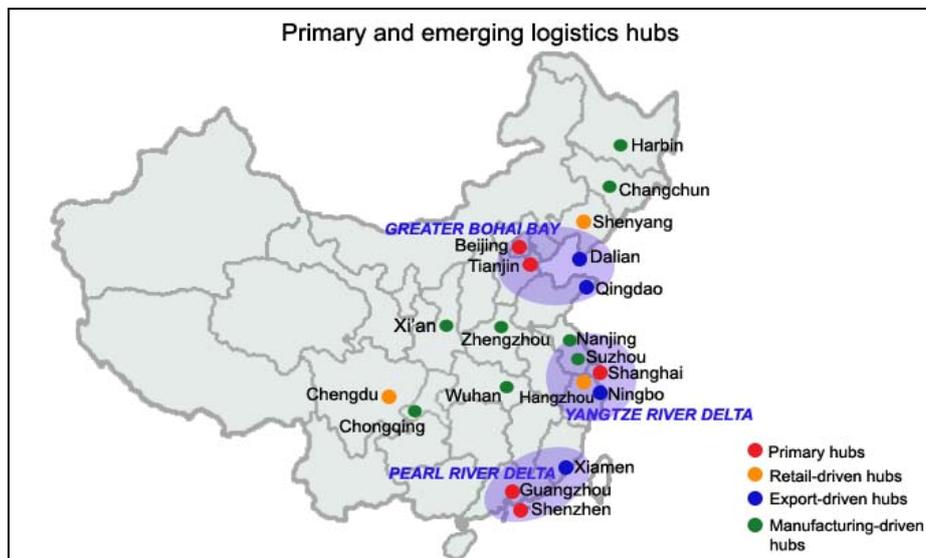
Key Factors affecting Industry Development. There are three main factors for the overall low level of development of the logistics industry.

1. *Generally poor understanding of logistics* - logistics is normally defined in terms of the “hardware” aspects (such as the number of warehouses and trucks) while the “software” aspects (management practices, qualified personnel etc.) are often underestimated. Qualified logistics managers in both government and private companies are a scarce resource. While the government has invested heavily in improving overall infrastructure, not all projects are well designed because of poor understanding of logistics – for example newly-built logistics parks or warehouses may be inaccessible to highways or lack proper loading and unloading docks.
2. *Limited use of technology and IT systems* – the limited penetration of technology makes it difficult to manage information and coordinate logistics efficiently. While large manufacturers (especially foreign-invested ones) may be ready to implement IT systems or technology like RFID, most wholesalers, distributors, and 3PLs along the supply chain do not have the resources or capability to do so.
3. *Inadequate regulations and over-regulation* – Inadequate regulations paired with over-regulation at different tiers of government (provincial and local), have been an obstacle to consolidation and to 3PLs developing a nation-wide network. The 11th Five Year Plan, however, outlines plans to develop and improve the overall level of service in the industry (See section on Regulatory Environment for more details).

Key logistics hubs

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Primary logistics hubs. The vast majority of China’s logistics facilities are concentrated in the three main economic regions – the Yangtze River Delta, Pearl River Delta and Bohai Bay regions. These three regions account for 85%⁴ of China’s total logistics facilities and have five primary logistics hubs: *Shanghai, Beijing, Guangzhou, Shenzhen, and Tianjin*. These five primary logistics hubs are the main gateways for import-export, with both strong manufacturing and consumer markets. *Shanghai* and *Shenzhen* are also the two largest ports in China, handling 17.9 million and 15.2 million TEUs⁵ in 2006 respectively.



Source: JLJ analysis based on multiple sources

⁴ Source: Jones Lang LaSalle

⁵ TEU refers to container capacity of twenty-foot equivalent units

Emerging hubs. There are 15 emerging hubs which can be classified into three main types:

1. **Retail-driven hubs** are located in *Shenyang*, *Hangzhou* and *Chengdu*. Logistics demand is driven by strong consumer markets and retailing activities.
2. **Export-driven hubs** are located in port cities along the East coast, e.g. *Dalian*, *Qingdao*, *Ningbo* and *Xiamen* and are recording high growth rates. For example, container traffic in *Ningbo* grew 36.4% (compared to growth in Shanghai of 19%) to reach 5.8 million TEUs in 2006
3. **Manufacturing-driven hubs** are located both inland and in the North East. Government policies aimed at developing the Western and North-east regions (“Go West” and “North East Regeneration” policy) fueled manufacturing activity in cities like *Chongqing*, *Xi’an*, and *Changchun*. Another manufacturing-driven hub is *Suzhou*, which has one of the most successful industrial parks in China hosting more than 1,000 foreign companies.

Third-Party Logistics Providers (3PLs)

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Outsourcing in China. The outsourcing of logistics functions to 3PLs is still not a common practice in China. Currently, about 20% of logistics activities are carried out through 3PLs. It is estimated that by 2010, 3PLs will handle about 25% of all logistics activities.

Key barriers to outsourcing. Outsourcing to 3PLs has not been a common practice because most state-owned enterprises have large in-house logistics departments and many private Chinese companies do not track all logistics costs, making it difficult for them to understand the value 3PL providers can offer. It is only recently that some private Chinese companies are starting to acknowledge the benefits of outsourcing. Thus the development and growth of outsourcing in China have been driven primarily by multinational companies. More than 80% of MNCs in China currently outsource at least part of their logistics to 3PLs. Basic transportation and warehouse management account for the majority of logistics services outsourced by these companies.

Key players (3PLs). There are about 18,000 3PLs⁶ in China, which can be classified into four main categories as shown in the table at page 6. In a very fragmented industry, large players have a combined market share of less than 2%. Foreign 3PLs are considered strong in IT systems, industry/operational expertise, standardized operating processes, and international networks. On the other hand, Chinese 3PLs providers are viewed as very competitive on prices and as having strong local knowledge, strong domestic network coverage, and good government relationships. Generally, Chinese 3PLs seek partners who can provide overseas networks, financial support, management experience and other complementary functions; foreign 3PLs look for partners who can provide customer relationships in China, assets such as vehicles and warehouses, local operational skills, and domestic network coverage.

Fourth-party logistics providers (4PLs). A *pure* 4PL company manages 3PL companies, without actually owning any tangible assets like trucks or warehouses. There are no *pure* 4PL companies in China, but a few large 3PLs (e.g. DHL) that are also able to provide supply chain management services, effectively acting as a 4PLs. The reason for the lack of *pure* 4PL companies in China is due to regulations that require logistics companies to own assets like warehouses and trucks. For example, transportation companies are required to own 51% of trucks used for the company’s business. Thus, 4PLs which provide value by leveraging management expertise cannot be registered as logistics companies as do not own any logistics assets. Foreign-invested 4PLs can only be set up as service or consulting companies. (See section on Market Entry Options for more details).

⁶ 16,000 is the estimated number of *registered* logistics service providers. The actual number may be significantly higher as there could be thousands of small 3PLs (especially transport companies) which are not registered.

Table: Landscape of 3PLs

Company type	Estimated number of companies	Typical profile	Key services	Key examples
State Owned Enterprises (SOEs)	~20	<ul style="list-style-type: none"> Large firms with broad network and significant warehouse and transportation assets Good relationship with central and local government Fixed processes; less flexibility in terms of services 	<ul style="list-style-type: none"> Generally wide range of services in the supply chain Some focus on either rail, air or shipping 	<ul style="list-style-type: none"> Sinotrans Cosco CMST China Shipping China Resources China Post CRMLC CRE, etc.
Multinational Logistics Companies	~20	<ul style="list-style-type: none"> Strong overseas network and management expertise Advanced IT systems and strong financial support Many in JV with large Chinese logistics companies e.g. DHL-Sinotrans 	<ul style="list-style-type: none"> Generally stronger in the express segment Very large players like DHL offer supply chain management solutions Focus more on international services 	<ul style="list-style-type: none"> FedEx UPS DHL APL Schenker Maersk etc.
Mid-sized Emerging Companies	600-800	<ul style="list-style-type: none"> Private companies or JVs with focused geography, services, and clients. High productivity and growth but with limited assets Lacking financial resources to support expansion and effective organization 	<ul style="list-style-type: none"> Usually focus on one or two stages of the supply-chain May specialize in a particular industry (e.g. in chemicals) 	<ul style="list-style-type: none"> EAS ST-Anda PGL Hua-Yun logistics China overseas logistics etc.
Small-Medium Enterprises (SMEs)	~17,000	<ul style="list-style-type: none"> Small private Chinese companies with very limited services and assets, operating at local or provincial level May have good capabilities within local range 	<ul style="list-style-type: none"> Usually specialized in one service only (e.g. warehousing or transportation) 	<ul style="list-style-type: none"> (N/A - about 17,000 local players)

Source: JLJ analysis

Regulatory environment

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Overview. The overall regulatory environment for the logistics sector is still at a developing stage, with over-regulation in some areas, and lack of regulations in other areas. Multiple government bureaus have jurisdiction over logistics, including the *Ministry of Communications, Ministry of Foreign Trade and Economic Cooperation, Civil Administration of China, State Postal Bureau* and *Ministry of Commerce*, making regulations confusing and sometimes difficult to navigate.

Local protectionism. Local protectionism at the provincial and city level also makes it very difficult for any one company to develop a China-wide network. For example, trucks from one province cannot move freely into other provinces as local governments often impose high toll fees (both legal and illegal⁷) or in some cases, refuse entry altogether. However, with the government placing a high importance on logistics in the 11th Five Year Plan, the overall regulatory environment is moving towards greater standardization and centralization.

WTO entry. With entry into the WTO, China has committed to liberalize its domestic logistics sector. Since December 2005, logistics WOFEs can be established, subject to approval from the provincial Ministry of Commerce. Logistics WOFEs are now permitted in a wide range of services, including transportation, warehousing, packaging, consolidation and distribution, freight forwarding etc.

⁷ Legal toll fees are usually specified by local city laws. However, “illegal” toll fees are sometimes charged by officers at the toll gates, forcing trucks to pay extra fees in order to enter the province or refuse them entry altogether.

Licensing. While WOFEs are now permitted, the actual licensing process is still complicated. Logistics operators have to apply for separate licenses for each key logistics function (transport, warehouse, freight forwarding etc.) and also apply for additional licenses at different government bureaus. Even after obtaining approval, foreign companies may find it difficult to build up national networks with multiple layers of local protectionism and local regulations. This is especially the case for road transportation.

The 11th Five Year Plan (2006-2010). For the first time, the logistics industry was included into the central government's five year plan and highlighted as one of China's strategic industries. Key developments for logistics in the 11th Five Year Plan include: 1) establishment of a fair / open market for competition; elimination of monopoly and protectionism; 2) emphasis on "Go West" policy – investment incentives to the Chongqing-Chengdu corridor along the Yangtze River; 3) more resources to develop logistics infrastructure – new railway, roads, ports, and regional logistics centers will be built; 4) encouragement of growth of specialized 3PLs and use of new logistics technology and information management (although no specific incentives have been set) 5) setting of industry standards for logistics by 2010, in several aspects of logistics (e.g., logistics equipment, operational procedures, classification of information, etc.)

Key market dynamics

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1. Further growth in overall logistics industry. The logistics market is expected to continue growing at double-digit rates driven by sustained exports and growing domestic markets. While exporting goods out of the country is relatively straightforward, transporting goods domestically is still inefficient and complex. However, the increasing government attention to this issue will over time improve domestic logistics, although it will take several years to match the efficiency of export logistics.

2. Increased outsourcing to 3PLs. While 3PLs currently only account for about 20% of the total logistics carried out, outsourcing is expected to increase driven by increasing competition among manufacturers and the need to outsource non-core functions. Increasing requirements from end-users is also driving demand for a broader range of integrated services from 3PLs.

3. Increasing focus of foreign 3PLs on domestic market. With all restrictions on foreign investment in logistics abolished since December 2005 due to China's WTO commitments, more foreign 3PLs are setting up wholly-owned operations. Foreign 3PLs in China have largely focused on import-export logistics, with little presence in domestic logistics. However, with the domestic market being one of the key drivers of logistics in the future, there is expected to be increasing foreign presence in the domestic segment.

4. Consolidation and increasing quality of domestic 3PLs. While foreign 3PLs are expected to grow, domestic 3PLs are expected to retain their competitive advantages as cost, local knowledge, and local network still play a critical role. It is expected that larger 3PLs will continue growing while smaller private Chinese 3PLs providing only one function in the supply chain (e.g. transportation or warehousing) will consolidate. Overall quality of service and use of technology will gradually increase.

5. De-regulation and standardization. Logistics is one of the key sectors in the government's 11th Five Year Plan, and there is a clear trend towards increasing de-regulation especially at the provincial and local levels which has in the past hindered the development of national networks. On the other hand, regulations regarding the proper transportation and handling of products are being put into place, pushing logistics providers to improve overall service quality.

6. Greater use of technology. As the industry continues to develop, there will be greater use of information technology to reduce inefficiencies and overall logistics cost. For example, IT is increasingly used in warehousing which is becoming more sophisticated and specialized as it moves away from traditional storage purposes to higher value services, trans-shipment and consolidation.

INDUSTRY FOCUS: PHARMACEUTICALS

Summary: Logistics for Pharmaceuticals

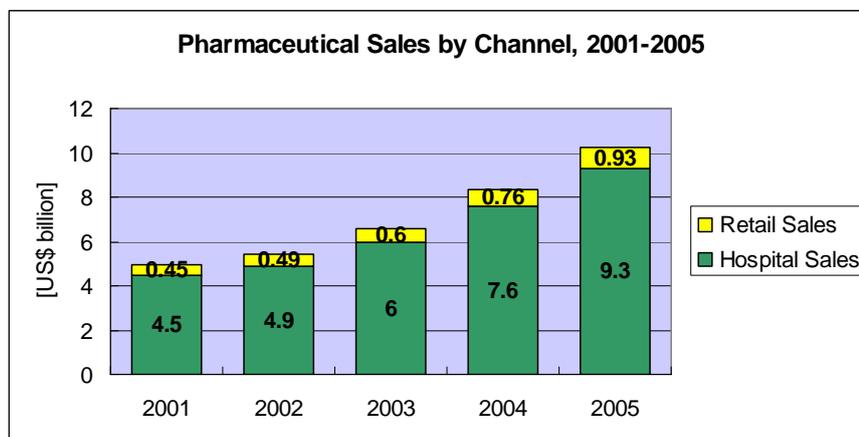
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China's domestic pharmaceutical market rapid growth has boosted demand for logistics services. Key issues the industry is facing include poor handling of goods, traceability, fragmentation (tens, or even hundreds, of wholesalers may be needed in order to cover the whole China region) channel-loading and cross-selling. The number of players involved, in turn, makes it difficult to implement new software or technology along the supply chain. A very important exception are a handful (less than five) of key distributors able to provide national coverage and virtually full control on the supply chain management on behalf of their customers. There are also positive developments with the introduction of *Good Supply Practices*, the ongoing consolidation of wholesalers, and improvements in overall quality of remaining wholesalers. There are opportunities both for US 3PLs as well as technology providers - manufacturers are increasingly outsourcing logistics functions while wholesalers are improving their internal logistics capabilities with increasing usage of technology.

Market Overview

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Pharmaceuticals market. China pharmaceuticals market is expected to rank as one of the top 5 world pharmaceutical markets by 2010. With 20% of the world's population and only 1.5% of the global drug market, there is considerable room for growth. Its per capita spending on drugs of US \$16 has been growing at an average of about 20% in recent years. Domestic pharmaceutical sales exceeded \$10 billion in 2005⁸, with further growth expected at 10%-12% annually for the next five years. Growth will be driven by several factors such as an increasingly ageing population, large market size (urban and rural), government support in restructuring the highly fragmented industry, more effective intellectual property rights (IPR) policies, as well as increasing life expectancy⁹.



Source: China Economic Review, China National Pharmaceutical Group

Domestic production. Domestic pharmaceutical production in China is dominated by generic products and traditional Chinese medicines. About 97% of all drugs produced in China are generics and a significant proportion is counterfeits. Most of the about 4,000 pharmaceutical manufacturers¹⁰ in China are state-owned enterprises (SOEs) and private Chinese companies who compete mainly on price. Many large pharmaceutical multinationals have also built a manufacturing presence in China. On the whole, China is an attractive low-cost location for manufacturing, and increasingly, for R&D activities.

⁸ Source: China Economic Review, China National Pharmaceutical Group

⁹ Source: Future Opportunities and Challenges in EU-China Trade and Investment Relations 2006-2010

¹⁰ Source: China Pharmaceutical Yearbook 2006

Distribution model. The distribution of pharmaceutical products is based on a multi-tier system, with many players involved. Under the traditional central planned economy, all pharmaceutical products were distributed by a state-owned monopoly company to several regional wholesalers and further on to local wholesalers. The overall system resulted in inefficiencies and large inventories. In the current model, pharmaceutical manufacturers separate product distribution from demand creation. Manufacturers have their own sales force responsible for demand creation responsible for sales and marketing activities while product distribution (and, in theory, supply chain management) is carried out by the distributors and wholesalers.

Wholesaler network. There are about 6,000 – 7,000 wholesalers in China. Wholesalers purchase products from manufacturers (or distributors) and sell to Tier II wholesalers, hospitals and retailers. The wholesaler network is still very fragmented, with each province usually having at least one strong local wholesaler. The top ten wholesalers in China have less than 20% market share. Most manufacturers usually have to work with tens or even hundreds of wholesalers in order to cover China. However international manufacturers may choose to work with one of the very few key distributors which provide national coverage and strong supply chain management (see next paragraph). Outsourcing to 3PLs is not the norm, and most manufacturers, especially state-owned companies, have their own in-house logistics department.

Few key distributors. There are only a handful (less than five) of key national distributors in China who can provide national coverage and very strong control on the supply chain management, on behalf of the pharmaceutical company. These key distributors agree on the pricing policy with the pharmaceutical company, manage accounts receivables (A/R) (essentially owning the risk), and manage the supply chain. A portion of their products are sold directly to hospitals/retailers, with the rest is channeled through wholesalers. Wholesalers are however monitored and controlled by the distributor who tracks the products throughout the supply chain with very high accuracy. These distributors are expanding their operations also through acquisitions of smaller players.

Key issues

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Logistics for pharmaceutical industry in China is at a relatively low level of development, and far behind that of developed countries. The following are the key issues, somewhat correlated if not compounded by each other. Once again, the notable exception is the handful of key distributors mentioned above.

Traceability. One of the biggest issues is that of traceability. Because of market fragmentation and the large number of wholesalers in the supply chain, products going from manufacturer to customer (hospital or retailer) are difficult to trace. The low traceability in the supply chain may result in further issues such as products being stolen or counterfeited, or maybe even more critical, may favor practices of cross-selling and channel loading.

Cross-selling. Correlated with the issue of traceability, cross-selling among distributors in different regions is rather common. Taking advantage of the price differences between different regions, wholesalers in areas with higher price (e.g., Guangdong) re-sell goods to wholesalers in lower price regions (e.g., the Northern region). This practice may cause serious issues to manufacturers; for example, a manufacturer may make strategic decisions based on strong sales in one region while in reality products are sold somewhere else.

Channel loading. Channel loading refers to pharmaceutical companies placing large orders to fulfill their sales targets, whereby products are stored in warehouses and not actually being sold to the end-customer, such as hospitals or retailers. In some cases, it is estimated that channels may be loaded with up to 8 or 10 months worth of sales. Clearly, this practice favors short-term gains distorting market dynamics.

Low level of technology. In the US, RFID has been used as one way to increase product traceability. While many foreign manufacturers in China are able to implement such technology, most wholesalers or distributors are not ready to do so as they do not have the resources or capabilities. As a result, there is still a very limited use of technology adopted for supply chain management. The key distributors may

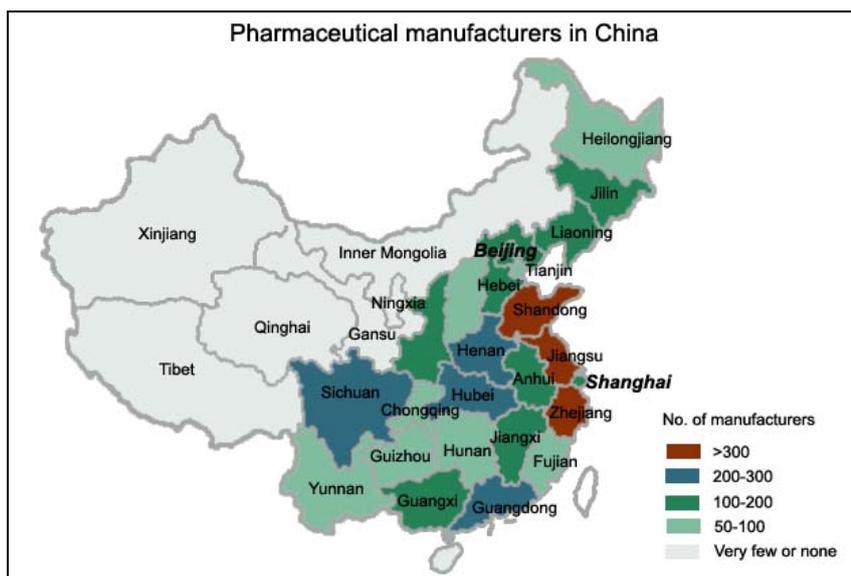
adopt EDI (Electronic Data Interchange) to link with their Tier I wholesalers and use RFID technology in their warehouses. At the same time, while most processes in the supply chain – like data collection and monitoring - are handled manually, the back office can leverage sophisticated IT software to elaborate all data.

Low 3PL quality. Low 3PL quality and poor product handling may result in products being damaged. Manufacturers need to take steps such as using stronger packaging material in order to prevent product damage through transportation. In a survey¹¹ of pharmaceutical players, the largest barrier to changing logistics processes for manufacturers included “employees’ morale” - as moving from in-house to outsourced logistics often implies downsizing company’s staff - and concerns about “third-party logistics provider performance”, preventing manufacturers from outsourcing to 3PLs. For wholesalers, barriers preventing change in logistics processes include “lack of skill” and reluctance for “cooperation with other departments”.

Key hubs

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Production of pharmaceuticals is scattered in several regions. The highest numbers of producers are concentrated along the Eastern Coast in *Jiangsu*, *Shanghai* and *Shandong*. There are also many large and well-known producers in *Beijing*, *Tianjin* and *Shanghai*. Pharmaceuticals are distributed throughout China, although wealthier coastal cities tend to have higher sales than less affluent inland regions.



Source: China pharmaceutical yearbook 2006

Key regulations

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Besides obtaining standard licenses to conduct logistics activities, 3PLs need a special license from the provincial or municipal level *State Food and Drug Administration* to handle pharmaceuticals. They also need to conform to the *Good Supply Practice (GSP)* regulations and obtain the GSP certificate, which regulates supply standards with requirements such as warehouse size and temperature. The GSP is being enforced rather strictly, especially in more developed provinces, with frequent spot checks being carried out by the relevant government agencies.

¹¹ Source: Xiaofeng, Shao & Jianhua, Ji – Reconfiguration of Pharmaceutical Logistics Operations in China: An Empirical Study

Key trends

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Manufacturers outsourcing to 3PLs. There is an increasing trend for manufacturers toward outsourcing non-core functions - such as transportation - to 3PLs, in order to streamline processes and reduce costs. For example, *Shanghai Pharmaceuticals*, one of the top three wholesalers, recently established a subsidiary 3PL company to provide logistics service to the parent company and to other pharmaceutical manufacturers.

Consolidation of wholesalers. With increasing competition as well as government regulations to increase the quality of wholesalers, the number of wholesalers has decreased from more than 10,000 five years ago to about 6,000 – 7,000 at present. With the implementation of the GSP standards, poor quality wholesalers had their licenses revoked. It is expected that as the number of wholesalers will continue to decrease and the quality of remaining wholesalers will improve.

Wholesalers improving internal logistics. Wholesalers are placing more emphasis on improving their own internal logistics capabilities, by building new distribution centers, optimizing logistics networks and reengineering business processes. There is a trend toward increasing use of technology, with some large wholesalers having already implemented information management systems. However, industry experts estimate that it will take at least three to five years before wholesalers will be ready to implement new tracking technology such as RFID.

Few key distributors leading the way. A few key distributors (less than five) are leading the way in pharmaceutical logistics and distribution. These distributors are able to offer national coverage and strong control over the supply chain management. While the overall distribution landscape is very fragmented and these players are more the exception than the rule, they offer a viable alternative to the traditional multi-tier distribution system and are likely to keep expanding their operations also through acquisition of local distributors and wholesalers.

Short stories of logistics in China

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- *“We have had to change our packaging to deal with the rough handling... products get damaged and may get stolen... we have even got frozen products in winter...”* - Multinational pharmaceutical company
- *“There is low service quality and awareness about proper product handling... for example, boxes of products may simply left outdoors at the airport and get wet from the rain...”* – Industry association
- *“We are able to know which hospitals our products go to; but we have to go through tons of data from all our wholesalers and organize them manually...we would be ready to implement technology like RFID, but we have to wait for our wholesalers to be ready as well”* – Multinational pharmaceutical company

INDUSTRY FOCUS: CHEMICALS/PETROCHEMICALS

Summary: Logistics for Chemicals/Petrochemicals

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The logistics market for chemicals is critical both for China's export potential as well as for the growing domestic demand. The key industry's issue is that of Health, Safety and Environment. In 2005, the government introduced regulations on storage and transportation of hazardous chemicals, although enforcement is still weak. Like in other industries, over-regulations at local level also prevent companies, besides large state-owned ones, from establishing national networks. The market is clearly segmented, with Chinese state-owned 3PL serving Chinese state-owned chemical/petrochemical companies, and foreign 3PLs serving multinational companies. With construction of new projects in the chemical industry parks, the current logistics capacity cannot meet the demands once the projects will reach full capacity, creating opportunities for specialized chemical 3PLs.

Market Overview

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Market overview. China is the world's 4th largest manufacturer of chemicals, with increasing importance of both the domestic and export markets. China currently accounts for 9.2% of world demand for chemicals, a very significant increase from 3.5% ten years ago. With key customer industries increasing production capacities in China, the demand for chemicals has increased by more than 10% annually in the past ten years. Besides domestic demand, the industry has also been growing through serving the export market. With cost advantages in manufacturing, China is increasingly exporting more chemicals. It is expected that by 2015, export of chemicals will reach \$100 billion.

China chemical industry	2004 (\$ billion)	2015 (\$ billion)	CAGR '04-'15 (%)
Local Production	120	220	5.6
Imports	40	120	10.5
Export	30	100	11.6
Demand	130	240	5.7

Source: BASF Fact book, 2005

The industry has also benefited from government efforts to develop the industry. More than 40 chemical industry parks have been already established in China to support the growth of the industry.

Logistics for chemicals/petrochemicals. Chemical industry parks are the key hubs for production and transportation of chemicals. The industry parks are usually well developed and have adequate infrastructure such as connectivity to highways and ports, as well as warehousing. Over 65% of chemical companies outsource logistics to 3PLs¹². The main modes of transportation are by river and roads. Coastal and river services are cost effective and safe modes for the transportation of bulk liquid containers domestically. Road tankers is also another key mode but local protectionism means that unprofessional and poorly operated companies are allowed to operate on an uneven playing field making it difficult for other companies to compete.

¹² Source: China Federation of Logistics and Purchasing

Key players. There are two main types of logistics firms in the chemicals industry – foreign-invested companies and large state-owned enterprises (SOEs). Wholly-foreign owned 3PLs have a superior level of service and *HSE (Health, Safety and Environment)* practices, and serve the foreign chemical companies in China. In addition, there are several joint ventures between foreign professional bulk liquid transportation providers and Chinese state-owned logistics providers, such as *Vopak China*, a JV between *Vopak* and *Cosco* logistics, and *Sinochem-Stolt*. Logistics SOEs like *Cosco* serve state-owned companies like *Sinopec*, *Sinochem*, *China National Petroleum Corporation* etc. The state-owned chemical and petrochemical companies like *Sinopec* also have their own international logistics departments.

Key issues

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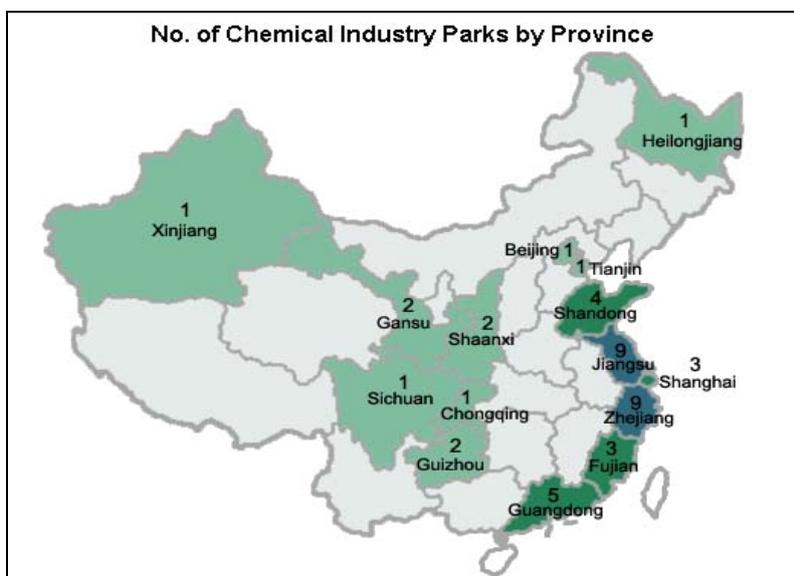
Supply chain bottlenecks. With chemical industry parks growing at a fast pace with new facilities being built, there is a possibility of bottlenecks developing in the supply chain when the projects reach full capacity. For example, the existing trucking capacity in China cannot meet the demand of all new chemical facilities being built in the industry parks. Therefore, opportunities exist for 3PLs specialized in transportation of chemical bulk liquids, especially hazardous materials.

Health, Safety and Environment (HSE). Historically, there was limited awareness about chemical transportation and products were not always moved in a safe manner. The entrance of multinational companies has contributed to push their logistics suppliers to adopt higher standards in terms of HSE. However, over-regulations at local level also prevent companies from building up national networks. With local protectionism, it is challenging for companies that are investing in good equipment and practices to compete against unregulated and unprofessional local/provincial road transport companies that do not satisfy most security requirements.

Key hubs

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The production of chemicals is concentrated in chemical industry parks scattered across China as shown in the map below. The highest concentration is in *Jiangsu* and *Zhejiang*, with nine parks each.



Source: China Logistics Yearbook 2006, JLJ

Some of the key state-level chemical industry parks include:

- **Shanghai Chemical Industry Park** – over \$8 billion invested; hosting *BP*, *Bayer*, *Air Products*, etc.

- **Nanjing Chemical Industry Park**– over \$1.5 billion invested; hosting *Sinopec, Mitsubishi, Itochu Corporation, Celanese* etc.
- **Dayawan Chemical Industry Park** (Guangdong Province) - over \$7 billion invested; hosting *Shell, CNOOC* (China National Offshore Oil Corporation), *Praxair* etc

Key regulations

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Companies need to obtain a special license to store and transport hazardous chemicals. Two regulations introduced in 2005, regulating the storage and transportation of hazardous chemicals via road, rail or river. A large number of government bureaus are involved in the licensing process, and permission has to be obtained from the *Ministry of Communications, Fire Department, Public Security Bureau*, etc. Most emphasis is placed in terms of “hardware” aspects – i.e. the physical conditions of warehouses and trucks, with little attention on the “software” aspects like proper training of personnel to handle hazardous goods. Overall, the regulatory system and enforcement for transportation of hazardous chemicals is still weak compared to developed countries. Regulatory barriers also put significant minimum capital requirements on chemical logistics companies to obtain approval.

Key trends

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Outsourcing to 3PLs. There is a high demand for professional 3PL services and currently more than 65% of chemical companies already outsource logistics functions. However, there are a limited number of providers in this niche segment. Key considerations for both multinationals and large Chinese companies to select a 3PL provider include service level and HSE practices.

Increasing regulations and enforcement. Although safety has always been a key issue, it is only in the last few years that regulations on storage and transportation have been put into place. There is a trend towards stronger regulations and enforcement to ensure that hazardous goods are transported in a safe manner. However in some cases, regulations in place for safety reasons may not actually achieve the wanted objective. For example, all freeways in *Zhejiang* are closed to trucks carrying hazardous goods, forcing trucks to use the National Highway instead - when in fact potential hazards exist in both routes. The focus should not be on restricting vehicles carrying hazardous goods to certain roads but in ensuring proper safety standards are met for vehicles traveling on all roads.

Increasing demand for supply chain management services. There is also a trend that logistics services are upgrading into supply chain management services (in some aspects similar to 4PL), welcome by both multinationals chemical companies as well as large SOEs. However it is 3PLs who are starting to offer 4PL services, while pure 4PL companies have yet to emerge. Due to lack of adequate logistics infrastructure, policy constraints, and local protectionism, only few companies have been able to build up nationwide network except for large logistics SOEs like *Cosco* and *Sinochem*.

Short stories of logistics in China chemical industry

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- “A large trucking company installed state-of-the-art GPS systems in all its trucks, but ended up not using it at all: the managers would simply call the drivers on the mobile phone to find out where they were, instead of going to the computer!” – Industry association
- “The key success factor of domestic logistics is investment on trucks and warehousing. It is only in this way that domestic logistics can develop...” – Domestic 3PL company in chemicals sector, emphasizing the importance of “hardware” assets and underestimating importance of “software” assets like management and training
- “To ship goods from Chengdu in West China to California in the US, 60% of the total cost is in getting the goods from Chengdu to the port of Shanghai!” – Industry association

INDUSTRY FOCUS: RETAIL

Summary: Logistics for retail

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The logistics for the retail segment is also at a low level of development, with issues such as low on-time delivery, damaged products and a lack of proper transportation for perishable foods. The main barriers to development are related to cost concerns, whereby companies often favor low-cost solutions and consequently low quality 3PLs when transporting goods. In the food sector, food safety is being compromised for cost savings, as there is a lack of regulations specifying the proper transportation of food. Nevertheless, the retail market is an important one as it accounts for about 30% of all logistics expenditures. Continued growth of retailers and expansion inland is boosting demand for logistics. While cost remains a major factor of concern for manufacturers and retailers, opportunities for US companies exist especially in niche or specialized sectors, e.g. in temperature-control logistics or in certain product categories. Opportunities also exist for software providers as IT is increasingly used to reduce process inefficiencies.

Market Overview

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Market overview. Chinese domestic retail & wholesale market of consumer goods was estimated to be worth about \$800 billion in 2006, and is expected to exceed \$1 trillion by 2010, largely driven by continued growth in urban disposable income. With a potential consumer population of 1.3 billion, a rapidly growing economy and the opening of the retail sector to foreign investment at the end of 2004, foreign retailers are pushing to enter or expand in China. Multinational retailers like *Wal-Mart*, *Carrefour* and *Metro* have already established a solid presence in Tier I and Tier II cities and are making expansion a key strategic objective. The following table shows the presence of major retailers in China.

Table: Major retailers in China

Type of company	Company	Year of entry	No. of stores
Foreign-invested	Carrefour	'95	84
	Wal-Mart ¹³	'96	71
	Lotus	'97	75
	B&Q	'99	51
	Hymart-Hymall	'97	42
	Metro	'95	33
	Auchan	'99	16
	Ikea	'98	3
	Best Buy	'06	1
Chinese	Gome	'87	~800
	Suning	'95	~400
	Wu-Mart	'94	~600

Source: JLJ

Besides targeting the domestic market, foreign retailers are also using China as their main sourcing base, purchasing low-cost products for export to their overseas stores and driving demand for export logistics.

¹³ In February 2007, Wal-Mart acquired a 35% stake in Taiwanese retailer Trust-mart, which has over 100 stores in China

Logistics for retail. The rapid growth in the retail industry has boosted demand for distribution and logistics services. The retail segment now accounts for about 30% of total logistics expenditures in China, with total logistics expenditure of about \$86 billion in 2005. Suppliers are usually responsible for delivering their products to the retailers' warehouses or consolidation centers, where products are in turn transported to the stores. Retailers gain competitiveness by focusing on lean operations, supply chain management, integrated procurement, effective quality control, and management flexibility as well as ability to react fast to local consumer preferences.

Key issues

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Low service level. While the retail industry in China has boomed in recent years, it is also extremely competitive with pressure on margins and prices. In turn, the price pressure translate in reducing logistics costs as much as possible, and therefore service quality. Ironically, the lack of professional managers in the logistics or supply chain management, process inefficiencies, low operational standards, poor information sharing, low level of technology, fragmented transportation network are all factors that result in high cost of retail logistics.

Food freshness and safety. Food freshness and safety is a critical issue. Currently, the supply of temperature-control logistics can meet only 20-30% of market demand in this sector. It is estimated that less than 20%¹⁴ of perishable foods are transported in refrigerated trucks, compared to about 90% in developed countries. One of the barriers to the development of "cold chain" logistics is the lack of regulations and standards to ensure food is properly transported along the supply chain. Thus perishable foods are often transported in simple modes of transport e.g. company vans or even bicycles, and food safety is sometimes compromised for the sake of cost savings. It is estimated that about \$9 billion worth of food are wasted annually due to lack of refrigerated transportation and warehousing.

Key hubs

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The size of the retail market is correlated to the affluence of the city, and the largest retail hubs are in the wealthy cities of *Beijing, Shanghai, Shenzhen* and *Guangzhou*. Besides these cities, foreign retailers have already established presence in other secondary cities like *Shenyang, Chengdu* and *Hangzhou*, and are moving further inland in cities like *Kunming, Zhengzhou, Xi'an, Chongqing* etc.



Source: JLJ based on multiple sources

¹⁴ Source: China Federation of Logistics and Purchasing

The emerging markets are seeing increasing disposable income and purchasing power. For example, *Shenyang* has been boosted by government policy to revitalize the region from its industrial roots, and is positioned as the “shopping hub” of North-east China. On the other hand, *Chengdu* and *Chongqing* have benefited from the western development policy and are attracting retailers and logistics providers. *Hangzhou* is also another established regional commercial hub with an active retail market. The spread of retailers into these Tier II and Tier III cities has also boosted the demand for logistics in these regions.

Key regulations

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There is very limited and inadequate regulations in the retail logistics sector, especially concerning food transportation. While food safety is checked at the site of manufacturing, there are no regulations regarding the maintenance of food safety or freshness along the rest of the supply chain – transportation from manufacturers to warehouses to retailers. For example, there are no regulations specifying that perishable products must be transported in refrigerated trucks and no checks by the government to ensure that proper refrigerated transportation and warehousing is utilized for perishable products. The lack of standards and regulations is also one reason for the relatively low level of development of retail logistics.

Key trends

Tiered logistics network. With market fragmentation and no one 3PL having a national network, many retailers have established multi-tier logistics network. For example, Chinese electronics retailer *Suning*, has built a three tiered network – a logistics management center at the headquarters, regional delivery centers and city delivery centers. Retailers tend to use local or provincial 3PLs at every region.

Increasing use of technology. Technology is increasingly applied to facilitate information management, especially for commodity classification. Electronic labeling systems are replacing manual operations, saving up to 70% of labor costs which were previously wasted on time-consuming manual processing of information. Other information management systems are also increasingly used to improve supply chain efficiency.

Temperature-control logistics. Although there is a lack of regulations forcing companies to ensure the proper transportation or perishable foods, as consumers become more sophisticated, there is likely to be increasing demand for guaranteed food safety and consequently “cold chain” logistics. Organizations like the *Shanghai Refrigerated Storage Association* are also working closely with government agencies to establish industry safety standards and regulations. There are opportunities for US providers as there are currently limited 3PL companies operating in this sector, and supply only meets less than one-third of demand.

“Go West”. Given that the retail sector accounts for about 30% of logistics expenditures, the current and future location of retailers give a close proxy to the logistics hubs. With retailers moving inland, the demand for logistics services in those regions are increasing as well. In 2005, the number of new retail chain-stores in the middle and western regions grew by 21% and 16% respectively, exceeding the growth of 15% in coastal areas.

Short stories of logistics in China Retail Industry

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- “Food which must be transported by refrigerated trucks is often delivered to stores in all modes of transport – trucks, company vans, taxi cabs, tricycles etc...” – Foreign 3PL provider
- “When it becomes a competitive disadvantage to ensure food safety, then there is little incentive for retailers to use expensive temperature-control logistics...” – Foreign 3PL provider
- “Logistics in China is not like in the US where you as the supplier have only a 15 minute window to deliver your product to the retailer... late deliveries are too common as local 3PLs simply do not have the level of expertise...” – FMCG multinational

KEY OPPORTUNITIES & MARKET ENTRY OPTIONS FOR US PLAYERS

The rapid growth of the logistics industry presents concrete opportunities for US companies, both for product suppliers (of software and hardware) as well as for service providers (3PLs or 4PLs). However, companies may need to invest in establishing a direct presence in China in order to take advantage of such opportunities. This is especially so for service providers. The following sections highlight the key market opportunities, as well as possible entry approaches and key success factors for foreign companies.

Possible areas of opportunities in China Logistics

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1. Specialist 3PLs. In many sectors, opportunities exist for 3PLs specialized by product or by process, for example in temperature-control logistics or in specific products like pharmaceuticals. For other products that do not require special care in transportation, it is often difficult for foreign companies to compete with domestic 3PLs who have significantly lower costs, although foreign companies still have superior systems and management expertise.

2. Integrated supply chain management. There is increasing demand for cost-effective, “full-service” solutions or integrated supply chain management solutions. Currently, several large 3PLs are providing such services. Logistics companies are legally required to own a certain amount of assets like warehouses and trucks. Pure 4PLs (which manage 3PLs but do not own any assets such as trucks or warehouses) can only be set up as “consulting” or “service” companies, and cannot be called “logistics” companies (as result, they cannot issue invoices for logistics services – see “Market Entry Options”¹⁵).

3. Warehousing. As logistics providers strive to improve efficiency, there is increasing demand for higher building specifications in warehousing. The trend is from warehousing for traditional storage purposes towards other higher-value services like trans-shipment and consolidation, which consequently require higher specifications (e.g. automated temperature control) and greater use of information technology such as warehouse management systems.

4. Software providers. As the overall level of logistics service improves, there is greater sophistication of providers and increasing use of software. Thus opportunities for US companies exist in providing software such as inventory management and supply chain management software. The key success factor in this segment is good price-quality/service levels. It is also important to adapt products to local markets to ensure user-friendliness.

5. Other technology products for logistics. Besides software, there are also opportunities for related IT products like *RFID* and *telematics* (i.e., wireless two-way communication capabilities between vehicles or equipment and their external environment) especially in the medium term when all parties in the supply chain (manufacturers, distributors, 3PLs, customers etc.) have the necessary infrastructure and resources to implement the technology.

Possible areas of opportunities by industry

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Pharmaceuticals. Opportunities exist for 3PLs specialized in pharmaceuticals that can guarantee product safety and quality during transportation. Wholesalers are also increasingly upgrading their technology and there are also opportunities for software providers, especially inventory and supply chain management software. However cost remains an important factor when selecting 3PLs, especially for Chinese manufacturers. Thus, US exporters need to offer a good price-quality combination. More often than not, wholesalers do not require the latest or most sophisticated software, but relatively simpler software systems at more affordable prices.

¹⁵ This has an impact on taxation aspects. For the 3PLs, this impacts the business tax paid, while customers may also require freight or transportation invoices for VAT purposes.

Chemicals/petrochemicals. There is currently a shortage of qualified road transport providers for chemicals/petrochemicals in China. With increasing domestic production of chemicals, it is expected that the current logistics capacity will not meet the requirements of manufacturers once facilities reach full capacity. Thus there is demand for 3PLs specialized in the transportation of chemical bulk liquids, especially hazardous chemicals. Foreign 3PLs may follow existing clients of the parent company in China.

Retail. Demand for 3PLs specialized in temperature-control logistics is expected to grow in the next few years, considering that current supply of “cold chain” logistics meets only 20-30% of demand. For example, upgrading of storage facilities will require automated temperature controls, multi-temperature compartments, chilled docks, racking systems etc. On the other hand, pressure on cost means that foreign 3PLs may not be able to compete with local 3PL providers for other consumer products that do not require special attention in transport. There are also opportunities to supply advanced warehousing and inventory management software to retailers.

Market entry options

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The following table summarizes possible market entry options for product suppliers (manufacturers of both hardware and software) and service providers (3PLs). All options present different pros & cons and imply different degrees of risk and returns. No option is ideal for all companies, which depends on specific company's circumstances.

Option	Product suppliers	Service providers (3PLs)
1. Pure export / use distributors or agents	<ul style="list-style-type: none"> No direct presence; use distributors to import and sell products in China 	N/A
2. Partnership / co-operation	<ul style="list-style-type: none"> (Technology transfer, licensing, representation are possible but would expose the US company to IP risks) 	<ul style="list-style-type: none"> Co-operate with local Chinese 3PLs and outsource certain functions to them <i>Pros:</i> may focus on own strength (technical and management expertise) <i>Cons:</i> may be difficult to ensure service quality
3. Set up a Rep. Office (RO)	<ul style="list-style-type: none"> Act as a sales and marketing office on behalf of parent company <i>Pros:</i> gradual approach, better distributor management <i>Cons:</i> light presence, invoicing done at the headquarter 	<ul style="list-style-type: none"> Manage local Chinese 3PLs on behalf of foreign client <i>Pros:</i> gradual approach, better distributor management <i>Cons:</i> light presence, invoicing done at the headquarter
4. Establish a Joint Venture (JV) with a local partner	<ul style="list-style-type: none"> Manufacturing & selling products in China and for export <i>Pros:</i> leverage partner network and capabilities <i>Cons:</i> likely to encounter difficulties in working with JV partner 	<ul style="list-style-type: none"> JV with local Chinese 3PL <i>Pros:</i> leverage partner network, capabilities, and key assets (i.e., warehouses and trucks) <i>Cons:</i> likely to encounter difficulties in working with JV partner
5. Set up a WOFE	<ul style="list-style-type: none"> FICE¹⁶ - to import and distribute product in China Manufacturing WOFE – to manufacture and distribute product in China <i>Pros:</i> full control and ownership <i>Cons:</i> higher capital requirements and commitments 	<ul style="list-style-type: none"> WOFEs permitted for freight forwarding, storage/warehousing, courier service, rail transportation, tucking <i>Pros:</i> full control and ownership <i>Cons:</i> higher capital requirements and commitments, takes time to build up network

¹⁶ Foreign Invested Commercial Enterprise

With China opening up its logistics industry after the WTO, Wholly-Owned Foreign Enterprises (WOFEs) are now permitted in freight forwarding, storage and warehousing, courier service, and trucking. The only exception is in rail transportation, which is expected to be fully open by 2008. However, a 3PL which provides more than one service still has to apply for individual licenses for each service (e.g., a company which provides both trucking and warehousing services need to apply for both licenses separately). A significant capital requirement is also required (registered capital¹⁷ of at least \$5 million) and companies have to own a certain amount of assets (trucks and warehouses).

China defines logistics in terms of “hardware” assets, and logistics companies are required to own a certain amount of assets like warehouses or trucks. 4PL providers which provide only management services but do not own warehouses or trucks cannot be established as Logistics WOFEs. The alternative would be to establish a Service or Consulting WOFE, which however cannot issue invoices for logistics services (for example, freight or transportation invoices)¹⁸. The average capital requirement for a Service WOFE in Shanghai is about \$140,000. However, a few large 3PLs are already providing supply chain management services, effectively acting as 4PLs companies.

Key success factors

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US companies should take in considerations the following possible key success factors:

General considerations:

- Timing is important: establishing a presence early to build local knowledge and network is key to grab opportunities when they arise in the medium term
- Quick profits are unlikely and it takes time, resources, perseverance, and effort to build partnerships and local networks

Service providers (3PLs):

- Even though foreign investment in logistics was permitted since WTO entry, the regulatory environment is still complex to navigate. Lack of transparency and consistency across different branches and government bureaus is not uncommon; getting licensed may be a complicated process. Companies should seek advice from professional service providers
- Significant financial resources and capital is required (at least \$5 million in registered capital)
- Foreign companies should concentrate on their core competencies (management expertise and technology systems) and outsource non-core competencies to local providers when possible

Product suppliers:

- Product suppliers (e.g. inventory management software or hardware like racking systems for warehouses) should adapt their product offering to Chinese customers; often is not the latest cutting edge technology that is most needed.
- Companies also need to offer a good combination of price and quality and after-sales service

¹⁷ A minimum registration capital must be injected in order to establish a WOFE in China. The minimum registered capital is RMB 30,000 (\$3,800) by law, but is significantly higher in practice. The registered capital required varies on a case-by-case basis and depends on both location and project type. The registered capital indicated is general average values for Shanghai based on past experience.

¹⁸ This has an impact on taxation aspects. For the 3PLs, this impacts the business tax paid, while customers may also require freight or transportation invoices for VAT purposes.

EXPOSITIONS

Sino-American Logistics Conference & Exhibition

Location: Beijing

Date: July 18-20, 2007

Website: www.astl-china.org/salce

China International Logistics Technology and Services Exhibition

Location: Suzhou

Date: May 23-25, 2007

Website: www.logisticsworld-expo.com

2007 CITA China International Exhibition for Material Handling & Convey Lifting

Location: Shanghai

Date: July 3-5, 2007

Website: www.56expo.net

The 3rd China (Guangzhou) International Logistics Expo 2007

Location: Guangzhou

Date: June 19-21, 2007

RESOURCES & KEY CONTACTS

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Website: www.cflp.org.cn

China Communications & Transportation Association

Address: Floor 6-7, B Block, Xinxu Tower, No 315, Guang'anmeng Street, Xuanwu District, Beijing

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Email: ccta@snet.com.cn

Website: www.cctanet.org.cn

China Supply Chain Council

Address: Floor 15th, No 288, Anfu Road, Shanghai

Telephone: (86) 21-54657892

Email: public@csc.org.cn

Website: www.csc.org.cn

GLOSSARY OF TERMS

Logistics	“Logistics” in this report is defined as all functions such as transportation, freight forwarding, warehousing, supply chain management etc. related to import/export and domestic activities and including both in-house and outsourced logistics.
Supply chain management	Supply Chain Management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management activities
3PL	A third-party logistics provider (3PL) is an outside party that handles part or all of the client company’s logistics needs (e.g., warehousing or transportation)
4PL	A fourth-party logistics provider (4PL) adds value through expertise in supply chain management by managing all its client company’s 3PLs. In China, there are no pure 4PL providers, but rather a few large 3PL companies are able to provide supply chain management services, effectively acting as 4PLs.
CAGR	Compound Annual Growth Rate: the average annual growth rate over a period of time.
Representative Office	A Representative Office (Rep. Office) represents the interests of the foreign investor by acting as a liaison office for the parent company. Rep. Offices may conduct market research, develop partnerships and business channels; however, all business transactions, including issuance of invoices, are managed by the parent company.
Joint Venture	A Joint Venture is typically a partnership between a foreign company and a Chinese one. A JV may take the form of either Equity Joint Venture (EJV) or Cooperative Joint Venture (CJV). EJV companies have capital investments from both local and foreign firms. The percentage of the capital investment determines the amount of profit and risk that both the foreign and local company assumes. CJVs are also partnerships with a local company; however, the amount of risk and profit shared by each party is not determined by capital investment but rather agreed upon at the beginning of the partnership
WOFE	A Wholly Owned Foreign Enterprise (WOFE) is a company fully invested by foreign entities. Along with the rights afforded to a Rep. Office, a WOFE may also legally conduct business transactions within China and hire local employees on its own accord. However, a WOFE has a minimum investment requirement that is dependent upon the locality and nature of the business

Methodology

This research is based on a combination of secondary and primary resources as well as a continuous analysis and elaboration of all key facts and data throughout the project. Secondary resources included The JLJ Group, TDC Trade, US Commercial Office, CIA World Factbook, China Statistics Bureau, China Federation of Logistics and Purchasing, Jones Lang LaSalle, Mercer, CBRE, and other. Primary resources include interviews and interactions with key industry players.

About the authors

The U.S. Commercial Service — Your Global Business Partner

With its network of offices across the United States and in more than 80 countries, the U.S. Commercial Service of the U.S. Department of Commerce utilizes its global presence and international marketing expertise to help U.S. companies sell their products and services worldwide. Locate the U.S. Commercial Service trade specialist in the U.S. nearest you by visiting <http://www.export.gov/>.

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