



2016 Top Markets Report **Cold Chain** Country Case Study

China

With a large, rapidly growing demand and well-established infrastructure in large urban populations, China is a top market for cold chain development.

Overall Rank

10

Upper-Middle
Category
Ranking

2

With a GDP of more than \$11 trillion, China is the largest economy in our Top Market Report. Exports of goods and services to China reached \$167.2 billion in 2014, a growth of 4.4 percent, and accounted for 7.1 percent of all U.S. exports. U.S. majority owned foreign affiliate sales in China were \$260 billion, and distribution services accounted for more than \$40 billion in 2013.¹

The population of China is considered upper middle income, with a per capita income of about \$13,170 (PPP) per year. Unemployment has held steady at 4.7 percent, and inflation was less than 1 percent in 2014.²

China is currently undergoing a rapid transition from a manufacturing and construction led economy to a consumer led economy. The rapidly growing middle class offers huge opportunities for retailers, franchisors and restaurant service providers to expand and grow. At 5.34 percent, the market share of modern grocery retailers is at the low end of the spectrum for all countries; however, this market share has increased at a rate of 64.9 percent from 2008 to 2013.³

Many consumers outside of first tier cities still purchase agriculture and food products from a traditional wet market, limiting the full utilization of cold chains. On the other hand, major cities like Beijing and Shanghai have seen a dramatic increase in the

Figure 1:

Competitiveness Index	Score
Government/Regulatory	4.1
Labor Force	4.4
Infrastructure	4.7
Demand/Business Factors	4.8
Industry Interest	5.0

World Economic Forum and Global Cold Chain Alliance

Economic Statistics	
Population	1.376 Billion
Cold Storage Capacity	76 M/m ³
Pharmaceutical Sales	\$108 Billion
Food Spending	\$1.2 Trillion
Food Spending per Capita	\$875
Agribusiness Market	\$1.36 Trillion
Agriculture Imports	\$65.7 Billion
Agriculture Exports	\$10.5 Billion

BMI and Global Cold Chain Alliance

demand for and utilization of cold chain warehouse and transportation systems, especially as western businesses and cultural influences become more popular and consumers become more educated and aware of food safety issues.

Franchising is still a relatively new concept in China, though U.S. franchisors and retailers have seen considerable growth. There are more than 4,500

franchises, and total stores from the top 100 franchises amount to over 120,000. Nearly 40 percent of franchise operations are engaged in food and beverage and retail. Per-capita grocery sales at these establishments have increased at an annual growth rate of 7.6 percent from 2008 to 2014.⁴

U.S. businesses must be mindful of the challenge to find reliable suppliers that use proper practices and training; in 2013 a supplier sold KFC and McDonalds expired meat. This food safety scare hurt the brand reputation of McDonalds and KFC and led to a significant plunge in sales.

The Chinese population has more than 632 million Internet users, and more than 400 million participate in online shopping. According to China government's National Bureau of Statistics, e-commerce sales increased by nearly 50 percent from 2013 to 2014 to reach \$449 billion. Sales are expected to reach as high as \$1 trillion by 2019.

As in many Asian markets, e-commerce is giving rise to a new trend among shoppers who purchase groceries and meals online to be delivered to their residence or business, bypassing typical retail establishments. Food products purchased online are often deemed to be safer and of better quality than those purchased at local markets. This alters the standard model of cold chain services and opens a new opportunity for U.S. cold chain service providers. 3PLs who have been able to develop new, efficient ways to deliver temperature-sensitive products directly to consumers have seen massive growth that will likely continue for the foreseeable future. With continued improvement of the cold chain sector, U.S. SMEs are also expected to find better opportunities to enter the Chinese market.

Pharmaceutical sales in China are expected to hit \$115 billion in 2016 and reach nearly \$200 billion within seven years.⁵ A major driver of cold chain biopharma expansion in China is likely to be insulin. Currently, 25 percent of the world diabetic population lives in China, yet China only consumes about 6 percent of the world's insulin.⁶ Transportation and storage of vaccines and pharmaceuticals by ill-equipped or untrained service providers has been a big problem in China. Experts have expressed to ITA that many of the

vaccines administered in the country have been rendered ineffective due to temperature fluctuations.

U.S. express delivery companies have made significant investments in China to meet the many opportunities and challenges the market holds. These investments include establishing aviation hub operations to link China with global markets, establishing delivery services throughout China and buying Chinese logistics firms to expand. In China, express delivery services (EDS) have become a thriving industry, but industry still faces several problems.

Burdensome and often conflicting regulatory requirements are imposed by different Chinese government agencies, not only at the national level but also at the provincial and municipal levels. This skews competition and adds to operators' costs. A key industry regulator also owns a key state-owned competitor. Licensing, customs and transportation inefficiencies all must be addressed.

China accounts for 17 percent of U.S. agriculture exports, making it the largest agriculture export market for the United States. At nearly \$1.4 trillion, agriculture comprises more than 10 percent of the Chinese economy. The expansive size of the country and the lack of infrastructure in the lesser-populated farm regions, combined with the fact that most farms are small and do not have the economy of scale to invest in cold chain transportation, make farm to fork cold chain development difficult. These challenges, however, also provide opportunities for 3PLs and cold chain service providers to develop unique solutions that can link these farmlands to the global economy.

