

China



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China

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Table of Contents

Executive Summary	5
Section I. Introduction	5
A. Brief Overview of China	5
B. Logistics Costs as a Percentage of GDP	5
C. The Logistics Industry in China—General Description	6
Section II. Country Characteristics	7
A. Governmental, Financial, Political, Geographical, and Regulatory Environments	7
1. Political/governmental structure in charge of logistics	7
2. Laws and regulations	7
3. Financial elements influencing the industry	8
B. General Economic Conditions	9
1. Transition to market economy	9
2. Rapid growth rates	10
3. Macroeconomic condition	10
C. Industrial and Consumer Markets Overview	11
1. Industrial development in leading fields	11
2. Geographical elements and regional economic development	13
D. International Trade Agreements of Interest	14
1. WTO commitment and the 2005 opening market entry	14
2. China-ASEAN 10+1	14
3. CEPA with Hong Kong and Macau	15
Section III. Logistics and Supply Chain Infrastructure and Industry	16
A. Transportation Infrastructure	16
1. General status	16
2. Seaports	16
3. Airports	17
4. Highways	17
5. Railroads	17
6. Waterways	17
B. Communications Infrastructure	18
1. Rapid development of the communications industry	18
2. Status of information technology	19
3. Postal service—the transition	19
C. Overview of Human Resources	19
1. Shortage of logistics talent	19
2. Fast-growing logistics training and education	20
D. Third Party Development	20
1. General status of 3PLs in China—the demand and supply of the logistics industry	20
2. Main categories of logistics providers in China	21
E. Overview of Logistics and Supply Chain Management in China	23
1. Recent changes in government-administered structure and incentive measures	23
2. Regional logistics in China—geographical elements to consider	23

Section IV. Decision-Making Rules and Logistics/SCM Opportunities	27
A. The Logistics Market	27
1. <i>How big is the pie?</i>	27
2. <i>Major factors generating demand</i>	27
3. <i>Logistics business opportunities in China</i>	29
B. Major Trends and Implications for Logistics and SCM.	29
1. <i>The logistics outsourcing rate is low and the market is not yet mature</i>	29
2. <i>3PLs begin to transform, but it takes time to build competitiveness</i>	30
3. <i>SCM is a new concept; there is still a long way to go</i>	30
4. <i>Regional imbalance will still exist</i>	30
C. Examples of International Companies in China that Have Adapted to the Local Environment	30
1. <i>Successful strategies for multinational companies in China</i>	30
2. <i>Tibbett & Britten—the leading practitioner and joint venture model</i>	30
3. <i>FedEx in China—from joint venture to exclusive ownership</i>	31
Section V. Summary and Overview	32
A. Future Developments.	32
B. Impacts of Globalization.	32
1. <i>China is becoming the global manufacturing and international logistics demand center</i>	32
2. <i>Shift of logistics services to loading ports</i>	33
3. <i>Major trends and implications of SCM</i>	33
4. <i>Strategies for foreign investors</i>	33
Section VI. Source Materials of Reference and More In-Depth Information about China	34
1. <i>Lack of sufficient logistics English sources in China</i>	34
2. <i>China statistical yearbooks and annual reports</i>	34
3. <i>Logistics web sites of government administrations and associations</i>	34
4. <i>Magazines and other academic resources</i>	35
Section VII. Appendix	36
Appendix 1: China's Logistics Costs as a Percentage of GDP, 1991-2004.	36
Appendix 2: China's Logistics Value-Added as a Percentage of GDP, 1991-2004.	37
Appendix 3: China's CPI Index in Recent Years.	37
Appendix 4: Top 100 3PLs in China, 2004.	38
Table of Figures	
Figure I-1: Logistics Costs in China, 1991-2004	6
Figure I-2: China's Logistics Value-Added as a Percentage of GDP, 1991-2004	6
Figure II-1: Progression of China's GDP Under Economic Reform.	10
Figure III-1: Revenue of Communications Industry in China's Eastern, Middle, and Western Regions, 2003-2004.	19
Figure III-2: Major Economic Regions in China.	24
List of Tables	
Table II-1: Outputs of Major Industrial Products	11
Table III-1: China Seaports Throughput Volume, 2004.	16
Table III-2: Top 10 Logistics Companies in China, 2004.	22





Area: 9,600,000 square kilometers

Climate: continental monsoon climate from south to north into equatorial, tropical, subtropical, warm-temperate, temperate, and cold-temperate zones

Terrain: descends from west to east like a staircase

Natural Resources: coal, natural gas and crude oil reserves, iron ore, rare earth, copper, fish, arable land

Population: 1,299,880,000 (2004)

Population Growth Rate: 5.87% (2004)

Languages: Putonghua (or Mandarin, official)

Government Type: Republic

Capital: Beijing

GDP: \$13.65 trillion (2004)

GDP Real Growth Rate: 9.5% (2004)

Labor Force: 900 million (2004 estimate)

Unemployment Rate: 4.2% (2004)

Industries: machinery, electronic, chemical, textile, agricultural, service

Imports: \$561.4 billion FOB (2004)

Exports: \$593.4 billion FOB (2004)

Currency: Yuan (CNY)

Railways: 74,408 kilometers (2004)

Highways: 34,288 kilometers (2004)

Waterways: 123,300 kilometers (2004)

Airports with Paved Runways: 135 (2004, including Hong Kong and Macau)

Source: The National Bureau of Statistics of China (NBS), China Statistical Yearbook 2005.

Executive Summary

The transformation of China to a market economy since 1978 can be described as a significant historical event in the global economy in the late 20th century. The fast pace of China's economy has become a driving factor in the world economy.

As more and more multinational companies make their presence in China, the country is becoming connected to every part of the globe. Consequently, China logistics is playing a key role in world business that no manager can afford to ignore.

Although the concept of logistics has been evident in China throughout the past decade, the industry is not what outsiders imagine. This publication is an effort to give a panorama of the basic characteristics of the country, its general economic condition, international trade agreements that influence its logistics industry, the logistics infrastructure, market and demand, logistics service providers, the regional industry status of logistics, as well as some case examples of the country's multinational logistics companies.

China is a country with over 5,000 years of written history. While we see dramatic changes during the past two decades, we must consider the basic factors that cannot be changed in a short period of time—the administrative and political structures.

Section I. Introduction

A. Brief Overview of China

Population: China is the world's most populous country. At the end of 2003, its population was estimated at about 1.294 billion¹, which is one-fifth of the world's total population. This figure does not include the Chinese living in the Hong Kong and Macao Special Administrative Regions, and in Taiwan Province.

Economy: China's economy has boomed since 1978 as a result of sweeping economic reforms. The average Gross Domestic Product (GDP) growth rate is over 9% from 1978 to 2004. China's economy continues to expand rapidly, with a GDP real growth rate of 9.25% in 2004.

Top administrative body: The State Council is the cabinet or chief administrative body of the People's Republic of China (PRC) that includes the heads of all governmental agencies.

Administrative divisions: China is comprised of 23 provinces, five autonomous regions, four municipalities directly under the Central Government, and the special administrative regions of Hong Kong and Macao.

The 23 provinces are Anhui, Fujian, Gansu, Guangdong, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Qinghai, Shanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, and Zhejiang. The five autonomous regions are Guangxi, Inner Mongolia, Ningxia, Xinjiang, and Tibet, and the four municipalities are Beijing, Chongqing, Shanghai, and Tianjin.

Currency: Renminbi (RMB)/Yuan

B. Logistics Costs as a Percentage of GDP

According to the China Logistics Information Center (CLIC), in 2004, China's total logistics costs were 2.9 trillion yuan (US\$351.6 billion²). This was an increase of 16.6% from the prior year. The rate of increase was 3% higher than the same period of the prior year.

Among the total costs:

- transportation costs were 1.7 trillion yuan (US\$199.9 billion), which represents an 18% increase from the prior year and was 57% of the total logistics costs
- storage costs were 846.7 billion yuan (US\$102.3 billion), which represents a 14.8% increase from the prior year and was 29% of the total logistics costs
- administrative costs were 408.9 billion yuan (US\$49.4 billion), which represents a 14.5% increase from the prior year and was 14% of the total logistics costs

The percentage of logistics costs in GDP is much higher in China compared with developed countries like the United States and Western Europe. Total logistics costs were 21.3% of GDP in 2004³. That was a 0.1% decrease from the same period of the prior year and a 2.7% decrease from 1991. This shows that China's logistics operations have improved efficiency.

¹All data in this issue of 'CSCMP Global Perspectives' are from publications of the National Bureau of Statistics of China, China Statistical Yearbooks, (www.stats.gov.cn), unless otherwise referred to.

²All RMB numbers are converted into US dollars at the fixed rate of USD1=RMN8.28 in the text as this paper is prepared before the adjustment of RMB rate to USD at 8.11 by China's central bank at 1900 hours on July 21, 2005.

³See Appendix 1 on page 36 for China's Logistics Costs as a Percentage of GDP, 1991-2004.

Figure I-1: Logistics Costs in China, 1991-2004

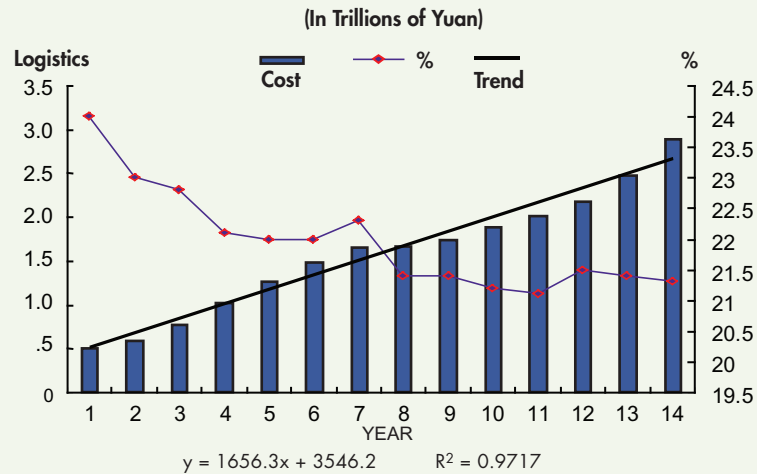


Figure drawn by Charles Guowen Wang, based on China Logistics Center data

C. The Logistics Industry in China—General Description

According to the CLIC, in 2004, the logistics demand index calculated by a function of total GDP over total logistics expenses was 2.8. It is higher than the 1.6 for the 8th five-year plan period and the 1.7 for the 9th five-year plan period. This shows economic development's increasing dependency on logistics.

In 2004, China's logistics industry realized a value added⁴ of 845.9 billion yuan (US\$102.2 billion), which was an 8.4% increase from the prior year. The rate of increase was 1.4% higher than the same period from the prior year. For that year, value added created by the logistics industry was 6% of total GDP, and represented 19% of the tertiary industry. (See footnote below.)

This illustrates that the logistics industry is becoming a key component of the tertiary industry and an important component of China's national economy. It was estimated that the overall tertiary industry logistics market has increased 20%, with coastal provinces and cities seeing an increase of over 30%. Newly emerged logistics services, such as distribution, processing and batching, and packaging realized a 15% value-added rate of increase, which points to the development of China's logistics industry.

Regression analysis shows that total value added created by logistics in China will reach RMB1098.3 billion (US\$132.6 billion) by 2010, and RMB1321.6 billion (US\$159.6 billion) by 2015.

Figure I-2: China's Logistics Value-Added as a Percentage of GDP, 1991-2004
(also see Appendix 2 on page 37)

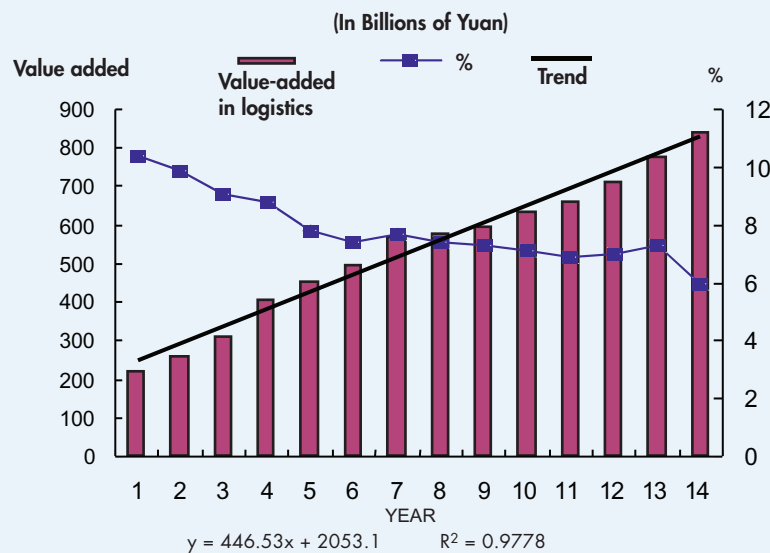


Figure and regression by Charles Guowen Wang, based on CLIC data

⁴“Value added” is a term used in China's statistics. In the logistics industry, value added is similar to revenue of the 3PL industry. When the GDP is calculated in the logistics industry, the statistics system often uses the term “value added” in place of revenue.

Note: According to ‘Industry Categories of National Economy,’ the three industries are defined as follows: The primary industry refers to agriculture, forestry, animal husbandry, and fishery. The secondary industry refers to mining, the manufacturing industry, producing and supplying industries of electrical power, gas, and water, and the building industry. The tertiary industry includes: traffic and transportation, storage and postal service, information transmission, computer service and software industries, wholesale and retail industries, lodging and catering industries, financial industry, real estate industry, leasing and commercial service industries, scientific research, technological service and geological prospecting industries, water conservancy, environmental and public facilities management, residential service and other services, education, health, social security and social welfare industries, cultural, sports, and entertainment industries, public administration and social organization, and international organization.

Section II. Country Characteristics

A. Governmental, Financial, Political, Geographical, and Regulatory Environments

1. Political/governmental structure in charge of logistics

Understanding China's administrative system is crucial for everyone conducting business in the country. The government controls the planning and operation of logistics infrastructure, energy and resources, market entry and administrative regulation, taxation, and incentive policies for logistics and supply chain. The complexity of China's administrative system as well as the government's tight control of it warrants explanation and examination.

Ever since Mr. Deng Xiaoping, China's leader from the late 1970s to the early 1990s and the chief reform policy designer, began to implement new policy in 1978, there have been significant changes in China's economics' structure. But the political structure—or administrative structure—remains mostly unchanged.

The administrative structure is almost identical to the former planned economy. This has resulted in many overlapping functions among departments and administrations. High institutional costs have lowered the administration's efficiency.

Under the State Council, there are several departments, or ministries, that are in charge of part of the logistics industry or part of the supply chain sectors. Among them, there is an integrated planning administration called the National Development and Reform Commission, or NDRC. The NDRC is responsible for the macroeconomic control and overall planning and reform of China's economic system. Its departments manage and control every sector of the logistics and supply chain industries, and it sets policies for China's overall economic development.

The Ministry of Communication (MOC) is primarily in charge of highway and water transportation and port administration. The Ministry of Railways (MOR) is in charge of planning, construction, and operation of the railway system. General Administration of Civil Aviation of China (CAAC) is in charge of all air transportation administrative issues.

The Ministry of Commerce (Mofcom) is in charge of domestic and international trade, including service and investment related to logistics and transportation. The Ministry of Information Industry (MII) oversees planning, regulation, and standardization of the information industry.

Other ministries and administrations that control part of the logistics and supply chain industries are the Ministry of Public Security (or MPS), Customs General Administration of China (CGA), State Administration of Taxation (SAT), State Administration for Industry and Commerce (SAIC), Ministry of Finance (MOF), General Administration of Quality Supervision, Inspection and Quarantine of China (AQSIQ), and Standardization Administration of China (SAC).

Other than administrative departments, there are two national logistics associations which were set up and approved by the central government and act as government agencies. They are the China Association of Transportation and Communication (CATA) and

the All China Federation of Logistics and Purchasing, or CFLP. Associations in China are often government agencies. The role of associations is changing, however, with China's entry into the World Trade Organization (WTO). But they are still not as independent as those in developed countries.

It should be noted that the same administrative system exists in the provincial and municipal levels, which means that the same problems exist in local government as well. Again, it is crucial for business to understand China's governmental structure.

2. Laws and regulations

Laws and regulations are almost equal in terms of logistics governance in China. In general, regulations may be even more important than laws. Under China's administrative system, departments and ministries may issue regulations and so may local government agencies. All government documents or regulations are treated as law. Because legislative development in China lags far behind economic development, regulations have assumed the role of law.

Because of the broad economic impact of the logistics industry, laws and regulations related to logistics can be categorized into the following:

- transportation, which can be further divided into rail, air, road, tunnel, water, sea transportation, shipping, port, rescue, integrated transport and cargo forwarding, and public transportation
- customs, inspection and quarantine, and information industry
- major commercial laws, such as contract law, procedural law, and maritime law
- other regulations, rules, and government documents issued by different levels of government

Besides all laws and regulations, there are several important government documents that provide incentives to the development of the China logistics industry. The most recent one is the *Opinions on Promoting China's Logistics Industry* jointly issued on August 5, 2004 by the nine ministries of The National Development and Reform Commission, Ministry of Commerce, Ministry of Communications, Ministry of Railways, Customs General Administration of China, State Administration of Taxation, General Administration of Civil Aviation of China, and the State Administration for Industry and Commerce.

The major purpose of this document was to provide incentives to the logistics industry by reforming the administrative and taxation systems, and offering favorable land prices to logistics projects. It suggested setting up a logistics mitigation organization with the participation of the Ministry of Commerce and other governmental offices following the lead of the National Development and Reform Committee. The major function of this organization is to develop policies, coordinate planning, seek solutions to major problems, and promote the development of modern logistics.

3. Financial elements influencing the industry

FINANCIAL SYSTEM

Over the past few decades, the People's Bank of China has exercised the central bank's functions and powers, as well as handled the industrial and commercial credits and savings business.

Therefore, it was neither a central bank in the true sense, or a commercial entity conforming to the law of the market economy. But since the adoption of reform and opening up in 1979, China has carried out a series of significant reforms in its banking system, and strengthened its opening to the outside world.

Consequently, the finance industry has progressed steadily. By the end of 2003, the balance of home and foreign currency savings deposits stood at 22,036.4 billion yuan (US\$2,661.4 billion). The balance of home and foreign currency loans reached 16,977.1 billion yuan (US\$2,050.4 billion). China has basically formed a financial system under the regulation, control, and supervision of the central bank, with state banks as the mainstay, achieving the separation of policy-related and commercial finance and differentiated service offers by financial institutions.

In January 2004, the State Council decided that the Bank of China and the Construction Bank of China would begin the experiment of transforming into the share-holding system. The main tasks were to:

- establish a standardized corporation management structure and assign rights and responsibilities in accordance with the requirements for modern commercial banks
- restructure the financial system and speed up the disposal of nonperforming assets
- reinforce minimum capital requirement to build up first-class modern financing enterprises

China's financial system remains fragile, however, and has a long way to go before all state-owned banks solve the problems of bad loans and poorly performing assets.

THE RENMINBI AND FOREIGN EXCHANGE CONTROL

The Renminbi (RMB), China's legal currency, is issued and controlled solely by the People's Bank of China. The exchange rates of the Renminbi are set by the People's Bank of China and issued by the State Administration of Foreign Exchange. China operates foreign exchange in a unified way, with the State Administration of Foreign Exchange exercising the functions and powers of exchange control.

In 1994, China reformed the foreign exchange system, combined the Renminbi exchange rates, adopted the bank exchange settlement system, and set up a unified inter-bank foreign exchange market. On this basis, China started the foreign exchange business of foreign-invested enterprises in the bank's exchange settlement system in 1996.

On December 1, 1996, China formally accepted Article 8 of the Agreement on International Currencies and Funds, and realized the Renminbi's convertibility under the current account ahead of schedule. Meanwhile, China has been active in promoting bilateral currency exchange between the Association of Southeast Asian Nations, and China, Japan, and the Republic of Korea (ASEAN 10+3).

The most recent change occurred on July 21, 2005. China adjusted the RMB exchange rate against the US dollar at USD1 to 8.11 yuan and loosened the fluctuation range. The RMB exchange rate is no longer fixed to the US dollar and the exchange rate is decided upon by a set of foreign currencies, including the US dollar, Euro, Yen, and Won.

FINANCING STATUS

China's capital market is small in scale and low in marketability. The issuance of bonds is very small-scale and tightly controlled by the government. The speed and scale of issuing public stocks are also controlled by the government.

Bank loans are the predominant way of enterprise financing. The logistics industry as a whole does not have a high profit margin, which has affected banks' assessment of loan applications. But since the logistics industry can use its major asset—transportation—as collateral, it is usually not hard to get approved for a loan. Logistics companies can make their vehicle purchases with a mortgage down payment purchase or a financial lease.

TAXATION RULES AND REGULATION

1) Overall status and existing problems

The Chinese tax system has the characteristics of double taxation—heavy on transfer taxes and on income taxes. In collection, there are state *and* local taxes.

The tax problems that the logistics industry is concerned about are sales and income taxes. Sales tax (or a tax on revenue) is the more serious of the two as it is the industry's heavy-hitting tax. The logistics industry has a low-profit margin. The gross margin is only 4% to 5%, and the net profit is 1% to 2%. The current 3% and 5% tax levels are too high.

Redundant steps in the logistics and supply chain sectors have caused redundant taxation. In today's world, as logistics services are becoming more common, customers usually pay a single fee for a complete service contract. But as there are many sectors in the logistics process, service providers often subcontract part of the work out to realize a higher profit. While the general contract holder has to pay tax on the total contract amount, subcontractors have to pay partial tax on part of the same contract.

Different tax rates on different aspects of the logistics processes have resulted in complicating the entire process. Transportation, loading and unloading, and lifting, for example, are taxed at 3%, while storage and distribution are taxed at 5%. This has caused disputes between logistics businesses and the tax collection agency.

2) *The newest reform measures*

Several taxation reform opinions have been suggested. They include:

Unifying the tax rate for logistics enterprises. The logistics business includes transportation and storage, but in today's tax system, they are charged different tax rates. Transportation is charged 3% sales tax while storage is charged 5%. This hinders the integration effort of the industry. A single 3% rate charged to the logistics industry has been suggested.

Reduction of redundant taxation. Because many logistics companies subcontract their work, only the transportation part of the cost can be deducted from taxable income. But storage (which is about 15% to 20% of total sales) cannot be deducted. This results in double or triple taxation. The suggestion is that while setting standards for the logistics markets, the sales tax basis should be changed to copy the model from tourism and united transportation industries where outsourced portions of sales are deducted from taxable income.

Deduction of logistics enterprises receipts. Since logistics enterprises are not exclusive transportation businesses, the receipts they issue to customers are not tax-deductible. It has been suggested that, while standardizing the sales tax of the logistics industry, companies should be allowed to deduct their sales tax with taxed invoices issued by other logistics companies.

Consolidation of logistics enterprises income tax filing. Many logistics enterprises operate in multiple regions in order to set up a service network. For enterprises that have a centralized unified accounting system, it is suggested that they be treated like franchises and audited by central tax offices. That means they would only apply income tax for the whole company at one place.

B. General Economic Conditions

1. Transition to market economy

In the first 30 years after the founding of the PRC in 1949, the Chinese government carried out a system of planned economy, and targets and quotas for various spheres of economic development were set by the "planning committees" of the state. Factories produced goods and farmers planted crops according to state plans.

Commercial departments replenished and sold their stocks according to state plans, and the qualities, quantities, and prices of goods were fixed by planning departments. This system contributed to the stable, planned development of China's economy, but also limited its development and sapped its vitality.

China's economic reforms first started in rural areas in 1978 when the household contract responsibility system was introduced. Under this system, farmers got the right to use the land, plan farm work, and dispose of products independently. They had more choices for selling their agricultural products. State monopoly of the purchase and marketing of agricultural products was eliminated; the prices of the majority of farm products were freed; many policies restricting agricultural development were abolished; and farmers were allowed to engage in diversified business and set up township enterprises. All of this greatly increased farm production.

In 1984, the economic restructuring shifted from the rural areas to the cities. In 1992, after about ten years of reform and "opening up" with a clearer orientation toward the implementation of reforms and establishment of a socialist market economic system, the Chinese government set forth the following main principles for economic structural reform:

- The development of diversified economic elements would be encouraged while keeping the public sector of the economy in the dominant position.
- To meet the requirements of the market economy, the operations of state-owned enterprises would be changed so that they would fit in with the modern enterprise system.
- A unified and open market system would be established in the country to link rural and urban markets, domestic and international markets, and promote the optimization of the allocation of resources.
- The function of managing the economy by the government would be changed to establish a complete macro-control system mainly by indirect means.
- A distribution system would be established in which distribution according to work would be dominant while giving priority to efficiency with due consideration to fairness. The system would encourage some people and some regions to become wealthy first, and then they could help other people in other areas become wealthy, too.
- A social security system, suited to China's situation, for both rural and urban residents would be worked out to promote overall economic development and ensure social stability.

By 2002, reform in various fields was achieving remarkable results. A socialist market economic system had taken shape, and the basic role played by the market had been improved in the sphere of resources allocation. At the same time, the macro-control system continued to be perfected.

In March 2003, following the First Session of the 10th National People's Congress (NPC), China restructured these key economic ministries:

- The State Development and Planning Commission (SDPC) was renamed the National Development and Reform Commission (NDRC). It absorbed the duties of the State Council Office for Economic Restructuring and some functions of other ministries.
- The operations of the State Economic and Trade Commission (SETC) and the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) were folded into a new Ministry of Commerce responsible for oversight of all domestic and foreign trade.
- A new State Assets Management Commission (SAMC) assumed responsibility for managing and restructuring state-owned enterprises (SOEs).
- A new China Banking Regulatory Commission (CBRC) was given responsibility for supervision and regulation of the banking sector.

The pattern in which the public sector of the economy plays the main role and coexists with nonpublic sectors of the economy, such as individual and privately-owned economy for common development, has fundamentally been formed.

2. Rapid growth rates

China's annual GDP growth has averaged more than 8% in the past 25 years. In 2003, its GDP grew by a record-breaking 9.1% despite the outbreak of Severe Acute Respiratory Syndrome (SARS) the year before. Other signs of China's overall improving economic strength in 2003 included:

- Total government revenue was 2.2 trillion yuan (US\$261.4 billion), 278.7 billion yuan (US\$33.6 billion) more than the previous year.
- Foreign trade expanded significantly. Total import and export volume was US\$851.2 billion, 37.1% more than the previous year, raising China from fifth to fourth place in the world.
- China created more jobs than originally planned. Some 8.59 million urban residents became employed, with 4.4 million laid-off workers reemployed.
- Personal incomes increased. Urban per capita disposable income grew by 9% in real terms, and rural per capita net income rose by 4.3% in real terms.

Noting these economic achievements, as well as the complete success of China's first manned space flight in 2003, Premier Wen Jiabao pointed to a national strength that had reached new heights in his annual address to the NPC in March 2004.

At the same time, Premier Wen forecasted a moderate 7% growth for the coming year, seeking to improve the socialist market economy with a "people-centered development" that coordinated development of the economy, society, and individuals. CPC General Secretary Hu Jintao summed up the approach as a "scientific concept of development."

Figure II-1: Progression of China's GDP Under Economic Reform

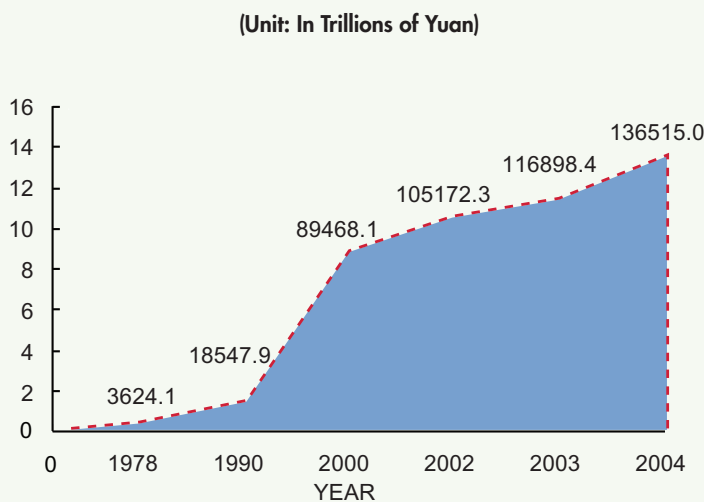


Figure prepared by Charles Guowen Wang
Source: China High-Tech White Paper, Charles Guowen Wang,
China Development Institute, 2004.

3. Macroeconomic condition

With over 20 years of reform and opening up to the outside world, China has achieved its primary goals towards implementing a socialist market economy. The goal is to have the market decide resource supply, as well as commodity and service offerings and price.

In general, China's political situation is stable. The smooth transfer of the third leadership to the new generation has ensured consistency in adhering to the reform and opening policy initiated by Deng Xiaoping. The speed of development is sufficient and necessary to offer adequate job opportunities so that citizens can live and work in peace and contentment, creating stable social conditions.

With the elevation of China's educational level and amplification of its opening up policy, the people's diathesis has improved and their greatly changed ideological ideas and dwindled discrepancies of languages, cultures, and customs have offered the proper social environment for foreign investment.

Another factor in ensuring stability is that the gradually perfected laws and rules are creating a favorable legal environment for foreign investment.

A sufficient supply of qualified low-cost labor is beneficial to foreign investment as well. The cost advantage resulting from an abundance of cheap labor has provided opportunities for foreign investors to invest in the labor-intensive industry.

Meanwhile, the number of skilled labor forces that have accepted training and education is increasing to meet the requirements of foreign investment in high-tech industries. The qualified labor force in the service sector, such as accounting, legal services, and logistics and supply chain management, is increasing as China's educational and social training system continues to develop.

C. Industrial and Consumer Markets Overview

1. Industrial development in leading fields

OVERALL DEVELOPMENT

In 2003, state-owned and non-state-owned enterprises with an annual sales volume of five million yuan or above accounted for 4,104.5 billion yuan of industrial value-added. Profits reached their highest levels ever of 815.2 billion yuan, or an increase of 17% and 42.7% in the state-owned and non-state-owned enterprises, respectively, over the previous year. This reflects the simultaneous development of speed, quality, and profit. Since 1996, China has led the production of steel, coal, cement, farm-use chemical fertilizers, and television sets.

In 1978, China only had the public-ownership economy with state-owned enterprises making up 77.6%, and collectively-owned enterprises, 22.4%. The policy of reform and opening up has given extensive scope to the development of various economic sectors. The individual and privately-owned industrial enterprises and those with foreign, Hong Kong, Macau, or Taiwan investments have flourished.

MANUFACTURING INDUSTRIES

China's manufacturing industry can produce complete sets of large, advanced equipment, including power generating equipment like gas turbines, pump storage groups, and nuclear power sets, ultra-high voltage direct-current transmission and transformation equipment; complete sets of large metallurgical, fertilizer, and petrochemical equipment, city track transport equipment, and new paper-making and textile machinery.

Electromechanical products ranked first in China's export volume for the seven years from 1996 to 2003. In 2003, the export volume of electromechanical products reached US\$227.5 billion, an increase of 44.8% over 2002, or 11.1 points more than the growth rate of the general export trade.

Table II-1: Outputs of Major Industrial Products

Product	Unit	1978	1990	2000	2002	2003	2004
Raw Coal	100 million tons	6.2	10.8	10.0	13.8	16.7	19.6
Crude Oil	10,000 tons	10,405	13,831	16,300	16,700	16,960	17,500
Power	100 million kwh	2,566	6,212	13,556	16,540	19,108	21,870
Steel	10,000 tons	3,178	6,635	12,850	18,237	22,234	29,723
Cement	10,000 tons	6,524	20,971	59,700	72,500	86,227	97,000
Automobiles	10,000	14.9	51.4	207	325.1	444.4	507.4
Large and Medium-Sized Tractors	10,000	11.4	3.9	4.1	4.5	4.9	9.8
Color TV sets	10,000	0.4	1,033	3,936	5,155	6,541	7,329
Chemical Fibers	10,000 tons	28.5	165.4	694.0	991.2	1,181.1	1,424.5
Yarn	10,000 tons	238.2	462.6	657.0	850.0	983.6	1,120.0
Cloth	100 million meters	110.3	188.8	277.0	322.4	374.6	420.0
Sugar	10,000 tons	227	582	700	926	1,084	1,018
Sulfuric Acid	10,000 tons	661	1,197	2,427	3,050	3,371	3,994
Farm-Use Chemical Fertilizers	10,000 tons	869.3	1,879.7	3,186.0	3,791.0	4,200.9	4,469.5
Ethylene	10,000 tons	38.0	157.2	470.0	543.0	611.8	626.6
Integrated Circuits	100 million pieces	0.3	1.1	58.8	96.3	148.3	211.5
Program-Controlled Switchboards	10,000 lines			7,136	5,861	7,380	8,465
Telephones	10,000			5,248	12,146	18,231	23,344.58
Micro-Electronic Computers	10,000		8.2	672.0	1,463.5	3,216.7	4,512.4

RETAIL AND WHOLESALE

In 2004, total consumption of all commodities reached 5,395 billion yuan (US\$651.5 billion), a 13.3% increase over 2003. In retail and wholesale, communication equipment sales increased by 41.7%; household appliances, audio, and video equipment sales increased by 13.7%; automobile sales increased by 23.4%; oil and oil product sales increased by 45.9%. Since late 2004, there has been a significant increase in retail and wholesale volume, and the increase rate in 2004 reached a record high since 1997.

With the WTO commitment, China opened its retail and wholesale markets in 2005. Statistics show a rapid growth rate of 33.6% annually since 2002. Domestic ownership accounts for a large share of the market, with significant growth of foreign-owned business.

By the end of 2004, there were 1,055 retail and wholesale companies in China, with a total of 54,891 stores, an 18% increase over 2003. Among them are 971 retail and wholesale companies owned by domestic investors, which is 93.1% of the total. Total sales are 558 billion yuan (US\$67.4 billion) in 2004. Sales of domestic companies are 368.7 billion yuan (US\$44.5 billion), which is 83.1% of total sales.

Foreign-invested retail and wholesale businesses are developing faster than domestic ones. They also achieve better performance. By the end of 2004, there were 34 companies owned by Hong Kong and Macau investors, and 50 owned by international investors. This is an increase of eight for HK- and Macau-owned, and 12 for internationally-owned companies over 2003. There are 1,396 Hong Kong/Macau-invested stores and 2,384 foreign-invested ones, with total sales of 31.8 billion yuan (US\$3.8 billion) and 50.5 billion yuan (US\$6.1 billion), respectively.

THE SERVICE INDUSTRY

The service industry is relatively less developed in China. But, with a large labor force, there is great potential for the sector to expand.

From 1978 to 2003, China's GDP increased 8.37 times, with an annual average growth rate of 9.36%. Along with this rapid growth, industrial structure also changed. The three-industry ratio (manufacturing: retail and wholesale: services) changed from 30.1 : 48.5 : 21.4 in 1980 to 14.6 : 52.2 : 33.2 in 2003. The value added of the service industry increased from 96.6 billion yuan (US\$11.7 billion) to 3,888.5 billion yuan (US\$469.6 billion), a 9.5 times increase in 23 years (inflation-adjusted calculation). Employment of the service industry in 1980 was 13.1% of total employment. It increased to 29.3% in 2003, with a total number of 162.8 million.

The ratio of value added created by the service industry is low compared with other countries. Service value-added in China hovered around 33% in 2003-2004. This number is not only far lower than the world average of 64%, but is also lower than the average of 45% of low-income nations.

In the service sector, traditional service of food, drink, and transportation business accounts for about 40% of total business. This is an obvious underdevelopment of the modern service industry. The competitiveness is weak, the labor quality is poor, and the efficiency is low.

CONSUMPTION

Today, China consumers are spending money on housing, transportation, telecommunications, medical and health-care, culture, education and entertainment, leisure and tourism. This is remarkable compared with recent times when basic subsistence was a major concern of many of the country's citizens.



As expenses for food, clothing, and basic necessities has dropped, the Engel coefficient (the proportion of food expenses of total consumer spending) of urban residents has decreased from 57.5% in 1978 to 37.1% in 2002; and that of rural residents dropped from 67.7% to 45.6%.

Today, urban residents are shopping at supermarkets as well stocked as any of the best in the western world, and are dining out at fine restaurants. In rural areas, people are less dependent on grains and are eating more eggs and meat. Affordable, ready-made clothes are available for purchase, and people are dressing in the latest fashions, both western and Chinese.

In terms of housing, transportation, and telecommunications, people are buying household items and appliances like large-screen, high-definition color TVs and high-end washing machines. Air conditioners, home entertainment units, water heaters, and furniture are also popular consumer items; video cameras, computers, and exercise equipment are becoming commonplace in the average home.

More people are buying cars as well. In 2003, the purchase of cars in China increased by 34.5%.

Of every 100 cars sold, at least 60 were purchased by individuals, and that rate is as high as 80% in large cities. The consumption expenditure on housing has also continued to grow, with a national rate of increase reaching 31.9% for 2003. (See Appendix 3 on page 37 for China's CPI index from 1985 to 2004.)

THE POWER INDUSTRY

Of all Chinese industries, the thermal, hydro, and nuclear power industries have developed the most rapidly. Since the 1990s, the installed capacity of generators increased from 100 million kwh to 385 million kwh by the end of 2003. The country produced 1.9108 trillion kwh of electricity in 2003. Presently, China ranks second in the world for the installed capacity of generators and generated electricity.

With the rapid development of the economy, China is experiencing a severe shortage of electric power supply. The shortage has caused an increase in the set up of coal-burning power plants. This surge in coal demand has created capacity issues in China's transportation system, especially in 2004.

The low energy utilization efficiency is also a key factor of the lack of sufficient power supply to meet demand. Electricity consumption per unit GDP is three to five times higher than that of developed countries. It is estimated that the electricity shortage will not ease until 2007.

THE INFORMATION INDUSTRY

Information industry development is closely correlated with logistics and supply chain. The information industry has become a core industry in China. In 2003, the value added of the information industry stood at 709 billion yuan (US\$89.6 billion), and its size was third in the world. Statistics show that the output value, sales volume, and profit of the electronic and telecommunications equipment industries have all surpassed those of the traditional industries, making the greatest contribution to the growth of the national economy.

In China, the Internet has become an indispensable part of people's lives. By the end of 2003, China had become second only

to the United States in the world in the number of Internet users. Developing rapidly were online Internet services, network-based education and banking, e-commerce; online advertisements, news, audio/visual and charged postal services, IP telephone and short cell phone message service, online talent and information services, and online games.

China's export broadband capacity in 2003 was 27,216 M, with nearly 600,000 web sites, some 340,000 domain names under the country code "cn," with approximately 31 million computers having access to the Internet, and 79 million Internet users, according to China Internet Network Information Center (CNNIC).

2. Geographical elements and regional economic development

China is a country with wide coverage of land area. Because of unbalanced resource allocation, there are obvious regional differences from the eastern coastal region to the western inland region. Traditionally, China is divided into the eastern coastal region, which is most developed and heavily populated, the middle region, which is secondarily developed, and the western region, which is mostly undeveloped but rich in natural resources.

As logistics and supply chain is developed along with China's reform and opening to the world, the status of development of the logistics industry is closely connected with the development of China's regional economy.

In the eastern coastal region, logistics infrastructure and logistics service industries are much more developed than the western region. The same is true of market demand. But the central government is making an effort to explore the "Big West" in order to promote development in the western regions.

In a report disclosed by the State Council's Research and Development Center in early 2005, a new definition of regional development was offered. In this report, China would be divided into four regions: the eastern region, the central region, the western region, and the northeastern region. These four regions would be divided into eight economic zones:

- The northeast economic zone would mainly develop heavy industry and machinery, raw material and manufacturing, as well as become the national agriculture base.
- The northern coastal zone would focus on high-tech and manufacturing.
- The eastern coastal zone would be headed by Shanghai and would be developed into a comprehensive manufacturing center, becoming the most competitive region.
- The southern coastal zone would develop an outbound economy and a consumer commodity base.
- The mid-Yellow River zone would be developed into a coal, energy, iron, and steel production zone.
- The mid-Yangtze River zone would primarily develop planting and agriculture, with iron, steel, and automobile industries developed secondarily.
- The southwest zone would be built into a heavy industrial, textile, and tourist zone.
- The northwest zone would mainly develop energy, farm and raise livestock, and develop the tourist industry.

D. International Trade Agreements of Interest

1. WTO commitment and the 2005 opening market entry

FIELD OF OPENING IN LOGISTICS

2005 was the remarkable year of China's WTO entry, especially for the logistics industry. Beginning that year, China lifted the limits on market entry to major logistics fields, as well as to retail and wholesale industries.

Among the market entries opened to foreign investment are international freight-forwarding, packing, courier service, distribution, and franchising. Railway transportation will be completely opened in the sixth year of entry.

There are still some fields in the logistics industry in which the government does not allow sole ownership of foreign investments. These include ocean shipping, tallying,⁵ customs declaration service, container yard, and shipping agency. There has been no commitment of opening the market entry in the sector of domestic air and water transportation.

For retail and wholesale, there are still limits. Fertilizers, crude oil, diesel, and gasoline will be opened after the fifth year of WTO entry. To set up stores in China, retailers and wholesalers must follow the number control and city control that sets certain limits on raw material, medicine, insecticide, and fertilizers. By 2008, all limits on retail and wholesale will be gradually lifted, and foreign investors will be able to set up their national operation networks.

IMPACT OF THE WTO ENTRY

For foreign investors in the field of logistics, China's WTO entry is a breakthrough for the country to connect with the international trade system. The major effect will be the opening of the Chinese market. But for the Chinese, the WTO entry is a revolutionary step in reforming China's economic system.

For China's logistics industry, the WTO entry brings more challenges than opportunities. It is well-known that the country has had a long negotiation (13 years) with the WTO and all treaty parties. But these negotiations have been conducted behind closed doors, without any consideration of the progress made by China's domestic business. The Chinese logistics industry was totally unprepared when the door suddenly opened. Privately-owned logistics companies didn't even have time to obtain market share themselves before the door was opened to all the international players.

Of course, every blade has two sides. To the Chinese logistics industry, the upside is that they now can learn the advanced management know-how and rules of running a business. There is now more room for talented professionals to carry out their ideas. Since the door has swung open, they can even venture out into the world market. But from the point of view of the author, "going out" is not as easy as it sounds. The Chinese logistics industry has yet to develop the strength it needs to compete in the international market.

In general, there are impacts to China's market rules; information, education, and legal systems; and logistics structure. The domestic logistics market will soon be dominated by multinational logistics companies. So how can multinational firms become successful? What privileges do domestic enterprises have? These are questions that need to be discussed.

2. China-ASEAN 10+1

The China-ASEAN (Association of Southeast Asian Nations) free trade zone is another factor which will have an impact on the regional logistics industry. ASEAN is an international organization that includes a large population in the Southeast Asian countries. It has become a much sought-after partner by the larger surrounding nations in recent years. Neighboring countries like China, Japan, and India, and those far away like the United States, would not miss out on the economic opportunities that ASEAN provides.

Along with the rise of the Chinese economy, China's influence in the world economy, especially in Asia's, is increasingly strengthening. Since 1995, China and the ASEAN's bilateral trade have increased over 15%. During the 1997 economic crisis, China's effort to fight off depreciation of its currency had strengthened the trade relationships between the two parties, and China gained more trust from the ASEAN as a result.

Under these circumstances, a series of economic cooperation agreements were signed between China and the ASEAN. For example, *The Chinese-Thai Fruit and Vegetable Zero Customs Agreement* was officially implemented in October 2003. China decided to establish a free trade zone with the ASEAN by 2010. It has also officially joined the *Southeast Asia Friendly Cooperation Treaty*, which symbolizes the beginning of the implementation of the free trade zone.

- The China-ASEAN free trade zone will be the first of its kind that China started with another country or region. It is estimated that by 2010, it will become one of the largest global free trade zones, and the third largest international market.

Since January 1, 2005, China and the ASEAN have started a full-scale building of the free trade zone. This will speed up the bilateral product trade, service trade, and investment. The foreseeable influence to logistics in China is that there will be significant demand of logistics services from China's manufacturing centers in the eastern and southern coastal regions by land and sea to ASEAN countries.

⁵ Before the WTO entry, China Ocean Shipping Tally Co (COSTACO) was the only tally company in all China's ports. A tally certificate by this state-owned company was needed by all customs offices in the port for all import and export cargo. This service sector opened to joint ventures and foreign-invested companies after China's WTO entry.

3. CEPA with Hong Kong and Macau

To many people in China and abroad, CEPA is a new, pure “Chinese” concept. CEPA stands for the Close Economic Partnership Arrangement. It is between China’s mainland and the Hong Kong and Macau special administrative regions, respectively. The real meaning to the logistics sector is that logistics service providers based in Hong Kong and Macau can enjoy greater market entry freedom than any other overseas investors in the field. This policy is regarded as an incentive to maintain Hong Kong and Macau’s prosperity, and encourage foreign direct investment (FDI) in the regions.

After China’s reunification with Hong Kong and Macau, the central government made major efforts to maintain the prosperity and economy of the Special Administrative Regions. Along with lifting the barriers between Hong Kong and mainland China, the comparative advantage of labor, land, and cheaper service costs of the mainland caused the transfer of manufacturing and services to Shenzhen and to the Pearl River Delta regions. How to sustain employment and economic development have become major issues to the central government.

CEPA, in reality, is an effort to have Hong Kong and Macau share the resources of China’s mainland in order to sustain their prosperity. The commitment of market entry in CEPA is far wider and freer than the WTO commitment. According to CEPA with Hong Kong, the mainland opens its market in 18 service sectors and offers a series of favorable conditions to Hong Kong’s enterprises. Below are some incentives related to the logistics industry:

- **Ocean shipping and related services:** Sole ownership investment is allowed in the fields of vessel management, international warehousing, and international container yard and non-vessel carrier.
- **Road transportation:** Sole ownership road transportation investment is allowed. License of operating Hong Kong inland passenger transportation will also be given to Hong Kong investors.
- **Warehousing:** There is no limit on warehousing investment. Beginning on January 1, 2004, Hong Kong and Macau investors could set up sole ownership enterprises in China.
- **Freight forwarding:** There is a US\$1 million minimum investment requirement for all foreign investors and a time limit in setting up sole ownership. However, in CEPA, Hong Kong and Macau investors can enjoy the same investment minimum as domestic investors. The minimum investment of ocean shipping is RMB 5 million (US\$0.6 million); air transportation is RMB 3 million (US\$0.36 million); and road transportation is RMB 2 million (US\$0.24 million).
- **Logistics services:** Hong Kong and Macau investors can provide any kind of distribution or logistics services as domestic investors.

For service providers in Hong Kong, CEPA gives a clear definition of legal entity and nature of business. Comparatively, some terms and conditions are unclear with the WTO definitions.



Section III: Logistics and Supply Chain Infrastructure and Industry

A. Transportation Infrastructure

1. General status

Investment in transportation infrastructure has been a priority of the central and local government. One reason is because it is needed to sustain the economic development. Another reason is that investment is necessary to maintain the speed of development demanded by employment and social stability.

Development in transportation infrastructure is playing a key role in the nation's economic growth. In the past 50 years, from 1949 to 1999, road length increased 16 times,⁶ highway and expressways increased by 15 times; seaport terminals increased by 7.6 times. By the end of 1999, passenger transportation increased by 100 times that of 1949 and cargo transportation increased 155 times.

By the end of 2004, China's transportation infrastructure could be described by the following numbers: (*Note:* Hong Kong and Macau are not included in the figures below.)

Railway-operated mileage	74,408 km (in kilometers)
(Included: electrical railway operated mileage)	19,303 km
Road	1,870,700 km
(Included: national road)	129,815 km
Highway	34,288 km
Inland river route	123,300 km
(Included: classified river route)	60,800 km
Seaport berths	4,197
(Included: 10k ton and above capacity berths)	790
Airports with regularly scheduled flights	135
Railway total freight turnover	1,928.9 billion ton-km
Road freight volume	784.1 billion ton-km
(Average road trip distance)	63 km
Waterway freight volume	1.87 billion tons
(Average waterway trip distance)	2,210 km
Coastal port throughput volume	2.54 billion tons
Coastal port container throughput	56.62 million TEUs
Air freight throughput	5.5 million tons
(Included: international routes)	1.7 million tons

2. Seaports

China's seaports enable the transportation of coal, containers, iron ore, grain, and roll-on-roll-off ships, as well as provide deep-water access to the sea. In the construction of harbors, China has especially strengthened the container transport system. The construction of a group of deep-water container wharves at Dalian, Tianjin, Qingdao, Shanghai, Ningbo, Xiamen, and Shenzhen laid the foundation for China's container hubs.

The construction of the coal transport system has been further strengthened. A number of coal transport wharves have been constructed. In addition, wharves for importing crude oil and iron ore have been reconstructed or expanded.

By the end of 2003, the main seaports had close to 2,400 berths, including some 540 10k-ton-class berths, with a handling capacity of 48 million containers, ranking number one in the world. The annual volume of freight traffic of some large harbors has exceeded 100 million tons; and Shanghai, Shenzhen, Qingdao, Tianjin, Guangzhou, Xiamen, Ningbo, and Dalian ports have joined the list of the top 50 container ports in the world.

Table III-1: China Seaports Throughput Volume, 2004

Port	Throughput in Tonnage (million MTs)	Throughput in Containers (million TEUs)
Shanghai	379	14.55
Ningbo	226	4.01
Guangzhou	215	3.30
Tianjin	206	3.82
Qingdao	163	5.14
Qinhuangdao	150	N/A
Dalian	145	2.21
Shenzhen	135	13.66
Xiamen	42	2.87

Source: the Ministry of Communications, www.moc.gov.cn.

3. Airports

At the end of 2004, China had 135 airports for regular flights with a turnover of 5.5 million tons. In 2003, the turnover of air-freight reached 5.8 billion ton-km, the passenger turnover was 126.3 billion person-km, and the volume of freight was 2.19 million tons. China had a total of 1,155 scheduled flight routes, of which 961 were domestic air routes, reaching all large and medium-sized cities throughout the country. 194 were international air routes, reaching more than 70 cities in five continents.

4. Highways

By the end of 2004, China had constructed 34,288 km of highway. In 2003, the total investment in highway construction was over 350 billion yuan for 219 key expressway projects, mostly located along the main national five arterial highways from the north to the south, and seven from the east to the west, as well as the highways in the western regions and rural areas.

By the end of 2003, the length of highways open to traffic throughout the country reached 1.81 million km, including 30,000 km of expressways equivalent to the advanced modern transportation standard, ranking second in the world. The nation's highway density has now reached 18.9 km/100 square km.

By the end of 2003, the major sections of the 12 main national arterial highways from the north to the south, and seven from the east to the west, totaling 35,000 km, were completed. When all the national arterial highways of China are completed in 2008, Beijing and Shanghai will be linked with all the capitals of the provinces, autonomous regions, and municipalities; and over 200 cities will be connected by highways.

5. Railroads

As of 2004, railway total freight turnover reached 1,928.9 billion ton-km. From 1990 to 2001, an annual average of about 1,092 km of new railways, 837 km of multiple-tracked railways and 962 km of electric railways were open to traffic. By the end of 2003, operating railways in China reached 73,100 km, including 23,700 km of multiple-tracked railways and 18,500 km of electric railways.

At present, with 6% of the total operating railways in the world, Chinese railways carry approximately 25% of the world's total railway workload, making China one of the countries with the largest rail transport volume. It also takes the lead in the growth rate of transport volume and efficiency of transport equipment usage.

Since 1988, China has raised its train speed by four times, involving a total of 13,000 km of railways. As compared to 1997, the average operation speed of passenger trains has increased by 25%. The highest speed of special express trains increased from 120 km to 160 km per hour, and the passenger trains from Guangzhou to Shenzhen can operate at up to 200 km per hour.

6. Waterways

According to the plan of the Ministry of Communications, China's waterway system is mainly framed by two vertical and three horizontal waterways. The two vertical waterways refer to the South-North coastal waterway and the Beijing-Hangzhou canal waterway. The three horizontal waterways refer to the East-West Yangtze River waterway, the Western River (the main stem of Pearl River) waterway, and the Heilongjiang River waterway.

Other than coastal waterways, there are river waterways composed of four classes of waterways suitable for 10,000 tonnage and above vessels. There are 20 rivers with a total length of 150,000 km. These waterways connect 17 provincial capitals, 24 open cities, and five special economic zones.

In recent plans, efforts have been made to upgrade the Yangtze River, the Pearl River, the Beijing-Hangzhou Canal (the section between Jining and Hangzhou) to form one vertical and two horizontal waterways, with two networks of the two river systems. The Yangtze River waterway accounts for 71.4% of total length, with the Pearl River waterway coming in second.

The Yangtze River waterway is called China's golden waterway. According to statistics collected by the Changjiang (Yangtze) River Administration of Navigations Affairs, with the rapid industrial development along the river, total inter-provincial transportation reached 390 million tons in 2004, a 16.1% increase over 2003. Throughput of 25 major ports reached 430 million tons, a 39.6% increase over 2003. Container throughput reached 1.82 million TEUs, a 28.2% increase over 2003. Roll on-roll off transportation saw an increase of 67.6% and 310,000 vehicles were transported.

In 2005, cargo throughput of the main ports on the Yangtze waterway transportation is expected to be about 500 million tons, representing an increase of 16.3% over 2004.

According to statistics from the Ministry of Communications, total water transportation of Pearl River accounts for 20% of all river transport in China. It accounts for 70% of international container traffic transported via waterways. The Pearl River waterway has become the major cargo source for Hong Kong, which is the largest container port in the world.

It is estimated that total cargo throughput volume will reach 296 million tons. Total container throughput volume will reach ten million TEUs and total passenger transportation will climb to 21.3 million.

⁶See the official web site of the Ministry of Communications at www.moc.gov.cn/gaikuang/OUTLINE/jtgs.htm.

B. Communications Infrastructure

1. Rapid development of the communications industry

After decades of construction and development, a national postal and telecommunication network has taken shape, with Beijing and other major cities as the centers, linking all cities and rural areas in China. For telecommunications, a basic transmission network featuring large capacity and high speed is now in place. It covers the whole country, with optical cables as the backbone, and is supplemented by satellite and digital microwave systems.

At the end of 2003, the number of telephone users reached 532 million, of which 263.31 million were fixed telephone subscribers and 268.69 million were mobile telephone subscribers, ranking second in the world in telephone users. All cities above the county level had program-controlled telephone switchboards. Program-controlled telephones made up 99.8% of the telephones. There were 5.782 million circuits for long-distance business, with all the circuits automated.

By the end of 2004, the large-scale construction of the public data telecommunications network had taken shape. It included the group exchange data network, digital data network, the Internet, multi-media telecommunications network, and frame relay networks. Together, they cover over 90% of China's counties and cities.

The telecommunications capacity reached 610,000 ports, making it one of the largest public data telecommunications networks in the world. Radio and TV networks continue to develop rapidly. The number of radio and TV users was expected to exceed 200 million by 2005, when almost all villages in China had access to radio and TV programs.

Below are the some communications figures at the end of 2004⁷:

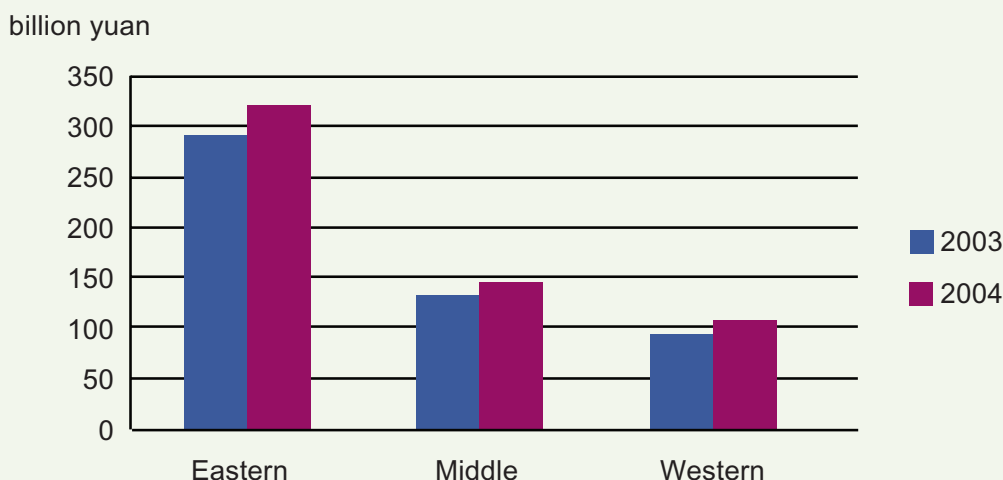
Telecommunications business volume (sales)	922.5 billion yuan (US\$111.4 billion)
Telecommunications business revenue	518.8 billion yuan (US\$62.7 billion)
Telecommunications value-added	347.0 billion yuan (US\$41.9 billion)
(Percentage in GDP [13,651.5 billion yuan])	2.77%
(Percentage in 3 rd industry [4,338.4 billion yuan])	8.70%
Postal service business volume (sales)	56.6 billion yuan (US\$6.8 billion)
Postal service business revenue	53.8 billion yuan (US\$6.5 billion)
Postal service value-added	30.5 billion yuan (US\$3.7 billion)
Number of fixed telephone users	312.4 million
Number of mobile phone users	334.8 million
Number of Internet users	94 million
Number of broadband Internet users	23.85 million
Total optics fiber cable length	3.38 million km
(Included: long-distance optics fiber cable length)	64,600 km
Long distance telephone switch capacity	9.8 million switches
Local exchange telephone switch capacity	421 million
Mobil telephone switch capacity	397.5 million
Fixed telephone actual installation rate	74.2%
Mobil telephone actual installation rate	84.2%
Telephone coverage	51 per 100 persons

2004 was also an important year for China's WTO commitment to open up its communications industry. Beginning December 11, 2004, China allowed foreign investment to set up joint venture enterprises in Beijing, Shanghai, and Guangzhou. Foreign investors could now hold shares up to 25%. By the end of 2004, many leading multinational companies in the field made their presence in China. Among them were French Telecommunication, Deutsche Telecommunications, and AT&T.

In line with China's unbalanced regional economic development, there are drastic regional communications differences. In the eastern part of the country, communications are much more developed, but the western part of China lags far behind. Figure III-1 on page 19 shows the unbalanced status in terms of revenue of the communications industry.

⁷All data in this article are from China Statistical Yearbooks and annual reports of industries in China unless otherwise specified.

Figure III-1: Revenue of Communications Industry in China's Eastern, Middle, and Western Regions, 2003-2004



2. Status of information technology

By the end of 2004, the total revenue of China's IT industry reached 2,680 billion yuan (about US\$322.3 billion), a 42.3% increase over 2003. Value added created by China's IT industry reached about 578 billion yuan (about US\$70 billion), a 44% increase over 2003. Total export of the IT industry has been well over US\$180 billion, which accounts for roughly 34% of China's total exports in the year.

3. Postal service—the transition

Under the planned economy, China's telecommunications and postal industries were combined. They were separated in the 1990s. China's postal service suffers several problems, including a lack of separation between authority and responsibility and between administrative function and business function, and a lack of distinction between the public utility function and the competitive business function. In China, almost all licensed businesses are profitable except for the postal service.

Compared with other countries, China's postal service offers a wider range of services and carries more responsibilities. Some of the services are unique in the world like the issuance of presiding political party journals and free letter post services for the military. The Postal Bureau began thinking about separating the social service aspect of the postal service from the business aspect prior to the separation of telecommunications from the postal service.

At the end of 2002, the State Postal Bureau designed a new postal reform plan. Its primary goal was to form a postal corporation which combined the existing postal services in Beijing, Shanghai, Jiangsu, Zhejiang, Fujian, and Guangdong. The company would be made public in Hong Kong, but the Chinese government would maintain the majority control of the shares.

When logistics became a hot commodity in China, the postal service began to set up national logistics services with its available network. In January 2003, China National Postal Logistics Co., Ltd, CNPL, was founded in Beijing. This is a state-owned enterprise that manages and operates postal logistics business all over China, and is recognized as one of the top 3PLs in the country (see Appendix 4 on pages 38 and 39.)

Each province sets up a postal logistics company and a service network following a unified company format. There are 31 branches, 201 regional centers, and 43 million handling areas (over three million square meters available for warehousing and storage), covering 2,300 counties in China. The national network aimed at ten billion yuan in revenues by the end of 2005.

C. Overview of Human Resources

1. Shortage of logistics talent

According to authoritative surveys, China's logistics profession needs about six million professionals. China's logistics industry is going through an expansion. It has a lot of market potential and promise for a bright future. The current total logistics-related expenses are estimated to be at 1.9 trillion yuan (US\$236 billion). The domestic transportation and logistics expenses total over 200 billion yuan (US\$24.8 billion), and are increasing at an average annual rate of 8%.

But China's logistics development is still in its early stages, as the concept is fairly new to the country. There are less than 100 certified logistics managers who have obtained internationally recognized logistics management degrees or certificates. The vast difference in supply and demand has created a hot job market for logistics professionals.

2. Fast-growing logistics training and education

In recent years, China's logistics development has stimulated investment in logistics education. Schools of higher education have set up logistics management and logistics engineering majors in order to produce business administrators, engineers, and economists who have expertise in the profession. In 2000, the Ministry of Education approved the first accredited college-level logistics management program for Beijing Materials Institute. To date, the Ministry of Education has approved 75 college-level programs.

On the logistics engineering side, the Ministry of Education approved the first college program in 2001 for Dalian Maritime University and Wuhan University of Technology. There are now 22 colleges and universities offering logistics engineering majors. By the end of 2004, there were 140 majors offered in logistics management and logistics engineering in China.

There are also various kinds of logistics training programs that have been developed or introduced in China. Social training organizations consider logistics to be one of the markets with the most potential, and logistics training programs are being set up to accommodate this. China Federation of Logistics & Purchasing (CFLP) began offering a Logistician Certificate Program in cooperation with the Ministry of Labor and Social Security.

By the end of 2004, over 10,000 logisticians had obtained a primary, intermediate, or senior logistician certificate. Some foreign certificates have also been introduced in China. China Association of Transportation and Communications introduced the ITL certificate system and set up training branches or franchises all over the country. CTL also entered China by cooperating with CFLP. The Supply-Chain Council, through cooperation with Fudan University, began to develop its training program in China in 2005.

CSCMP (formerly known as CLM) has become an important logistics and supply chain management presence in China. In 2000, a group of 13 Chinese logistics professionals took part in CSCMP's (then CLM's) annual conference in New Orleans. Two years later, the CLM China Roundtable was approved.

With the creation of a CLM China representative office in 2003, the organization gained legal status, and the China Roundtable openly hosted several activities. The 2005 CSCMP China International Conference attracted 650 attendants. CSCMP is now the most influential foreign logistics association in China, with more members joining every day and more networks being set up.

While logistics training and education is very popular in China, there are also many obstacles that need to be overcome. One of the major ones is the shortage of qualified teachers. The wave of logistics training and education has swept through the country so quickly that there has

not been enough time for training and educational institutions to train qualified teachers.

Teachers often go up to the blackboard without fully understanding what logistics is and what the operational procedures are. They attempt to "teach" by reading to their students from a textbook. Another problem is the textbooks themselves. In recent years, logistics and supply chain books have become best sellers in China. You can even find a dedicated shelf for logistics books in the larger bookstores.

Since many publishers or interpreters want to get an early share of the market, oftentimes, textbooks are quickly translated into Chinese by students. This can result in misleading interpretations and numerous departures from the original text. Experts estimate that, in some instances, as much as 30% of the information is lost in the translation.

After a period of intense pursuit in logistics and supply chain education, students and trainees are becoming more selective when they are ready to apply for a logistics program. The real dilemma here is finding good tutors who offer practical programs that are rich in content and real-life in application.

D. Third Party Development

1. General status of 3PLs in China—the demand and supply of the logistics industry

Major points from surveys conducted in recent years by several Chinese associations and organizations⁸ on China's 3PL demand and supply can be described as the following:

- On the one hand, the 3PL market has great potential. The need for 3PL services is going to increase. New services are emerging which offer logistics providers a lot of opportunity. But, on the other hand, many Chinese companies own logistics equipment and take care of the function in house. Logistics providers need to proactively open this part of the market up by identifying customer needs.
- Current 3PL demand varies by geographical region and by industry. The demand mainly comes from the east coast where the economy is well-developed and from a few mature industries. The needs vary among industries as well. Therefore, logistics enterprises should position themselves in the market, define the services they offer, and manage their resources accordingly. At the same time, they should follow the trend that 3PL is expanding geographically and get prepared to enter new markets.
- Currently, there is little demand for high-end 3PL services. The major outsourced logistics business is sales, as related to traditional storage and transportation of goods. Logistics enterprises should study customers' current needs versus discovering new demands. They should

⁸As China has not set up its national logistics statistical systems, figures in China logistics come mostly from sample surveys conducted by logistics associations and research organizations. Since 2001, several survey reports have been released by the China Warehousing Association, All China Federation of Logistics and Purchasing, China Association of Transportation and Communication, and the China Development Institute, as well as some Chinese universities.

begin with basic services and try to build their core business around what the customers want and avoid blindly chasing popular concepts of high-end services.

- Businesses are gradually moving to a just-in-time zero-storage production model. They are putting more and more emphasis on cost and service. The entrance of China into the WTO will result in an increase of international operations. These all require a fast responding global logistics system. In order to fulfill these requirements, it is crucial that logistics businesses have a comprehensive information system. This requires that the logistics enterprises speed up their own information system-building, as well as develop suitable information systems for their customers to efficiently integrate with their systems.

To summarize, the demand for 3PL services in China has witnessed a rapid increase. Many businesses have accepted or are prepared to accept the concept of 3PLs to save money, improve services, and offer flexibility.

On the logistics services supply side, the traditional transportation, storage, and freight forwarding businesses are being transformed to provide comprehensive services due to pressure from increased competition and lower profit margins. Among the larger traditional storage and transportation enterprises, COSCO, SinoTrans, China National Materials Warehousing and Transportation Corp., and China Postal Service have all restructured. They have repositioned their businesses and are enjoying rapid growth.

The major problem in China right now is that many logistics companies do not have the technology and management qualifications to meet customer needs. To a certain extent, this has limited the demand for 3PLs. China's logistics industry should speed up its efforts to improve its services to meet current 3PL market demands.

2. Main categories of logistics providers in China

In China, the 3PL industry is diversified. It is mainly separated by ownership. There are four kinds of 3PLs in China: state-owned companies, multinational companies, joint-venture logistics providers, and privately-owned domestic logistics companies. These can also be separated according to the scope of business. There are local, regional, national, and international companies as well.

FOREIGN-INVESTED 3PLs

Foreign investment in industries like transportation and storage continues to increase. In 2002, China had 34,171 direct foreign investment projects, resulting in a total investment contract of US\$82.77 billion. Among these, there were 405 projects related to transportation, storage, and telecommunications and post (telecommunications could not be separated from the statistics but this should not have had a significant effect), with a total investment contract of US\$1.53 billion.

In 2003, China's direct foreign investment projects increased to 41,081, a 20.2% increase over the previous year, with a total contract of US\$115.07 billion—a 39.0% increase over the prior year. Among these, 506 projects were related to transportation, storage, and telecommunications and post, a 24.9% increase over 2004, with a total investment contract of US\$5.01 billion, a 228.0% increase over the year before.

After China entered the WTO, barriers were removed for multinational 3PLs to enter the Chinese logistics market. The foreign-invested logistics businesses have increased rapidly, especially in late 2004 and early 2005.

Among the foreign-invested logistics companies, there are carriers like APL Logistics and Maersk Logistics; air transportation and express mail services like FedEx, UPS, and DHL; and warehousing and multinational 3PLs like Exel, TNT, and C.H. Robinson. But not all top multinational logistics companies have entered the Chinese market.

The characteristics of foreign investment in China's logistics industry are as follows:

- The investment scope is concentrated in developed coastal areas, especially the Yangtze Delta, the Zhujiang Delta, and the Bohai Rim.
- The investment goes mainly into high-end logistics markets, such as supply chain management and automotive transportation.
- The investment strategy is to quickly expand coverage and establish a service network, e.g., DHL plans to invest \$200 million additional capital in China to establish an express mail network. UPS has also planned to increase its shipping network in China. It already operates in 202 cities and is planning to expand to 300 cities in the next five years.
- The trend is toward sole ownership. China's commitment when entering the WTO was to open up its roadway transportation business after 2004. This means that after that point, foreign businesses were able to set up solely-owned roadway transportation and storage businesses.
- Major customers for foreign-owned logistics businesses are multinational firms.

JOINT VENTURE 3PLs IN CHINA

The first joint venture logistics companies began operations at the same time that China opened its doors to foreign shipping lines in the early 1990s. The first container ship to call upon China's ports was a 250-TEU vessel called Eagle Bay from APL to the Port of Chiwan in Shenzhen in 1990. Liners began to set up sales departments onshore. They sought to avoid barriers of market entry by setting up joint ventures or representatives in China.

This later developed into joint venture logistics companies in China. The same thing happened to airfreight companies like DHL. DHL set up a joint venture with Sinotrans to do overnight deliveries in China well before China's WTO entry. In recent years, more and more multinational logistics providers are seeking a presence in the market. Setting up a joint venture is one of the limited choices in making a legal presence.

After 2005, things may change for some joint venture logistics companies. Choosing a partner in China is still very important for multinationals to a certain extent because of the country's unique culture and administrative reality. This point is discussed later in the publication.

STATE-OWNED 3PLS

Early on in China's logistics development, all large national logistics companies were transformed from state-owned companies or they were part of government agencies themselves. There are two original families of logistics companies. One is from the former Ministry of Material Handling and the other is from the former Ministry of Domestic Trade.

In today's 3PL industry, national logistics companies that have the word "China" at the beginning of the name of their business can all locate their family origin.⁹ Other influential logistics companies can locate their background in other departments or other ministries. Among the influential state-owned 3PLs, there are logistics companies set up by national ocean-shipping companies like COSCO Logistics and China Shipping Logistics, which was formerly part of the Ministry of Communications.

China Merchants Logistics, a leading Chinese 3PL, is also part of China Merchants Group of Companies, which was previously a company under the Ministry of Communications. China Railway Express Transportation Company is owned by the Ministry of Railways.

Sinotrans was formerly set up and owned by the former Ministry of Trade and Economic Co-operations (now part of the Ministry of Commerce); China Chengtong Group belongs to the former Ministry of Domestic Trade; and China National Material Warehousing and Transportation Company is from the former Ministry of Material Supply. China Postal Logistics belongs to the General Post Office of China. This same rule applies to all national logistics companies titled "China."

The advantage of state-owned enterprise (SOE) logistics firms is that they have all obtained industrial resources in respective fields of industry because they were part of a government agency before they became independent companies. Another privilege is that they have obtained the necessary logistics and supply chain licenses long before the market was open to foreign investors and private firms in China. The third privilege is that SOE logistics firms inherited assets from the government, making them able to compete in the market.

SOE logistics firms' weak point is that their operational and managerial efficiency is low compared with multinationals and privately-owned domestic logistics firms.

PRIVATELY-OWNED LOGISTICS FIRMS

With the development of a market economy in China and the progress of reform in ownership, privately-owned logistics firms are also allowed room to expand, especially in recent years. Because they have a more flexible management system and are adaptive to market situations, privately-owned logistics companies have quickly developed in the past decade. They are playing a more important role in today's logistics industry.

There are several kinds of privately-owned logistics firms in China. Some of them developed from former state-owned logistics companies—some from small transportation, warehousing, or freight-forwarding companies. Some of them transformed into logistics companies from import agencies and domestic trade companies.

There has been significant growth in privately-owned logistics firms in China over the past five years. Among the leading firms are PGL Logistics in Guangzhou, EH SCM and GSD Logistics in Shenzhen, JC Logistics in Shanghai, and Gtime and Jiuchuan Logistics in Zhuhai, to name a few.

Privately-owned logistics firms are dedicated to offering excellent service, and having flexible managerial systems and adaptive policies. They also have a faster growth rate than state-owned companies.

LEADING 3PLs IN CHINA

In May 2005, the State Standardization Committee announced a national standard system for logistics firms in China. According to this standard, logistics firms are categorized as one of three types—transportation, warehousing, or comprehensive logistics companies. The major logistics associations also recommend this standard for the leading 3PLs in China. But so far, there is no authoritative listing of Chinese 3PLs. The recent ranking is from the China Association of Transportation and Communications in 2004.¹⁰

The top ten China logistics companies are listed below in Table III-2:

Table III-2: Top 10 Logistics Companies in China, 2004

Ranking	Name	Place of Registration
1	COSCO Logistics	Beijing
2	China Postal Logistics	Beijing
3	JC Logistics Group Companies	Dalian
4	Helongjia Provincial Huayu Logistics Group	Jiamusi
5	Guangdong Provincial Postal Logistics	Guangzhou
6	China Shipping Logistics	Shanghai
7	Anji-TNT Auto Logistics	Shanghai
8	EAS International Logistics	Beijing
9	Tianjin Datian Logistics Group	Beijing
10	China Material Warehouse and Transportation General Co	Beijing

Source: China Association of Transportation and Communications, 2004.

E. Overview of Logistics and Supply Chain Management in China

1. Recent changes in government-administered structure and incentive measures

INSTITUTIONAL REFORM PROVIDES LOGISTICS INCENTIVES

China's first ministry-level joint conference for the logistics industry was held on May 12, 2005. This event symbolized the official start of the logistics industry's coordination mechanism.

Participants were comprised of members from 15 organizations, including the National Development and Reform Commission; Ministry of Commerce; Ministry of Railways; Ministry of Communications; Ministry of Information Industry; Ministry of Finance; Ministry of Public Security; Customs General Administration; State Administration of Taxation; General Administration of Civil Aviation of China; State Administration for Industry and Commerce; General Administration of Quality Supervision, Inspection and Quarantine of China; Standardization Administration of China; All China Federation of Logistics and Purchasing; and China Association of Transportation and Communications.

The forum's goals were to understand contemporary logistics development status and assess development problems; integrate logistics-related policy, strategy, and planning; promote modern logistics standardization, information exchange, establishment of measurements systems, and education; give guidance to provincial governments on their logistics needs; solve inter-governmental problems, promote coordination, encourage information sharing, and set up long-term systems.

The requirement for the conference was that every member organization had to proactively study current logistics-related problems. They needed to provide relevant documents and materials to the forum, preferably on a regular basis, and actively participate in meetings. They were also required to provide coordination and support to one another and make good use of the forum.

The forum set up an office. Its daily operation is run by the National Development and Reform Commission Economic Operations Department. The forum's director is the office manager and the Economic and Trade Commission director is the assistant manager. Members and office contacts consist of personnel from member organizations.

The forum office has the following roles and responsibilities: monitor and analyze national logistics development; report progress made by member organizations; organize discussions about conflicts and issues; carry out tasks assigned by the forum; and provide suggestions to it.

FURTHER OPENING OF THE RAILROADS MARKET TO NON-STATE-OWNED DOMESTIC INVESTMENTS¹¹

On July 22, 2005, the Ministry of Communications announced new rules of opening the market to domestic investments in China. This new reform policy marked the end of the 50-year railroad monopoly.

According to the Ministry of Railways, China would open four categories of investment to non-state-owned capital and individuals outside the legislative boundaries of PRC, and would encourage investments in railroad construction and operation. The four categories are: railroad construction, railroad transportation, the manufacturing of railroad transportation equipment and machinery, and railroad-related services.

2. Regional logistics in China—geographical elements to consider

Regional elements are basic issues to consider for those conducting logistics business in China. The logistics market is more mature in developed regions of the country.

China has two levels of regional logistics development. The first is in areas where an existing logistics development plan is being implemented, such as in the Yangtze River Delta (YRD) and Pearl River Delta (PRD) regions. The second level is in areas where a plan is still in the making and the logistics market is still in the developing stage, such as the middle and western regions. Brief discussions are provided here on the three most developed regions in China—YRD, PRD, and the Bohai Sea Rim regions.

YANGTZE RIVER DELTA REGIONAL LOGISTICS

The economical region of the Yangtze River Delta refers to a group of 16 cities centered around Shanghai, including Nanjing, Zhenjiang, Changzhou, Wuxi, Suzhou, Yangzhou, Taizhou, Nantong of Jiangsu Province, Hangzhou, Huzhou, Shaoxing, Ningbo, Zhoushan, Taizhou of Zhejiang Province, and Jiaying.

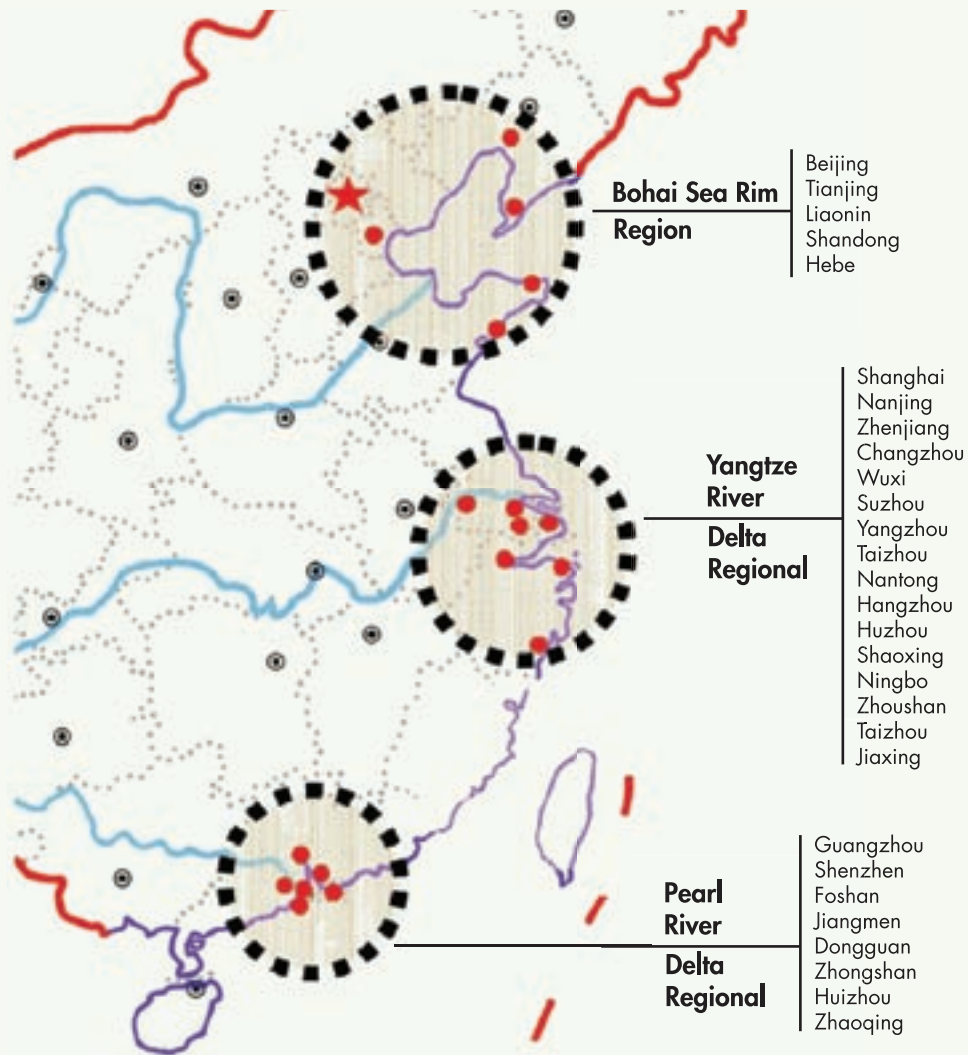
YRD is one of China's most developed areas with a strong potential for further development. In 2004, the GDP of the YRD region occupied 21.1% of the country, with GDP per capita reaching US\$4,247. YRD is now a leading force in China's economy. As a well-developed economy, YRD offers demand and incentives for the development of the area's logistics capabilities.

⁹China's administrative law and company registration regulations rule that any business or organization must obtain administrative permission or official document if they have "China" titled in their company name. In the Chinese language, if a business begins its name with "China," that means that this company has obtained authorization to use this. Otherwise, it is against the law to do so. This rule applies to all organizations, associations, and government agencies.

¹⁰The list of Top 100 3PLs in China is found in Appendix 4 on pages 38 and 39.

¹¹<http://www.sina.com.cn 20050722 12:28> source by New China News Agency. Details of the new rules can be found on the official Chinese web site of the Ministry of Railways.

Figure III-2: Major Economic Regions in China



Source: Graphic by Charles Guowen Wang.

Logistics infrastructure is well-developed in the area. There are three major seaports in the region—Shanghai, Ningbo, and Taicang. Total cargo throughput in Shanghai has reached 379 million tons, which makes it the second largest port in the world. Container throughput in Shanghai has reached 14.55 million TEUs, ranking first in China and third in the world.

Ningbo is the second largest port in China, with total cargo throughput of 220 million tons and four million TEUs. There are also some important river ports along the Yangtze River.

With the activation of the new Shanghai Pudong airport, air transportation capacity increased by a large margin in the region. Highway and light rail systems are well under expansion. There is also a large amount of investment in area logistics hubs. The fast development of logistics infrastructure in the region is reshaping the economic landscape of the area and of eastern China.

With China's WTO entry and CEPA with Hong Kong and Macau, the YRD region is becoming a top location for logistics service providers from China and abroad. Over 400 *Fortune* 500 enterprises have made investments in the region, making products in computers, electronics, telecommunications equipments, petroleum and chemical, and auto industries.

Leading logistics providers like Maersk, DHL, and Exel have all made their presence in the area, competing with domestic Chinese providers and joint ventures. The 3PL market is becoming more and more diversified. There is a clear trend that shows that service providers are focusing on different industries, such as auto logistics, household appliances logistics, petro and chemical logistics, coal logistics, medical logistics, and retail and wholesale logistics. Competition is becoming fierce in the YRD.

PEARL RIVER DELTA REGIONAL LOGISTICS

In traditional statistics, the Pearl River Delta refers to the most important part of Guangdong Province. It covers the cities of Guangzhou, Shenzhen, Foshan, Jiangmen, Dongguan, Zhongshan, Huizhou (Huiyang, Huidong, and Boluo), Zhaoqing (Duanzhou District, Dinghu District, Gaoyao, and Sihui), municipal regions, and counties. The total land area is 41,600 square kilometers, which is 23.4% of Guangdong Province. Hong Kong and Macau statistics are not shown in provincial statistics. If not specifically noted, figures of PRD logistics in this paragraph do not include Hong Kong and Macau.

The PRD region was the first open zone. The export-oriented processing industry and labor-intensive industries are well-developed here. PRD is now one of the world's important manufacturing bases, and accounts for 75% of the total economic capacity of Guangdong Province.

The GDP of the PRD area is 1,200 billion yuan (US\$145 billion) in 2004. As logistics cost is 21.3%, total logistics demand will be 216 billion yuan (US\$26 billion). But the logistics outsourcing rate is low. According to a survey conducted by the author in 2004, the outsourcing rate of manufacturers in PRD was 16.13%. In most cases, logistics demand is in international transportation and freight forwarding. This is the reason that there are two leading world container ports in the area—Hong Kong and Shenzhen.

Logistics infrastructure is well-developed in the region. There are high-density expressway systems, fast railway transportation between major cities, and Pearl River waterways. For important logistics infrastructure, such as seaports and airports, PRD is in a leading competitive position globally.

There are seaports in Hong Kong, Shenzhen, Guangzhou, Dongguan, as well as other feeder and river ports. In 2004, Hong Kong retained its position as the world's largest container port with a throughput of 21.93 million 20-foot equivalent units (TEUs); Shenzhen took fourth place with a throughput of 13.65 million TEUs. It is estimated that by 2010, there will be more than 445 million TEUs berth capacity in the PRD, including Hong Kong and Macau.

For airport and air transportation, this region is one of the leading centers in the world. There are five large airports in the region—Hong Kong, Guangzhou, Shenzhen, Zhuhai, and Macau. Hong Kong and Guangzhou airports have three million tons of cargo handling capacity each.

3PLs emerged and transformed earlier in the PRD compared with other regions in China. Top-level 3PLs in the region deployed enterprise resource planning (ERP) or other logistics information systems, and are operated on a national or even multinational scale.

When the first foreign container ship from APL—a vessel called the Eagle Bay—arrived at the Shenzhen Chiwan terminal in 1990, liners began to open their sales departments in the region. These sales departments evolved into logistics branches of overseas liners. Some 3PLs in PRD are in the leading position in China today. Most multinational logistics companies in air and sea transportation and freight forwarding (like Maersk, APL, UPS, and FedEx) made their presence in Hong Kong first, then in Shenzhen and other PRD cities.

State-owned 3PLs, such as China Merchant Logistics, Guangdong Postal Logistics, and Guangdong Material Group, are dominant in China. There are also well-known privately-owned 3PLs in the region like PG Logistics and Gongsuda Logistics.

Unification of the regional economy is the new trend in the PRD area. Since 2003, inland provinces and cities have set up a Pan-PRD framework of economic cooperation system called 9+2 (nine provinces, with Hong Kong and Macau as the two special regions) in an effort to promote economical development and cooperation. Logistics infrastructure will continue to be built and the economic development will offer market potential for logistics. Yet the barrier for regional logistics unification is the institutional difference between the special administrative regions of Hong Kong and Macau and the inland areas.

NORTHERN CHINA—BOHAI SEA RIM LOGISTICS

Bohai Sea Rim is also a developed region in China. With the nation's capital, Beijing, in the area, there are several large cities around the Bohai Sea, including Tianjin, Dalian, Tsingtao, and Yantai. They make up the major coastal economic zone in North China. Unlike the YRD and the PRD regions, cities in the Bohai Sea Rim region are not as closely connected as those in the river deltas. Each city has its own logistics characteristics.

For the city of Beijing, the major logistics function focuses on the optimization of urban distribution and Olympic Games logistics. In Beijing's plan, there are ten major logistics hubs, five district hubs, and 13 local ones. All logistics centers are located outside of the fourth ring road.

Tianjin is the traditional North China seaport and gateway of the capital area. The port of Tianjin is a major import and export gate of North China. Several large logistics hubs are being built there, and the city is developing eastward to be merged with the port and bonded zone. There are over 300 logistics enterprises and over 3,000 manufacturers in the bonded zone of Tianjin, and the 3PLs' service level has risen significantly.

The cities of Dalian and Tsingtao are building themselves as regional logistics centers. Dalian is striving to service the Northeast provinces of Liaoning, Jilin, and Heilongjiang with its container port and bonded logistics facilities. Tsingtao is the largest port and manufacturing base in the Shandong peninsula. Tsingtao is developing a modern logistics hub (Qianwan) to the port with the bonded zone area. It hopes to become the regional logistics center of Northeast Asia.

3PLs are quickly developing in the area. Many national logistics companies are headquartered in Beijing. State-owned 3PLs with names beginning with the word "China" are mainly headquartered there. Some multinational 3PLs have also set up their China or Asian offices in Beijing.

Along with the regional unification, the four seaports that handle over 100 million cargos a year are going to coordinate with different functions. The logistics infrastructure is well-built and the industry is experiencing rapid growth in the area.



THREE IMPORTANT POINTS ABOUT CONDUCTING BUSINESS IN CHINA—CULTURAL AND POLITICAL ELEMENTS

China has experienced dramatic changes since it implemented the open and reform policy, and the economic structure has evolved to become more market-oriented. The WTO entry of the country has allowed it to merge into the international market. China is changing in all dimensions to cope with international rules and common practices. Yet, there are still many unique characteristics in the country that are worth paying attention to for multinational companies wanting to do business here.

The first—and most important one—is the political system. Institutional costs are the largest portion of all business costs in China. Its economy has fully transformed into a market-based one during the past 25 years, but the administrative structure remains nearly unchanged. It is still the same national administrative system and local administrative system as in the planned economy.

Government agencies are still the center of all economic activities. Government controls the planning and operation of logistics infrastructure, energy and resources, market entry and administrative regulation, and taxation and incentive policies towards logistics and supply chain. These are just some of the things that China's government controls.

All government documents and regulations have the same binding force as the law. Since Chinese legislation lags far behind economic practices, regulations have taken the place of the law in many instances. As mentioned earlier in this publication, logistics and supply chain functions are allocated to different administrative departments at the central government level, as well as at the local government level.

Each department wants more control and power, causing an overlapping of administrative functions. This leads to unnecessary institutional costs. Although WTO rules lifted the ban in the logistics market entry in most sectors, there are still certain formalities that must be followed by

foreign enterprises wishing to start businesses in China. Dealing with different government agencies is often very costly and time consuming.

The second factor is the culture. China has a proud 5,000-year history. The cultural code of conduct influences the actions of every citizen. For a foreigner doing business in China, he or she must learn the Chinese word “Guanxi,” which means “connection.” If you don't know somebody or don't have any connections in China, you will be unable to conduct business there.

Another phrase foreigners need to know is “back-doorism.” Government agencies often have several doors. Some are for strangers; others are for internal use only. If you have connections, you can enter through the internal doors and more easily accomplish your business.

Since government still controls everything, “Guanxi” can enable you to get approval in a less costly, quicker fashion. It is the equivalent of marketing in other regions of the world. Advertising will not be as effective as “Guanxi” is in China. Marketing is only effective on a case-by-case basis.

In China, every business has a well-recognized and accepted expenditure—the entertainment fee. Making friends is the first step in setting up the right connections. This is also a sore spot with China's leaders, as it tends to cause corruption in government officials.

The third important factor is individual creditworthiness. While the government is working to build a credit system, the country is so large, it is hard to trace the credit of 1.3 billion people. Creditworthiness is largely maintained by personal connections. Credit investigations may take a long time and are often tedious, but need to be done before conducting business. Although the government is working on setting up a national credit system, there is still a long way to go before things change. Securing a good consultant who can assist in this area could prove to be helpful.

Section IV. Decision-Making Rules and Logistics/SCM Opportunities

A. The Logistics Market

1. How big is the pie?

China's rapidly growing economy is fueling the demand for logistics. With the country maintaining a growth rate of 8% to 9% annually, the potential for logistics demand is huge. According to a forecast by economist Hu Angang, China will account for 17.5% of the world economy by 2015. This share will be larger than that of the United States. China's share in the world economy was only 3.16% in 1980. In the long run, China's potential GDP growth rate is 2.4 times the world's average. It will be 8.4 times in terms of GDP per capita. If China can maintain this growth, it will account for 22% of the world economy by the year 2020.

Several statistics released in late 2004 and early 2005 indicate that logistics costs are 21.3% of the GDP. China's GDP in 2004 was 13.7 trillion yuan (US\$1.7 trillion). China's total logistics costs were 2.9 trillion yuan (US\$351.6 billion), 21.3% of the GDP. According to the regression estimate in Figure I-1, China's logistics costs will be 4.495 trillion yuan (US\$542.87 billion) by 2015 and 4.968 trillion yuan (US\$600 billion) by the year 2020. The logistics industry will be 1.32 trillion yuan (US\$159.6 billion) and 1.54 trillion yuan (US\$186.57 billion) in 2015 and 2020 respectively as calculated by regression in Figure I-2 on page six.

2. Major factors generating demand

ECONOMIC DEVELOPMENT AND CONSUMER SPENDING

China's economy has seen a steady, robust growth over the past two decades since it implemented the reform and opening policy. There is ample evidence to show that this rapid growth rate will continue in the coming years.

China's quickly growing economy causes an even faster growth in logistics demand. As quoted from the China Logistics Information Center earlier, logistics demand experienced a faster growth in 2004 over GDP. The correlation parameter between logistics and GDP is 2.8. This is obviously much higher than the 1.6 in the period of the eighth five-year plan period and the 1.7 of the ninth five-year plan period. The correlation parameter shows that every unit production of GDP will need 2.8 units of logistics demand to support it.

Along with the development of China's economy, personal income has also increased. With this increase of personal disposable income, the Chinese people need more logistics services, such as door-to-door delivery and distribution and post-sales services. This will result in an increased demand for logistics.

EARLY STAGES OF MANUFACTURING AND LOGISTICS OUTSOURCING

In the period of planned economy in China before Deng's time, every sector of the economy was planned. Factories had their own logistics departments. They owned truck fleets and warehouses, and purchasing departments handled logistics in house. Logistics (along with wholesale and retail) were all done according to a central plan, so there really wasn't a logistics market. During that

time, management did not possess any market skills, so there was no concept of logistics outsourcing.

With the opening and reform in the late 1970s, businesses are now managed according to market rules. With the setting up of foreign-invested enterprises and joint ventures, more and more manufacturers came to realize the advantage of logistics outsourcing. As they deployed up-to-date management skills, they discovered that logistics outsourcing improved their competitiveness.

Today, the outsourcing rate is still low in China, but has increased somewhat. As the management skills of domestic firms improve, there will continue to be more logistics outsourcing, which will generate an increased demand for logistics.

EMERGING SERVICE SECTOR CREATES NEW MARKET OPPORTUNITY

Due to the economic development and elevation of living standards in recent years, some new economic "hot spots" have emerged, such as holiday and exhibition economics.

Since the extension of China's national holidays, the "May First" and "October First" holidays have created an economic phenomenon. Large cities have experienced surges in shopping activities and the resulting increases in retail sales. At the same time the holiday economy boosted sales for manufacturers and retail stores, it also boosted the demand for logistics services.

Because manufacturers and stores utilize various methods to increase their sales during the holidays, some merchandise will, inevitably, be out of stock. Opportunities, therefore, arise for logistics businesses to provide on-time, speedy merchandise restocking, special sales packaging, matching, and labeling services. They can also help to predict market demand by tracking the flow of goods.

The exhibition economy is the other "hot spot," and it has created a demand for logistics services too. Big cities like Beijing, Shanghai, and Guangzhou host exhibits, trade fairs, and conferences every year in the fields of IT, machinery, medical equipment, textiles, etc.

Since exhibitions have strict time schedules, they require their deliveries to be made to the proper destination in a short time. Most products to be exhibited are newly developed, high-tech ones, which means that they have more stringent packaging and transportation requirements. These products may be small in quantity, but are high in value. Exhibition customers are usually not as concerned about cost as they are about safety, reliability, and speed. In addition, there may also be needs for packaging, exhibition set-up, and information collection services.

These two economic "hot spots," holidays and exhibitions, have created a market opportunity for logistics businesses that are quick to respond. The immediate business opportunities created by these hot spots are spontaneous and short-term. But many of these customers may become future ones for 3PLs. If they are sat-

ified with the temporary service they receive, it is likely that they will establish longer-term relationships, or even become permanent customers. For the possibility of developing new customers, logistics companies should pay attention to opportunities in this area.

THE EFFECT ON LOGISTICS DEMAND DUE TO CHINA'S ENTRANCE INTO THE WTO

China's entry into the WTO is expected to boost China's economy and result in an annual increase of 1% in GDP. This will greatly increase the demand for logistics services.

First, China's entry into the WTO boosted demand in 3PLs. Many multinational manufacturing and retail companies have set up centers or sales networks there. Multinational companies have also increased their investments in China. When applying these investments, they have concentrated on their core business, but have outsourced logistics work to third parties instead of incurring expenses on logistics equipment. This has resulted in a higher demand for overall 3PL service.

Secondly, China is becoming the world's manufacturing center. Raw material purchase and finished goods sales have increased dramatically. China's import and export volume has also increased. These, in turn, have increased the volume for the logistics industry, which needs a strong third party logistics foundation to support it.

Third, with many multinational businesses entering the Chinese market, competition will intensify. China's manufacturing and commercial enterprises have begun to enter international markets and establish multinational operations as well. These companies have needed to restructure their logistics systems. Their total logistics volume increase has exceeded 10%, which has boosted the demand for 3PLs.

Fourth, there is a higher expectation for 3PL service quality and variety, and lastly, large amounts foreign investments have introduced new management concepts and production methods. A significant share of the investments have been in the manufacturing area, which has required on-time and precise logistics services to support and complement advanced manufacturing methods.

THE EFFECT OF THE "GO-WEST" CAMPAIGN ON LOGISTICS DEMAND

The development of Western China will bring about an increase in logistics business volume and an expansion in geographical coverage. In its 2010 long-term economic development plan, China narrowed the differences between the mid-west and the east by promoting balanced economic development among the region's major social and economic goals.

With the implementation of the western China development plan, the government will invest vast amounts of money in the building of infrastructure. Since the beginning of the tenth five-year plan, China's transportation development concentrated on expanding westward. There is a plan to build 350,000 km of road, 10,000 km of railroad, and airports in 12 western provinces. The poor west-

ern economic infrastructure that was hindering economic development will be improved. The government will provide policy incentives to western businesses.

The western region also has an advantage in resources and relatively low labor costs. These conditions will attract a lot of eastern and foreign investments. Companies based in the east coast and some multinational firms will set up production centers in the west. The west is rich in agricultural and specialty products and livestock.

As the western development activity progresses, advantages in natural resources will become economic advantages. Agriculture, ecology, animal husbandry, mineral resources, and processing industries in the west will all be properly developed. Industry structure will be adjusted and improved upon.

All these factors will enhance the western economy, and increase the logistics business volume and movement of goods. This will result in an increase in logistics service demand. As the economic differences between the east and the west begin to narrow, 3PL services will expand from the eastern coastal area to the larger western region. Logistics companies will also be able to set up service networks and targeted 3PL services suitable to the west's unique situations.

At the end of 2002, total freight volume in China's western region reached 3.3 billion tons, which accounted for 22.32% of the 14.8 billion ton total for the country. This was a 5.2% increase from the 17.12% in 2000. Freight turnover for the western region was 638.59 billion ton-km, which accounted for 12.63% of the national total turnover of 5.05 trillion ton km. This represented a 4.14% increase from the 8.49% in 2002.

INTERNATIONAL EVENTS—THE OLYMPIC GAMES AND THE WORLD EXPO

The 2008 Beijing Olympic Games and 2010 Shanghai World Expo are two events that will generate significant logistics demand in China.

According to statistics, estimates show that in 2008, more than 200 countries and regions will participate in the Beijing Olympic Games. The set of apparatuses and equipment needed for athletes, officials, and reporters will top 1.2 million pieces. Direct investment in the Beijing Olympics construction is 134.9 billion yuan (US\$16.7 billion). The event will also bring in consumer goods and retail sales of 54 billion yuan. This will promote tourism in Beijing and other areas of China, and will provide excellent opportunities for logistics businesses.

Professor Wenjie Zhang of Beijing Jiaotong University conducted some logistics research on the 2008 Beijing Olympic Games in 2003-2004. According to the research, more than 75,000 tons of equipment and facilities will need to be transported and over 2,000 transport vehicles of various types will be used during the 2008 Olympics season. This will surely bring business to logistics equipment manufacturers. Beijing plans to build 360,000 square meters of athlete apartments in the Olympics garden. The

cost for removing and treating household waste collected from these flats will reach 1.08 billion yuan (about US\$130.5 million).

The 2010 Shanghai World Expo will be another significant event generating considerable logistics demand in China. The Shanghai Expo will be the largest of its kind in history. Experts say that the 2010 World Expo will form a supply chain that connects all areas of China as well as most parts of the world. The event will be held between May 1 and October 31 of 2010, with a total duration of 184 days. Authorities expect that there will be 70 million visitors from about 200 countries and international organizations to Shanghai.

Large-scale construction is already under way. The total area constructed will be 1.5 square meters. Construction already underway includes an 800,000 m² exhibition area, a 200,000 m² spare area, a 200,000 m² parking lot, and a 300,000 m² residential village. The total overall investment is expected to be more than 30 billion yuan.

3. Logistics business opportunities in China

LOGISTICS INFRASTRUCTURE AND PROPERTY INVESTMENT

As China is still in its developing stage, there is a huge demand in input and investment in logistics infrastructure all over the country. Government agencies are encouraging foreign investment in infrastructures in many ways. Build-operate-transfer (BOT) is one way to invest in logistics infrastructures like highways and ports. Investments in logistics facilities like warehousing, logistics centers, and hubs can also reap rewards. Prologis has successfully set up five logistics centers in the eastern and southern parts of China and are realizing gains within a very short period of time.

3PL SERVICE

The 3PL industry is booming in China today. Manufacturing equipment and process upgrades generate more 3PL service demand. Consumer spending also generates 3PL service demand. The outsourcing rate is increasing. Demand for 3PL service will increase more quickly than China's GDP growth rate does. Nearly all logistics planning documents in local governments forecast that 3PLs will increase at least two points faster than the GDP growth rate.

MANAGEMENT KNOW-HOW, LOGISTICS CONSULTANTS, AND EDUCATION

Logistics in China is in the process of transformation. Most transportation and warehousing companies are trying to turn themselves into full-scale logistics companies. They can develop the information technology, but many of them lack management know-how. This skill is crucial for logistics, and is urgently needed by all 3PLs and manufacturers. So, there is a large potential market for logistics consultants, and training and education.

FINANCING AND MERGERS AND ACQUISITIONS (M&As) OF STATE-OWNED AND PRIVATE LOGISTICS FIRMS

China is undergoing continuous economic reform. One of the key goals of this phase is the withdrawal of state-owned enterprises in competitive industries. Logistics is one of the sectors affected by this reform. There is a practical need for state-owned logistics companies to seek an overseas partner to form joint ventures or to be privatized. The business opportunity for multinational firms is that they can own assets or logistics service networks by M&As of Chinese logistics firms.

EVENT LOGISTICS

The 2008 Beijing Olympic Games and the 2010 Shanghai World Expo both offer ample business opportunities for international logistics providers. The unique character of both events is that they need experienced service providers to ensure as few glitches as possible. Since the management skill, service quality, and operational experience of Chinese logistics providers are insufficient, there are many opportunities for international providers to win contracts. There is also the problem of the creditworthiness of Chinese service providers. At this time, there is no national credit system available for logistics providers in China.

B. Major Trends and Implications For Logistics and SCM

1. The logistics outsourcing rate is low and the market is not yet mature

There are no national statistics on the logistics outsourcing rate. Some associations and organizations have conducted their own surveys on the outsourcing rate in China. According to a survey conducted by the China Warehousing Association in 2001, the logistics outsourcing rate in China in the manufacturing industry is 21%. The China Development Institute (CDI) survey shows that the outsourcing rate in manufacturing is between 16.8% and 18%. The survey also indicated that the distribution business is second after transportation in outsourced business.

Many companies responded that they would be considering outsourcing as their logistics business in the future. Since there are numerous factors generating demand, there is reason to believe that the outsourcing rate along with the demand for logistics and supply chain management will increase in the future.

2. 3PLs begin to transform, but it takes time to build competitiveness

The concept of logistics came about only 20 years ago. Most logistics companies are still providing traditional services. Despite the success enjoyed by leading 3PLs, the majority of logistics companies are still in the process of transition. Survey results by CDI shows that leading logistics companies in PRD are offering logistics and supply chain management services and have already built national service networks in China. Yet, for most 3PLs in the country, they are still at the stage of developing management capabilities.

3. SCM is a new concept; there is still a long way to go

Supply chain management is a new concept to manufacturers and 3PLs in China. Most manufacturers think of supply chain as being related to vendor-manufacturer relationships. Their perspective of supply chain focuses on the choice of vendors, lowering of cost, good quality, and constant supply flow. They probably have not considered the total supply chain concept, from suppliers, distributors, and retailers, to the final consumers. With increased

competition, more companies want to tap into the profit potential of logistics and supply chain management. However, for most of the state-owned enterprises, and a large number of medium- and small-sized manufacturers, supply chain is still a relatively new concept.

Although there are many international 3PLs, for the majority of logistics providers in China, they are still in the process of transformation from traditional logistics businesses. They mainly provide transportation, warehousing, and distribution services. There are a few 3PLs in the PRD and YRD that call themselves “supply chain service” companies and they began to offer SCM service in recent years.

4. Regional imbalance will still exist

Because China’s regional economy is not balanced, its logistics industry and demand will remain unbalanced for a certain period of time. Logistics infrastructure and demand and the 3PL industry all show levels of descent from the coastal regions in the east to the inland regions in the west. For multinational companies that invest in China, this factor should be considered.

C. Examples of International Companies in China that Have Adapted to the Local Environment

1. Successful strategies for multinational companies in China

It has only been two decades since China transformed from a planned economy to a market economy. Even more recently, the country opened its logistics market after it joined the WTO. Multinationals must contemplate how to conduct business in China under the local regulations and laws. Through 2004, they had to enter the market in the form of joint venture. Only after 2005 were companies able to set up solely-owned businesses. Most multinationals followed the same route. But they are taking chances working on their own once the rules changed. The cases of Tibbett & Britten and FedEx show the change in their strategies in China.

2. Tibbett & Britten—the leading practitioner and joint venture model

Tibbett & Britten (TB) was a leading multinational logistics provider offering many forms of 3PL and 4PL services. It was acquired by the UK’s Exel in 2004. Exel is a UK-listed, FTSE 100 company, with turnover of £6.3 billion (US\$11.6 billion/€9.3 billion). Tibbett & Britten’s customers include over 75% of the world’s largest, publicly-listed non-financial companies. It operates in about 2,000 locations in over 135 countries worldwide, offering solutions to a wide range of manufacturing, retail, and consumer industries.

In 1997, Hong Kong’s Hutchison Whampoa Limited (HWL) outsourced its Parkson’s supermarket distribution business at the Zhujiang Delta region to Tibbett & Britten of UK. As business developed, Anda Corporation of Shekou (now a fully-owned subsidiary of China Merchants Logistics Co., LTD.), HWL, and Tibbett & Britten formed TB Anda, which serves as HW Supermarket’s central distribution center for Shenzhen and secondary distribution center for Zhujiang and Zhangzhou.

Tibbett & Britten opened up its logistics business in China through Hutchison Tibbett & Britten Logistics (HTBL). It practiced 4PL management services that focused on supply chain management. These services included warehousing and storage, merchant merging, repackaging and promotion packaging, and other value-added services, transportation and dispatching, international supply chain management, sorting, customs declaration, and systematic and comprehensive services.

According to self-administered measures, using the above-mentioned supply chain and logistics services has resulted in significant improvement in HW Supermarkets’ service and purchasing standards. Its delivery rate has increased 1.54%; its on-time rate improved 58%; the vehicle usage rate increased 30%; its category of merchandise distributed increased from 1,000 to over 4,000; and its merchandise turnover decreased from six weeks to two point five weeks. This translated into a 59.4% cash flow savings.

Since Tibbett & Britten entered the Chinese market as a joint venture with a Chinese company, the business from HW has established a foundation for TB's rapid expansion. Now, TB has set up ten branches in Hong Kong, Shanghai, Beijing, Tianjin, Qiqihaer, Chengdu, Guangzhou, and Shenzhen. It owns 2,000 commercial vehicles and serves 400 cities. Among its Chinese retail customers are well-known companies, such as Wal-Mart, Wumart, and Jian Hypermarket.

Tibbett & Britten operates its logistics business in China with great efficiency which is demonstrated in its on-time delivery rate, order completion rate, and assembly precision. These are important reasons for TB's success in China.

3. FedEx in China—from joint venture to exclusive ownership

After China joined the WTO, international logistics companies sped up their development in the country. Logistics giants like FedEx and UPS have already quietly finished their staging phase. As China realizes its promise to allow exclusive foreign ownership of the express mail and logistics businesses, some large express mail companies are targeting China's land service network after taking advantage of the opening of the express air market.

At first glance, FedEx only has the fifth highest cruising rights in the ports of Shenzhen, Shanghai, and Beijing. But, in reality, through its joint venture partner, Datian, FedEx has established a logistics network with Beijing, Shanghai, and Shenzhen as the centers.

FedEx and Datian Group formed a joint venture in 1999 called DT-FedEx. The partners each own 50% of the shares and the company has become a subsidiary of FedEx in China. DT-FedEx is completely operated by FedEx. Office location, employee recruiting, business development, and accounting are all conducted independently. All of Datian's customers are entered into the FedEx system. These customers pay by credit card. Datian does not have access to customer information, so FedEx continues to collect this data.

According to a news report published in March of 2005, FedEx is secretly planning a new round of M&As. This time, FedEx aims to expand the Chinese inland network. The most suitable target for the company in this area is DT-FedEx, the joint venture it formed with Datian Group. Datian Express Mail, a wholly-owned subsidiary of Datian Group (which owns a separate domestic express mail network) could be another target to be purchased by FedEx.

If the merger and acquisition plan is carried out, FedEx will have the added advantage of an enviable network, in addition to the planned opening of five to seven subsidiaries annually. This is because Datian Express Mail has 69 subsidiaries and branches that offer international express mail services in 200 cities in China. This will further strengthen FedEx's advantage in China's domestic market.

Judging by the development trend of the four largest express mail companies that operate in China—FedEx, TNT, UPS, and DHL—a joint venture was never the aim since the business requires a unified network. International express mail usually requires the building of new networks. A joint venture does not offer many cost savings over exclusive ownership. Conversely, a joint venture not only has to share its income, but also has to share its policy-making rights among the partners. Therefore, as China's entry into the WTO pushes the realization of the promise to allow exclusive ownership, international express mail giants will stop forming joint ventures with Chinese companies.



Section V. Summary and Overview

A. Future Developments

As a country in transition, China will generate more logistics demand as the GDP per capita grows from US\$1,000 to US\$5,000. In some cities in PRD, YRD, and southern China—Guangzhou, Shenzhen, and Shanghai, for example—GDP per capita already exceeded US\$5,000 at the end of 2004.

As mentioned earlier in this issue of *CSCMP Global Perspectives*, according to one economist's forecast, China's economy will account for 17.5% of world by 2015, exceeding the share of the United States. In the long run, China's potential GDP growth rate is 2.4 times the world average. It will be 8.4 times in terms of GDP per capita. If China can maintain this speed, it will account for 22% of the world economy by the year 2020.

The economic development is a foundation for logistics demand and supply.

B. Impacts of Globalization

1. China is becoming the global manufacturing and international logistics demand center

Comparative advantage is making China a global manufacturing center. And the most obvious comparative advantage is labor. Because China has a seemingly unlimited workforce made up of former farm workers who have migrated to the cities, labor costs remain low. Cheap labor also causes service prices to be low. Global sourcing strategies drive multinational companies to outsource to China. This has provided opportunities for the country to set up more links with the rest of the world. Logistics and supply chain management enable the outsourcing. Because of this, large demand has arisen for international logistics.

China is the starting point for international logistics, as it is now the major manufacturing site of furniture, household appliances, garments, toys, as well as telecommunications equipment and personal computers. With the merger of Lenovo with the IBM PC sector, China will produce over three-fifths of the PCs in the world. Furniture made in China accounts for 50% of the US home furniture market. Well-known *Fortune* 500 multinationals like Microsoft, Motorola, GM, GE, DuPont, P&G, and Siemens have long been in China, and it is estimated that one out of every four full containers exported in Shenzhen in 2004 was purchased by Wal-Mart.



2. Shift of logistics services to loading ports

Along with the shift in manufacturing, international logistics services are also moving to China because of the low labor costs and overall service costs. After 2000, there has been a substantial shift of logistics services like pick and pack, labeling, and repacking from destination ports to loading ports. Although the cost advantage is obvious, the move has also been influenced by supply chain security, labor unions, and other factors.

3. Major trends and implications of SCM

Logistics and supply chain are still new and developing concepts. The logistics outsourcing rate is low and it will take time for the market to mature.

Chinese 3PLs have begun to transform from traditional service to modern logistics management entities, yet their core competitiveness will require time to develop. Therefore, multinational companies have a competitive advantage over domestic service providers.

Manufacturers need to acquire a deeper understanding of the benefits of outsourcing and SCM because the outsourcing rate and demand for logistics and supply chain management will increase in the future. Managers cannot ignore this reality as the market is expanding so rapidly.

Because China's regional economy is not balanced, its logistics industry and logistics demand will remain unbalanced in different regions for a certain period of time. In coastal regions, there is more intensive demand than in inland regions. Most of the typical, successful 3PLs in China start their businesses in the coastal regions, then extend their service network inland.

4. Strategies for foreign investors

Several points have been illustrated about multinational companies earlier in this publication. The author would like to reemphasize the following two:

1) CHOICE OF MULTINATIONALS ENTERING THE CHINA MARKET

Before China's WTO entry, foreign investors had no choice when they wanted to invest in the country. They had to set up joint ventures with local companies. Now that restrictions have been lifted, foreign investors can choose whether to set up a joint venture or work independently.

There are advantages and disadvantages to each of these approaches. Both are very much affected by China's political system and cultural background. For joint ventures, they benefit from the local knowledge of their counterparts, but management may be more complicated. For sole ownership, a foreign investor can maintain the business culture and efficiency in overall management, but when it comes to dealing with government agencies or policy issues, he would need local help.

There is one common issue that both have to consider: finding local talent who understands Chinese culture and politics.

2) OPPORTUNITIES FOR MULTINATIONALS—BUY CHINA

On July 21, 2005, China's central bank announced that the RMB appreciated by 2% at 19:00 hours. For many foreigners, the RMB foreign exchange rate is the reason for low-price Chinese products. But from an investment point of view, the dollar is an asset in China. When evaluating Chinese enterprise in terms of Chinese currency, domestic businesses in China are much smaller than world-class logistics giants.

The fastest way to set up service networks is to acquire domestic logistics companies and thus, obtain national service networks and local talent at the same time. The dollar can still go a long way in purchasing power before the RMB appreciates further.



Section VI. Source Materials of Reference and More In-Depth Information about China

1) Lack of Sufficient Logistics English Sources in China

Most of the reference data in this publication come from Chinese sources as English information is insufficient in China. Except for a few, large international logistics companies that have information on their web sites, relevant English materials, especially that which is helpful to logistics research, is not sufficient.

Since 2000, there have been many books that have been translated into Chinese. But there are few Chinese research papers that have been translated into English.

The following sources were also used in preparing this issue of *CSCMP Global Perspectives*.

2) China Statistical Yearbooks and Annual Reports

One public resource is statistics yearbooks located in each province and city. Recent statistical yearbooks are published in both Chinese and English. The bureau of statistics' web site publishes soft-format statistical reports. Hard copies are only sold in bookstores, and some are not even available there. You may have to go to the China Statistics Bureau Publishing House in Beijing to get copies.

The limitation of statistical yearbooks for logistics is that China has not set up a national logistics statistical system yet. In 2004, a research report on logistics statistical methods was released by the National Bureau of Statistics and State Developing and Reform Commission, but it will take some time before the systems can offer complete information about logistics in the country.

Besides statistics yearbooks, there are also some annual reports released by associations or government organizations. CFLP publishes *China Logistics Yearbook* every year. The State Development and Reform Committee and Nankai University publish the *Report of China Logistics Development*. All reports can be purchased in public Chinese bookstores. Unfortunately, neither of the reports mentioned above are in English. This publication references the *China Logistics Yearbook 2004* and the *Report of China Logistics Development 2005*.

3) Logistics Web Sites of Government Administrations and Associations

In China, there are many logistics web sites that contain a lot of information about logistics and even logistics cases. But most of them have little information in their English version if there is one at all.

Another difficulty for non-Chinese speaking users is that most of the names of logistics web sites in the country contain Pinyin (Chinese pronunciation in Roman letters) and numbers. For example, the official web site of CFLP is www.chinawuliu.com, and "wuliu" is the Chinese pronunciation of logistics in Pinyin. Other web sites have "56" in their names because 56 reads like "wuliu" in Chinese.

The following is a list of some official web sites of government agencies and important logistics associations in China.

- (1) State Development and Reform Committee, www.sdpc.gov.cn
- (2) Ministry of Commerce, www.mofcom.gov.cn
- (3) Ministry of Communications, www.moc.gov.cn
- (4) Ministry of Railways, www.china-mor.gov.cn
- (5) General Administration of Civil Aviation of China (CAAC), www.caac.gov.cn
- (6) Ministry of Information Industry, www.mii.gov.cn
- (7) Ministry of Public Security (MPS), www.mps.gov.cn
- (8) Customs General Administration of China, www.customs.gov.cn
- (9) State Administration of Taxation (SAT), www.chinatax.gov.cn
- (10) State Administration for Industry and Commerce (SAIC), www.saic.gov.cn
- (11) Ministry of Finance (MOF), www.mof.gov.cn
- (12) General Administration of Quality Supervision, Inspection and Quarantine of China (AQSIQ), www.aqsiq.gov.cn
- (13) Standardization Administration of China (SAC), www.sac.gov.cn
- (14) National Bureau of Statistics of China, www.stats.gov.cn
- (15) China Association of Transportation and Communication (CATA), www.cata.org
- (16) All China Federation of Logistics and Purchasing (CFLP), www.chinawuliu.com
- (17) Shanghai Logistics, www.sh56.com

4) Magazines and Other Academic Resources

There are several influential Chinese national logistics magazines. Most of them contain few academic articles and only serve as an advertisement media for 3PLs and equipment makers. Some have an English index.

Below is a list of major Chinese logistics magazines:

- *China Logistics and Purchasing*, ISSN 1671-6663
- *Logistics Technology and Application*, ISSN 1007-1059
- *Global Supply Chain*, ISSN 1726-2771
- *Logistics World*, ISSN 1726-2771
- *China Logistics Times*, ISSN 1672-111X
- *Logistics Technology*, ISSN 1005-152X
- *Modern Material Handling and Logistics*, ISSN 1608-375X
- *Modern Manufacture*, ISSN 1671-9395
- *Logistics Magazine*, ISSN 1726-7641
- *China Business and Market*, ISSN 1007-8266

Section VII. Appendix

APPENDIX 1: China's Logistics Costs as a Percentage of GDP, 1991-2004

Year	Transportation Cost %	Carrying Cost %	Management Cost %	Total Cost %
1991	13.3	7.5	3.2	24
1992	12.7	7.2	3.1	23
1993	13	6.7	3.1	22.8
1994	11.9	7	3.2	22.1
1995	11	7.6	3.4	22
1996	11.2	7.5	3.3	22
1997	11	7.7	3.5	22.3
1998	11	6.8	3.5	21.4
1999	11.6	6.2	3.6	21.4
2000	11.2	6.5	3.6	21.2
2001	10.9	6.6	3.6	21.1
2002	10.4	7	4	21.5
2003	12.3	6.5	3.1	21.4
2004	12.1	6.1	3.1	21.3

Source: China Logistics Information Center, March 2005, Beijing.

APPENDIX 2: China's Logistics Value-Added as a Percentage of GDP, 1991-2004

Year	Value Added RMB 1000M	Percent of GDP
1991	2257	10.4
1992	2626	9.9
1993	3153	9.1
1994	4108	8.8
1995	4548	7.8
1996	5003	7.4
1997	5735	7.7
1998	5822	7.4
1999	5990	7.3
2000	6358	7.1
2001	6634	6.9
2002	7133	7
2003	7803	7.3
2004	8459	6

Source: China Logistics Information Center, March 2005, Beijing.

APPENDIX 3: China's CPI Index in Recent Years

1985=100

Year	1985	1990	1995	2000	2001	2002	2003	2004
CPI	100	165.2	302.8	331.0	333.3	330.6	334.6	347.6

Source: National Bureau of Statistics, <http://www.stats.gov.cn>.

APPENDIX 4: Top 100 3PLs in China, 2004

Place	Company Name	Web Site	City of Registration
1	COSCO Logistics Ltd.	www.cosco-logistics.com	Beijing
2	China Postal Logistics Co., Ltd.	www.cnpl.com.cn	Beijing
3	JC Trans Logistics INC.	www.jctrans.com	Dalian
4	Heilongjiang Provincial Huayu Logistics Group Co., Ltd.	www.hoau.net	Jiamusi
5	Guangdong Postal Logistics Distribution Service Co., Ltd.	www.hzpost.com	Guangzhou
6	China Shipping Logistics Co., Ltd.	www.csl.com.cn	Shanghai
7	Anji - TNTAuto Logistics Co., Ltd.	www.anji-tnt.com	Shanghai
8	EAS International Logistics Co., Ltd.	www.56net.com	Beijing
9	Tianjin Datian Group Co., Ltd.	www.dtw.com.cn	Beijing
10	China Material Warehousing and Transportation Co., Ltd.	www.cmst.com.cn	Beijing
11	JHJ International Transportation Co.	www.jhj.com.cn	Shanghai
12	Greating-Sinotrans Group Limited	www.greating-sinotrans.com	Xiamen
13	China Railway Container Transportation Co., Ltd.	www.crct.com	Beijing
14	CHINA AIR EXPRESS CO, LTD.	www.cae.com.cn	Beijing
15	Tianjin Zhehua Logistics Group	www.zh-logistics.com	Tianjin
16	China Railway Special Cargo Service Co., Ltd.	www.crscsc.com.cn	Beijing
17	Shanghai Jiayi Express Co., Ltd.	www.jiayi.com	Shanghai
18	Tsingtao Haier Logistics Co., Ltd.	www.ihaier.com	Tsingtao
19	Tsingtao Transportation Group	www.qdjyjt.com	Tsingtao
20	ShenzhenTempus Logistics Co., Ltd.	www.tempus.cn	Shenzhen
21	China Railway Express Co., Ltd.	www.cre.cn	Beijing
22	South Logistics Co., Ltd.	www.logistics-south.com	Guangzhou
23	China Railway Modern Logistics Technology Co., Ltd.	www.crml.com.cn	Beijing
24	PG Logistics Group Co., Ltd.	www.pgl-world.com	Guangzhou
25	EH Supply Chain Technology Holding Ltd.	www.eh.net.cn	Shenzhen
26	Guangzhou Haiyuan Logistics Ltd.	n/a	Guangzhou
27	Shanghai Ba-shi Yuexin Logistics Development Co., Ltd.	www.8456.com.cn	Shanghai
28	China Container Holding Group Company	www.cncg.com	Beijing
29	China Southern Airlines Co., Ltd.	www.cs-air.com	Guangzhou
30	China Merchants Logistics Group Co., Ltd.	www.chinamerchants-logistics.com	Shenzhen
31	Beijing Pacific Logistics Co., Ltd.	n/a	Beijing
32	China Railway United Logistics Co., Ltd.	www.rul.com.cn	Beijing
33	Shanghai Huier Logistics Co., Ltd.	www.huier56.com	Shanghai
34	Annto Logistics Co., Ltd.	www.annto.com	Foshan
35	China Oversea Logistics Ltd.	www.logistics-china.com	Shenzhen
36	Shanghai Jiayi Logistics Co., Ltd.	www.jiayi.com	Shanghai
37	Henan Land Port Comprehensive Logistics Co., Ltd.	www.hnhp.com	Zhengzhou
38	Shandong Jiayi Logistics Co., Ltd.	n/a	Jinan
39	ZJS Express Co., Ltd.	www.zjs.com.cn	Beijing
40	China Logistics Corp.	www.c56.cn	Beijing
41	Chongqing Taiping Logistics Co., Ltd.	www.cqtp56.com	Chongqing
42	Nantong Automobile Transportation Co., Ltd.	www.hooyo.com.cn	Nantong
43	Shenzhen Gongsuda Logistics Co., Ltd.	www.gongsuda.com	Shenzhen
44	Beijing Dongfang Xinjie Logistics Co., Ltd.	www.dfxj56.com	Beijing
45	Beijing Foton Logistics Co., Ltd.	www.ft56.com	Beijing
46	Handan Transportation Group	www.hanyun.cn	Handan
47	Yiwu Liantuoyun Development Co., Ltd.	www.1556.net	Yiwu
48	Beijing Landun Transportation Service Co.	www.bjldky.com	Beijing
49	CITIC LOGISTICS CO., LTD.	n/a	Beijing

Place	Company Name	Web Site	City of Registration
50	Gansu New-continent Logistics Co., Ltd.	n/a	Lanzhou
51	DAZHONG TRANSPORTION (GROUP) CO., LTD.	n/a	Shanghai
52	Shanghai Xintianyuan Chemical Logistics Co., Ltd.	n/a	Shanghai
53	Guangxi Guanlv Logistics Co., Ltd.	www.gj-logistics.com.	Nanning
54	Henan Jiaozuo Transportation General Co., Ltd.	www.hnjzqy.com	Jiaozuo
55	Xiamen C&D Co., Ltd.	www.chinacdc.com	Xiamen
56	Shandong Pronicel Communication and Transportation Group	www.esdjy.com.cn/	Jinan
57	Changsha Shitai Logistics Co., Ltd.	n/a	Changsha
58	Qingdao Ocean & Great Asia Logistics Co., Ltd.	www.ydy.com	Tsingtao
59	Tsingdao Railway Far East Logistics Co., Ltd.	n/a	Tsingtao
60	Chongqing Transportation Group Co., Ltd.	www.zgyyjt.com	Chingqing
61	Tianjin Anda Logistics Co., Ltd.	www.anda.com.cn	Tianjin
62	Tianjin Baoyun Logistics Co., Ltd.	www.baoyun.com.cn	Tianjin
63	Shenzhen Baisha Logistics Co., Ltd.	n/a	Shenzhen
64	Xuzhou Warehousing and Transportation Co., Ltd.	www.xs56.com	Xuzhou
65	Guangzhou Yicheng Transportation Service Co., Ltd.	n/a	Guangzhou
66	Xiamen Jinlian Logistics Co., Ltd.	n/a	Xiamen
67	Beijing Hezhong Aoshunda Logistics Co., Ltd.	www.hzlogistics.com	Beijing
68	Xiamen Superchain Logistics Development Co., Ltd.	www.super-chain.com	Xiamen
69	Hubei Road Transportation General Co., Ltd.	n/a	Wuhan
70	Guangzhou Yuexiu Logistics Co., Ltd.	n/a	Guangzhou
71	Dalian Changbo Logistics Co., Ltd.	n/a	Zhuanghe
72	Fujian Hongjie Logistics Co., Ltd.	www.fjhongjie.com	Fuzhou
73	Zhuhai G-time Logistics Co., Ltd.	www.gtime.com.cn	Zhuhai
74	Gansu Western Logistics Co., Ltd.	n/a	Lanzhou
75	Xiamen Hongxin Development Co., Ltd.	www.xmhx.com	Xiamen
76	Eternal Asia Supply Chain Management Ltd.	www.eternalasia.com	Shenzhen
77	Hunan Jingyang Logistics Co., Ltd.	www.jy56.com	Changsha
78	New Brother Logistics	www.newbrother.com.cn	Shanghai
79	Jinzhou Hengda Logistics Group Co., Ltd.	jzhengda.quanso.net	Jinzhou
80	Globe Link China Logistics Co., Ltd.	www.china-logistics.com	Xiamen
81	Beijing Qili Logistics Co., Ltd.	211.151.89.20/1.htm	Beijing
82	SBF Logistics Co., Ltd.	www.sbf56.com	Shanghai
83	Cangzhou Transportation Group Co., Ltd.	n/a	Cangzhou
84	Henan Xinxiang Transportation Co., Ltd.	n/a	Xinxiang
85	Shandong Postal Logistics Co., Ltd.	www.sd185.com	Jinan
86	Anhui International Container Intermodal Co., Ltd.	n/a	Hefei
87	Luneng Finemores Logistics Co., Ltd.	www.ln-finemores.com	Jinan
88	Weifang Intermodal Transportation Co., Ltd.	www.cnwfly.com	Weifang
89	Anhui Jianghuai Auto Logistics Co., Ltd.	n/a	Hefei
90	Zigong Dongfang Logistics Co., Ltd.	sczgdscy.vicp.net	Zigong
91	Changzhou Transportation Group Co., Ltd.	n/a	Changzhou
92	Foshan Automobile Transportation Group Logistics Branch	www.fs-qiyun.cn	Foshan
93	Shanghai Baishui Logistics Co., Ltd.	n/a	Shanghai
94	Shenyang No. 1 Transportation Industry Co., Ltd.	www.syyiyun.com	Shenyang
95	Fujian Shenghui Logistics Co., Ltd.	www.do56.com	Fuzhou
96	Zhuhai JC Logistics Co., Ltd.	www.jc-logistics.com	Zhuhai
97	Guangzhou HYC Logistics Co., Ltd.	www.hyc-logistics.com	Guangzhou
98	Hangzhou No.1 Transportation Co., Ltd.	www.hzky.com	Hangzhou
99	Chaoyang Huantong Transportation Co., Ltd.	0421.56888.net	Chaoyang
100	Tianjin Port Bulk Logistics Co., Ltd.	n/a	Tianjin

Source: China Association of Transportation and Communications, 2004.



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