China ranked 84th in the World Bank's 2016 Ease of Doing Business, a slide of 1 place since 2015, when the survey was recalculated. Of particular note were low rankings in the categories of Dealing with Construction Permits, Starting a Business, Protecting Minority Investors and Paying Taxes.⁷

China is ranked 64th out of 124 countries in the World Economic Forum's Human Capital index 2015. The population has a median age of 35, and a labor participation rate of 71.3 percent. Less than 6 percent of the population is tertiary educated, and the country is ranked 27th in ease of finding skilled employees.⁸

Figure 2: World Bank Ease of Doing Business Ranking

Country	Ranking (2016)	GDP Per Capita (PPP, 2014)
Russia	51	\$25,635
China	84	\$13,206
Brazil	116	\$15,838
India	130	\$5,701

Refrigerated warehouse capacity has seen CAGR of 34 percent, and investments increased by \$16 billion in 2013.⁹ The need for cold chain service providers, refrigerated warehouses, 3 PL's and EDS will continue to expand at a rapid pace. The country is expected to become the largest 3PL market in the world by the end of 2016, and there is a large opportunity for U.S. service providers to gain market share.¹⁰

Cold chain capacity may increase by as much as 20 times current capacity over the next decade. It is important that the emerging cold chain industry utilizes international best practices that U.S. businesses have come to expect; otherwise, U.S. export expansion opportunities may be limited.

To help increase the use of international best practices in cold chain operations, ITA created the American Cold Chain Working Group, comprised of industry representatives and government officials that periodically meet in Shanghai to discuss the timing and implementation of applying international best practices in the cold chain sector.

China ranked 28th out of 160 countries in the World Bank's 2014 Logistics Performance Index (LPI). The LPI is an indicator of key dimensions of a country's logistics performance including Customs, Infrastructure, International Shipments, Competence, Tracking and Tracing, and Timeliness. The country has shown overall improvement in every category of the Index since 2007, though the category of Customs has slightly declined since 2012 to the rank of 38,th due largely to the cumbersome process and significant amounts of paperwork.¹¹

A lack of knowledge of internationally recognized best practices, clear concise regulations and enforcement in transportation and cold chain logistics means smaller logistics providers in China often cut corners to

save costs. This has led to inconsistencies in quality and mistrust between businesses and consumers and acts as a barrier for any company entering the market that utilizes proper practices and equipment.¹²

Lack of trained labor specific to the logistics industry has made business expansion difficult for many U.S. companies. APICS (formerly the American Society of Transportation and Logistics) has developed training and certification in logistics management and is working on similar programs for the cold chain industry in China.

While China seems to have no shortage of available labor, the struggle of logistics companies to reduce costs often means lower levels of training for employees. Cold chain operators may find a limited amount of trained labor available for operations and should, therefore, anticipate providing extensive amounts of training for all aspects of logistics and cold chain operation. Further work is necessary to improve logistics management and reduce barriers to entry for U.S. companies.

China's quality of transport infrastructure is ranked 51st out of 140 countries in the World Economic Forum Global Competitiveness index and has consistently improved in the category since 2011.¹³ The infrastructure is well-established in most urban locations. While congestion can be a major source of frustration, many logistics providers have developed solutions, such as delivery by mopeds and scooters. Electricity in urban environments is generally stable, allowing cold chain providers the means to power the facilities necessary for operations. Due to the massive size of the country, infrastructure outside of the major cities, including transportation and electricity can sometimes be a challenge.

Industry's Take:

The devaluation of the Real is negatively affecting the Brazilian business climate. If the political situation could become more stable, the economy would improve.

Richard Tracy, Global Cold Chain Alliance

Resources:

U.S. Commercial Service:

<http://www.export.gov/china/>

China Country Commercial Guide:

<http://export.gov/ccg/china>

Agricultural Affairs Office: AgBeijing@usda.gov

The Chinese Central Government's Official Web Portal

<http://english.gov.cn/>

Guide to Investment in China (site of China's Ministry of Commerce)

<http://fdi.gov.cn/>

The American Chamber of Commerce in Shanghai
China Business Report 2013-2014

<http://www.amcham-shanghai.org/ftpuploadfiles/Website/CBR/2013-2014-China-Business-Report.pdf>

China Council for the Promotion of International Trade

<http://www.bizchinanow.com>

Events:

[APICS 2016 SHANGHAI](#) Shanghai, China | 14-15 April 2016

¹ Bureau of Economic Analysis; <http://bea.gov/international/factsheet/factsheet.cfm?Area=650>.

² The World Bank; <http://worldbank.org>

³ International Association of Refrigerated Warehouses; "2014 IARW Global Cold Storage Capacity Report"; Salin, Victoria.

⁴ International Association of Refrigerated Warehouses; "2014 IARW Global Cold Storage Capacity Report"; Salin, Victoria.

⁵ Business Monitor Online; <http://bmo.bmiresearch.com>.

⁶ Pharmaceutical Commerce 2015; "The Cold Chain Directory 2015: The 2015 Biopharma Cold Chain Landscape"; http://pharmaceuticalcommerce.com/lib/sitefiles/pdf/Cold_Chain_Dir_2015.pdf.

⁷ World Bank 2016; "Doing Business 2016: Measuring Regulatory Quality and Efficiency"; <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB16-Full-Report.pdf>.

⁸ World Economic Forum 2015; "Human Capital Report 2015"; http://www3.weforum.org/docs/WEF_Human_Capital_Report_2015.pdf.

⁹ International Association of Refrigerated Warehouses; "2014 IARW Global Cold Storage Capacity Report"; Salin, Victoria.

¹⁰ United States International Trade Commission, "Recent Trends in U.S. Services Trade: 2015 Annual Report" <https://www.usitc.gov/publications/332/pub4526.pdf>.

¹¹ World Bank 2014; "Connecting to Compete: Trade Logistics in the Global Economy"; http://lpi.worldbank.org/sites/default/files/LPL_Report_2014.pdf.

¹² http://www.joc.com/international-logistics/cool-cargoes/fresh-food-high-china-percentE2-percent80-percent99s-logistics-menu_20141224.html

¹³ World Economic Forum 2015; Global Competitiveness Report 2015-2016; http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf.