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Hearing on US Access to China's Consumer Market

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China Logistics and e-Commerce Markets

Thank you for the opportunity to testify today. As the second largest economy in the world, China's logistics market has struggled to keep pace with its growth. Government investments in infrastructure to connect the entire country has been ongoing for numerous years. However, despite the investments, China is geographically diverse and its population is unevenly distributed so establishing a nationwide logistics network is costly.

As such, logistics costs account for a large proportion of corporate costs. On average, China's logistics costs as a ratio to GDP is 16%. This is compared to about 8% in the US.

Opportunities abound for foreign investment and China has said it is opened to such investments. However, the regulatory environment is deeply embedded within the government and the practice of subsidies and state-owned enterprises continues and negatively impacts true competition.

This testimony covers China's transformation from an export dependent economy to one in which is slightly balanced but still favoring exports. China's infrastructure plans and achievements, the Silk Road Initiative, the growth of e-commerce and overviews of logistics providers including e-commerce giants Alibaba, JD.com and Amazon are all discussed along with recommendations for U.S. companies and the Administration.

Exports Drive Growth

With its entrance into the WTO in 2001, China's export-driven economy took off. In general, the early 2000's was a period of global expansion for many companies. Supply chains began to expand outside countries' boundaries and outsourcing became the expectation to keep costs low for companies. First textiles and then apparel and by the mid-1990s, high-tech manufacturing (laptops, mobile/smartphones etc.) were outsourced to China. As a result, China became known as the "world's manufacturer". According to The Economist, in 1990, China produced less than 3% of global manufacturing output by value.[1] By 2015, it is nearly a quarter. China produces about 80% of the world's air conditioners, 70% of its mobile phones and 60% of its shoes.

As such, China's logistics market has focused on its exports. China's government played (and still does) an integral role in infrastructure investments which targeted ports, airports and road and rail improvements connecting manufacturing locations to transportation hubs. To take advantage of the growth and demand for foreign logistics expertise, global third-party logistics providers (3PLs), freight forwarders and

[1] Made in China? The Economist, http://www.economist.com/news/leaders/21646204-asias-dominance-manufacturing-will-endure-will-make-development-harder-others-made

transportation providers established a presence in China, many via joint ventures with Chinese partners.

The majority of China's manufacturing has traditionally been located along its southeastern coastline, close to ports such as Shanghai, Shenzhen, Ningbo, Guangzhou, Hong Kong and Dalian.

In 2000, China's government introduced its "Go West" strategy, encouraging infrastructure investments and manufacturing further inland.[2] These regions account for more than 70% of China's land but only about 20% of economic output. They are inland areas, often remote and with primary access via roadways and rail. By 2012, thanks to government incentives and encouragement Foxconn established a presence in Chongqing. In turn, its clients such as Hewlett-Packard, Cisco Systems and Epson also established a presence. Meanwhile, Chengdu has attracted manufacturing lines for AG Siemens, Motorola and Intel.

As noted, above, these inland areas have had to rely heavily on roadways and rail. As of 2012, China's trucking industry comprised primarily mom-and-pop providers with the top ten Chinese trucking companies accounting for only 3% of volume. Airports were either non-existent or needed to be expanded meanwhile the closest access to ports were hours away. As a result, transportation costs, on average were higher. However, as we will see later, China's Silk Road Initiative has helped Western China to connect to Europe, providing an additional transportation option for Chinese companies to utilize.

The Great Recession – Balancing the Trade Imbalance

According to Nake M. Kamrany, professor of economics and director of program in law and economics at the University of Southern California, during the recession of 2007-2009, China's exports dropped 15-18% causing 23 million workers to be laid off.[3] But 98% of the unemployed readily found jobs as the economy bounced back and the unemployment rate dropped to 4% with a $586 billion stimulus package. The strategy was to adopt a serious fiscal stimulus package that provided job creation and infrastructure buildup.

Among the strategies was a shift away from an export-driven economy to a more balanced one. However, the infrastructure had supported exports and so investments in infrastructure that support domestic consumption was in order. This included warehouses, roads and rail.

Twelfth Five-Year Plan for Economic and Social Development (2011-15)

In China's Twelfth Five-Year Plan for Economic and Social Development (2011-15), the focus on restructuring the country's economy to rely less on exports and fixed investment was mandated.[4] Policies favored the development of the outsourcing, banking, insurance, e-commerce, logistics, and supply chain management sectors. In addition, the plan highlighted emphasis on increasing urbanization, narrowing the income gap between urban and rural citizens, and connecting China's cities with rural areas. China would invest up to ¥7 trillion ($1 trillion) to develop urban infrastructure, including ¥700 billion ($102.5 billion)

2 Has China Lived Up to its Go West Strategy? Supply & Demand Chain Executive, http://www.sdcexec.com/article/10765488/has-china-lived-up-to-its-go-west-strategy

3 China's Rapid Recovery in the Great Recession of 2007 – 2009, Huffington Post, http://www.huffingtonpost.com/nake-m-kamrany/chinas-rapid-recovery-in-_b_825194.html

4 China's Priorities for the Next Five Years, China Business Review, https://www.chinabusinessreview.com/chinas-priorities-for-the-next-five-years/

on urban rail transit during the 12th FYP period.

Indeed, during this period, according to KPMG, China's online retail gross merchandise value exceeded RMB 3.5 trillion in 2015, seven times the 2010 figure and representing an annual growth of 50%. It was also during this period that new business models such as cross-border e-commerce emerged as new growth points in global trade, growing 30% in 2015.

In China's Thirteenth Five-Year Plan for Economic and Social Development (2016-2021)

E-commerce, logistics and supply chain management continue to be key focus areas in China's Thirteenth Five-Year Plan.[5] In addition, technology will play a leading role through "smart manufacturing", "smart cities", and "smart logistics". As such, a national big data strategy will be implemented.

Cross-border e-commerce will also be emphasized. KPMG expects Chinese firms to expand their overseas e-commerce businesses through equity investments or acquisitions while consolidating operations in China's domestic market to build a global network of e-commerce services. In addition, linkage between online and offline platforms (O2O) will be incentivized by the General Office of the State Council to improve offline customer experience, delivery and after-sales services.

Infrastructure projects are focused on primarily moving people—improving rail, highways and development of international aviation air hubs, regional airports and increase routes and frequency for intra-regional flights. Additionally, cargo moving projects are on the agenda including:

- A nationwide drop and pull transport network. This was trialed a few years ago whereby the Ministry of Transport established a fund to subsidize drop and pull trucking projects with up to RMB 10 million per project. The government further introduced a new policy to exempt several fees and taxes for companies operating drop and pull trucks.
- Development of intermodal freight hubs and logistics parks
- Intelligent logistics networks
- Public information platform for transport, shipping and logistics for cross-border logistics covering Southeast Asia and South Asia
- Pan-China international logistics core network

The 'One Belt, One Road' Silk Road Initiative

Launched in 2013, China's One Belt One Road Initiative involves infrastructure investments in countries along Marco Polo's old Silk Road linking China to Europe, the Middle East and North Africa. The initiative calls for new roads, high-speed rail, power plants, pipelines, ports, airports and telecommunication links that will boost commerce between China at least 60 countries.

According to former US Assistant Defense Secretary Chas Freeman, the Belt and Road project can be described as "potentially the most transformative engineering effort in human history." [6] Indeed, countries

[5] The 13th Five year Plan – China's Transformation and Integration with the World Economy, KPMG, https://assets.kpmg.com/content/dam/kpmg/cn/pdf/en/2016/10/13fyp-opportunities-analysis-for-chinese-and-foreign-businesses.pdf

[6] Belt and Road Initiative: china Plans $1 Trillion New 'Silk Road', NBCnews.com,

involved claim about 55% of global economic output, 70% of the world's population and 75% of known energy reserves.

The plan includes maritime and road components.[7] For example, the Chinese controlled Greek port of Piraeus will serve as a maritime gateway to Central Europe with a planned Belgrade-to-Budapest high-speed rail link. In terms of rail, there are about 39 lines that connect twelve European cities with sixteen Chinese cities. There are plans for an additional twenty European routes. London was added to the network and welcomed its first Chinese train earlier this year. Traveling 18 days, the train included laptops, smart phones, and apparel and food items.

For shippers, goods traveling by rail take less time versus ocean. Also, pricing of rail transport is reportedly less than air, but more than ocean. Major logistics providers including DB Schenker, DHL, Agility, DSV, Kuehne+Nagel, Panalpina and UPS are among a growing number of providers to offer solutions for this initiative. Many of these solutions are multi-modal and include full container and less than container load cargo on the rail followed by truck or other mode for final mile delivery in Europe and/or China.

Components of China's Supply Chain

Airports

As of mid-2015, there were about 60 inland airports under expansion with another 30 new regional airports under construction. Government planners estimate China's airports will increase to 240 by 2020 from around 200 in 2015. Much of this growth is attributed to rising business travel and growth in outbound tourism fueled by an increasingly wealthy middle class. However, there are also 'white elephant projects – airports going unused/not fully utilized as well as many existing airports suffering financial losses because of big upfront investments.

In terms of cargo, Airports Council International's Top 20 Cargo Airports for 2016 listed 4 in China.[8] The largest cargo airport in the world is Hong Kong with 4.6 million tonnes, up 3.5% from 2015. Shanghai is the third largest global cargo airport with 3.4 million tonnes, up 5.0% from the previous year. Beijing with 1.9 million tonnes was ranked 15th, up 2.8% and finally Guangzhou was ranked 18th with 1.6 million tonnes, up 7.4% from 2015.

With the number of airports being built or expanded, trade flows are shifting. Hong Kong has long been the 'go-to' airport for manufacturers particularly in the Pearl River Delta. Goods were typically trucked to Hong Kong to be shipped. However, airports such as those in Guangzhou and Shenzhen are located closer to manufacturers and so the reliance on the Hong Kong airport has lessened over the years.[9]

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http://www.nbcnews.com/news/china/belt-road-initiative-china-plans-1-trillion-new-silk-road-n757756

[7] Analysis: China to Shape International Trade via Belt and road, Journal of Commerce, http://www.joc.com/international-trade-news/infrastructure-news/china-infrastructure-news/analysis-china-shape-international-trade-belt-and-road_20170609.html

[8] Preliminary 2016 World Airport Traffic Rankings, Airport Council International, http://www.aci.aero/News/Releases/Most-Recent/2017/04/19/ACI-releases-preliminary-2016-world-airport-traffic-rankingsRobust-gains-in-passenger-traffic-at-hub-airports-serving-transPacific-and-East-Asian-routes

[9] The Chinese Airports Snapping at Hong Kong's Heels, South China Morning Post, http://www.scmp.com/news/china/economy/article/2096465/chinese-airports-snapping-hong-kongs-heels

But Hong Kong is fighting back and has jumped on the e-commerce bandwagon. HACTL, the group that manages Hong Kong's airport and port facilities, established a subsidiary to work with Chinese and Hong Kong post offices and with its expedited customers. The subsidiary, Hacis, has eight depots on the mainland. Air cargo is routed through the depots headed to and from Hong Kong Airport. Hacis also contracts final mile delivery.[10]

Ports

With 90% of global trade attributed to ocean vessels, port operations are important. China has spent billions on building and expanding ports over the years. As a result, based on World Shipping Council's Top 50 Global Container Ports, Chinese ports represent 24% of the rankings:[11]

Global Ranking	Port	TEUs (millions)
1	Shanghai	36.54
3	Shenzhen	24.2
4	Ningbo-Zhoushan	20.63
5	Hong Kong	20.07
7	Qingdao	17.47
8	Guangzhou Harbor	17.22
10	Tianjin	14.11
15	Dalian	9.45
16	Xiamen	9.18
24	Yingkou	5.92
29	Suzhou	5.10
30	Lianyungun	5.01

China's port sector has increasingly turned its focus to expanding globally. State-owned enterprises such as Cosco Group, China Merchant Holdings International and China Harbor Engineering have done just that, spending billions in ports around the world. As a result, as of 2015, nearly 70% of global traffic passed through Chinese-owned or Chinese-invested ports.

Road

To accommodate its export-driven economy, China's investments in road infrastructure were made to connect manufacturers to ports or airports. Eventually, road networks were formed connecting Tier 1 cities to smaller cities and further to rural areas.

Today, roads are connecting China to neighbors such as Pakistan, India, Russia, Southeast Asian countries and more as the country invests in its Silk Road initiative linking Asia to Europe, Middle East and Africa via road, rail, air and sea.

[10] Hactl Taking on Mainland E-Commerce Boom, Air Cargo World, Air Cargo World http://aircargoworld.com/hactl-taking-on-mainland-e-commerce-boom/
[11] Top 50 global Container Ports, World Shipping Council, http://www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports

Rail

Rail plays a major role in China's Silk Road initiative and it is also playing a role within China, moving bulk and container cargo as well as passengers. At the end of 2015, China had 121,000 kilometers of railway lines.

According to The Economist, less than just a decade ago China had yet to connect any of its cities by bullet train.[12] Today, it has 12,500 miles of high-speed rail lines, more than the rest of the world combined. It is planning to lay another 15,000km by 2025. However, China Railway Corporation, the state-owned operator of the train system, has debts of more than 4trn Yuan, equal to about 6% of GDP. Much of the financial loss is on lines that are further away from the densely populated areas of Beijing, Guangzhou and Shanghai.

Still, China plans to spend 3.5 trillion Yuan ($503 billion) to expand its railway system by 2020.[13] The high-speed rail network will span more than 30,000 kilometers (18,650 miles) under the proposal and cover 80% of major cities in China. The Chinese government will invite private investment to participate in funding intercity and regional rail lines.

Warehousing

Rising consumer consumption and the e-commerce boom have contributed to the rapid growth of warehouse construction from 2012-2015. Foreign investors such as Blackstone, Warburg Pincus and Temasek invested in the sector. However, questions of a glut as well as the RMB's depreciation has made the rental yield less attractive to foreign investors.

According to the China Warehousing Industry Bluebook 2015, total warehouse space in operation totaled 955 million square meters, a 5% increase from 2014.[14] Modern warehouse space expanded to 30.6 million square meters making up 3.2% of total warehouse space. A modern warehouse is best described as one in which has fully computerized tracking systems and the latest in technology and automation.

As China shifted its focus towards the domestic market, the lack of warehousing has presented problems for the country's logistics sector. Unlike the US, where there is typically a nationwide warehousing network, owned or leased by a 3PL or business, China's warehouses tend to be near only tier 1 cities. Delivery times to smaller cities and rural areas are often longer as a result. In addition, many of the existing facilities simply serve as a storage area, lacking in technology, value-added services as well as organization. As a result, late deliveries and damaged and lost packages have become a problem.

In 2015, old chain warehouse capacity increased 12% over 2014. This specialized warehousing is a growth potential for investments. China's consumers are keenly aware of food safety and a recent vaccine scandal.

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[12] China has Built the World's Largest Bullet-Train Network, The Economist, http://www.economist.com/news/china/21714383-and-theres-lot-more-come-it-waste-money-china-has-built-worlds-largest

[13] China Turns to $503 Billion Rail Expansion to Boost Growth, Bloomberg, https://www.bloomberg.com/politics/articles/2017-06-08/china-seen-loosening-screws-on-south-korea-over-missile-shield

[14] China Real Estate (Warehouse) Sector, DBS Group Research, https://researchwise.dbsvresearch.com/ResearchManager/DownloadResearch.aspx?E=cebackhag

In addition, e-commerce providers are offering food items, often imported from overseas, for sale online.

China's E-Commerce Market

China's e-commerce market is big, growing at double-digit rates annually. Goldman Sach's estimates 2016 Chinese e-commerce sales at $750 billion and will grow at a compound annual growth rate (CAGR) of 23% through 2020.[15] Nearly 25% of sales are apparel, footwear and accessories. Another 20% is electronics and appliances where JD.com and Alibaba's Tmall (the two main e-commerce providers in China) each have a 40% share.

China's existing express delivery market has not been able to support the growing demand for e-commerce and it still struggles with the country's e-commerce volumes. According to some estimates there are over one million couriers in China. Much of the Chinese delivery business depends on partners and a large fleet of couriers. For example, ZTO Express operates through 7,700 network partners and has 26,000 direct employees in China and more than 200,000 across its entire network. In comparison, UPS has 444,000 employees worldwide and 6,194 employees in China. In terms of infrastructure, UPS has 228 operating facilities in China, while ZTO has 74 sorting hubs.[16]

While the market is fragmented, the express market has also been all about the rate, where companies offering the lowest rates usually win the business. This in turn resulted in businesses operating at a loss, low standards and lack of transparency in the delivery process. E-Commerce providers such as Alibaba and JD built their own express delivery/logistics offering in response—extending the brand all the way to the consumer's front door or click & collect location.

Trends to consider are:

- Mobile Commerce (m-commerce) – Alibaba's Singles Day shopping festival, the largest shopping day witnessed 82% of Chinese shoppers shopping on their mobile phones.
- Social Commerce – m-commerce is often tied into social networks such as WeChat. WeChat has over 800 million active users, and companies can sell to consumers directly using its built-in payment system.
- Online payment – WeChat's payment system along with Alibaba's Alipay are providing alternative means of payment for some consumers that have relied on cash on delivery (COD) or hesitant in using credit cards.
- The growth of cross-border e-commerce – A recent DHL report estimates that cross-border e-commerce will grow at a 25% CAGR through 2020 from $300 billion in 2015 to $900 billion in 2020, twice the pace of domestic e-commerce growth.[17]

To encourage e-commerce and in particular the growth of cross-border e-commerce, the national government introduced e-commerce pilot zones. Several cities throughout China including Ningbo,

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[15] Chinese Ecommerce Market Pegged at $1.7 Trillion by 2020, Multichannel Merchant, http://multichannelmerchant.com/news/chinese-ecommerce-market-pegged-1-7-trillion-2020/

[16] For Couriers, China's Ecommerce Boom can be a Tough Road, New York Times, https://www.nytimes.com/2017/01/31/business/china-courier-delivery-labor.html

[17] 21st Century Spice Trade, DHL, http://www.dhl.com/content/dam/Campaigns/Express_Campaigns/Local_Campaigns/apem/express_campaign_spice_trade_apem_en.pdf

Shenzhen and Guangzhou were designated import e-commerce pilot zones. A white paper from Stanford's Graduate School of Business describes them as thus:[18]

> *Each zone has an online e-commerce platform operated by state-back or licensed companies through which all cross-border transactions related to that zone take place. Qualified e-commerce companies can set up a bonded warehouse within the e-commerce zone where goods can be temporarily stored after they were shipped in bulk from abroad. Tariff payments are made after goods are sold to consumers and leave the zone. Foreign merchants can use a direct shipping approach and shipped directly to Chinese consumers after they have placed the orders. Customs duties are charged together with the price at the time of ordering and orders are shipped to the customer directly from the foreign country under the supervision of China Customs. Goods sold through the pilot zones go through an expedited customs process. In May 2015, a policy was implemented in which customs clearance procedures are to be completed within 24 hours once goods enter local customs*.

China's Leading e-Commerce Providers

Combined, Alibaba and JD.com command well over 80% of China's e-commerce market. Amazon's portion is about 1% to 3%. In terms of logistics, Alibaba and JD.com have each created a unique network. JD.com has built their network, similar to that of Amazon's, while Alibaba has created partnerships through its Cainiao subsidiary. Together, these providers have redefined logistics within China and are on their way to doing the same beyond China's borders as each establish partnerships outside of the country and build out cross-border capabilities.

To understand China's e-commerce and logistics markets, one must look at each provider individually.

Alibaba

Founded in 1999 by Jack Ma, Alibaba.com let exporters post product listings that buyers could browse. In 2003 Alibaba launched Taobao. By 2005 Taobao overtook its U.S. rival eBay, the previous market leader in the consumer-to-consumer market in China. Alipay.com, a third-party online payment platform, was launched in 2004 and controls control just under half of China's online payment market as of October 2016. Finally, in 2010, Tmall was spun off from Taobao to focus on B2C transactions.

Cainiao Logistics was founded by Alibaba Group in 2013 with a consortium of logistics/property management companies including:

- Alibaba
- Yintai
- Fosun
- Forch
- SF Express
- STO Express

[18] US to China B2C E-Commerce: Improving Logistics to Grow Trade, Stanford School of Business, https://www.gsb.stanford.edu/sites/gsb/files/publication-pdf/vcii-white-paper-us-china-ecommerce-imrpove-logistics-grow-trade.pdf

- Yunda Express
- ZTO Express

Alibaba owns about 47% of the subsidiary. Cainiao operates a proprietary logistics information platform that links a network of logistics providers, warehouses and distribution centers together. Domestically, it manages last mile delivery, fulfillment and a data intelligent network among express couriers. It is also expanding pick-up spots where consumers can collect their orders. Some 20,000 are already operating and the company plans more on college campuses, in communities by partnering with real-estate companies like Greentown and Vanke, and in convenience stores.

From an international perspective, it has established warehouses in several countries to support Alibaba Group's cross-border e-commerce efforts. Delivery channels have been opened between China and the U.S., China and Australia, and China and Korea in partnerships involving companies such as DHL and Shanghai YTO Express (Alibaba has invested in this Chinese express provider).

Domestic fulfillment capabilities include seven regional hubs with a total of 4 million square meters in operation. Same day delivery is available in at least 150 counties and cities and next day delivery is available in at least 1,000 counties and districts. Among its smart supply chain services includes:

- Omnichannel[19]
- Online warehousing and inventory management
- Supply chain financing
- Data analytics

Cainiao's data intelligent network provides a variety of services including standardizing addresses, e-shipping labels, real-time status updates, smart routing and real-time package volume forecasting for distribution hubs and routes. Customers are also allowed to rate delivery service providers.

The majority of Alibaba's revenue is from domestic China. As it connects Tier 1 cities with smaller cities and the rural regions, it is also focusing on omnichannel. In 2015, Alibaba invested $4.6 billion in Sunning, one of the largest electronics retailers in China. The investment will allow Alibaba's customers to go into one of Suning's 1,600 outlets in China to try out a product before purchasing it on Alibaba's website using their smartphone. In addition, Sunning joined Alibaba's distribution network to deliver goods in as little as two hours. Earlier this year, Alibaba invested in Intime which operates 29 department stores and 17 shopping malls across urban China.

Using China as a springboard, the company has established partnerships with post offices around the world including USPS, Royal Mail and Australia Post. These partnerships have been established to drive cross-border services for Chinese consumers to shop and sale internationally.

Cross-border is important and recent press indicates that Alibaba is looking to establish warehouses along the Silk Road rail network to speed up delivery. In addition, in 2016, it acquired e-retailer, Lazada, an 'Amazon' like player that just happened to have a nice logistics network in Southeast Asia. Using this acquisition along with Singapore Post which it has an equity stake in, Alibaba wants to dominate Southeast

[19] Omnichannel refers to the linking of physical stores, online stores, and mobile.

Asia, a region with great potential.

Acquired by Alibaba in 2010, OneTouch provides Chinese exporters with online services such as customs clearance, trade financing, foreign exchange and logistics. Free for exporters, OneTouch makes its profit by marking up loans, 10%, to businesses that need to purchase materials they need to produce an order for export. In addition, the businesses also must find an affordable shipping company, monitor shipments and file the proper documents for customs clearance.

Through OneTouch, loans are made possible by it partnering with at least seven Chinese banks. Through the platform, SMEs can borrow from RMB 1 million (US$161,000) up to RMB 10 million (US$1.61 million) depending on company's prior six-month export history and creditworthiness.

Determining the creditworthiness of a business is done through the data Alibaba gathers through the platform. For example, Alibaba pays subsidies to encourage Chinese suppliers to use OneTouch. As part of these subsidies, manufacturers and suppliers are paid up to 0.03 Yuan for every $1 in value of export transactions handled through OneTouch. Furthermore, payments are settled electronically within the system with logistics companies having access to exporters' payment histories and other information provided by Alibaba to help determine creditworthiness.

According to Alibaba, in 2015 more than $3 billion in credit was extended to suppliers registered. That, in turn, encouraged global buyers to place more than 1.2 million orders through the company. "Online trading value on OneTouch totaled $15 billion in 2015, and we expect it will total $50 billion this year," noted the President of the Alibaba business unit. Since 2014, when the program started, more than 100,000 suppliers have benefited from the program's credit facility.

Currently there are more than 100 logistics companies and 1,700 freight forwarders offering their services through Alibaba Group's international B2B site including DHL, FedEx, UPS, Kuehne + Nagel and WCA Ltd. WCA which is a network of freight forwarders worldwide will vet and approve international logistics providers and freight forwarders for Alibaba.com customers. The collaboration currently offers shipments generated by Alibaba.com's members to the U.S., India and the U.K.

In addition, ocean carriers Maersk and CMA CGM have also signed onto the OneTouch platform. For CMA CGM, the carrier will provide export services within its Mediterranean and Adriatic port of calls including Barcelona, Valencia, Trieste and Rijeka. For Maersk, bookings will be made on select routes including AE1, AE5 and F3 between five Chinese ports and eight overseas destination ports.

JD.com

Founded in 1998, its B2C site went live as jdlaser.com in 2004. By 2007, it was known as 360Buy before finally changing its name to JD.com in 2013. Unlike Alibaba, JD.com has invested heavily in its own fixed assets such as warehouses and delivery trucks. As of March 31, 2017, it had 256 warehouses, 6,906 delivery stations and pickup stations and 7 fulfillment centers. Total aggregate warehousing space is 5.8 million square meters. In addition, JD.com standard provides same-day delivery in more than 130 counties and districts, and standard next-day delivery in another 850 counties and districts across China.

JD.com also is planning to invest in a drone delivery network of hundreds of routes and drone bases throughout China. Its drones will deliver products weighing as much as a metric ton, or about 2,200 pounds, or more and will target deliveries to more rural areas of the country's northern Shaanxi Province. It already operates 40 drones in four provinces —Beijing, Jiangsu, Guizhou and Sichuan.

In 2015, JD Daojia, JD.com's O2O platform (Online-to-Offline), established a partnership with Yonghui, a supermarket chain in China. As of February 29, 2016, JD Daojia has partnered with 56 Yonghui stores in 5 cities to provide 2-hour delivery service for customers' grocery orders. In total, JD Daojia provides O2O services in 12 major cities across China. However, despite expansion progress, the company concedes the lack of standardization of fresh food packaging is an issue and as such it is working with its supermarket partners to improve this in order to fulfill fresh food items more effectively.

Also in 2015, JD.com invested $70 million in FruitDay, a Shanghai-based importer of fresh produce. FruitDay, which already sells fresh fruit on JD.com, announced it would use the funds to build out additional infrastructure to store, ship, and track fresh produce.

In 2017, JD.com officially launched JD Logistics to provide business partners with comprehensive supply chain solutions, including warehousing, transportation, delivery, after-sales services as well as logistics services, including smart and cross-border logistics.[20] Looking out within the next five years, JD Logistics plans to expand its logistics facilities to more than 50 million square meters, build a trans-regional aviation logistics network and operate more than 20 self-run overseas warehouses—as well as cover over 100 countries and regions along the Belt and Road Initiative, with its B2B logistics covering more than 300 cities.

Like Alibaba, JD.com has international aspirations. In 2015, it expanded to Russia via a partnership Russian logistics operator SPSR Express. JD.com plans to develop its own logistics and warehouses in the future. Meanwhile it says five days as the minimum time for delivery.

In 2016, JD.com bought Wal-Mart's Yihaodian local shopping platform. As of February 2017, Walmart has taken a 12.1% stake in the Chinese e-commerce provider. In addition, Walmart plans to close its own ecommerce mobile app in China. JD.com will also serve as the online shopping platform for 20+ Walmart stores in China.

The agreement gets even cozier between the two retailers as Walmart's Sam's Club entered the Chinese market in late 2016 with plans to stock merchandise in JD's warehouses and use JD's same- and next- day delivery service. In addition, Walmart Stores will also utilize JD's two-hour delivery service for orders placed JD Daojia, JD.com's grocery business in select Chinese cities.

After it announced a good first quarter earnings, JD.com officially launched JD Logistics. Long in the works and waiting for the green light from the Chinese government, this new business unit will offer integrated supply chain solutions such as warehousing, transportation, delivery and after-sale services, to e-commerce sellers and other companies. Additionally, JD.com plans to invest more heavily in logistics automation, including automated warehouses and drone deliveries.

Imagine the international logistics network that JD can build using Walmart's existing stores and distribution/transportation network in the US—and quite possibly in Mexico and the UK as well—and

[20] JD.com Unveils new Logistics Services Arm, 4-Traders.com, http://www.4-traders.com/JD-COM-INC-ADR-16538052/news/JD-com-unveils-new-logistics-services-arm-24267990/

connect it all to China and perhaps Indonesia/Southeast Asia. This would benefit not only JD but also Walmart, which has also struggled with international growth.

Like Alibaba, JD.com is looking towards Southeast Asia for expansion. In May, it was reported in several publications that it was in talks to invest in Indonesia's PT Tokopedia, its largest online marketplace. There has been no confirmation of discussions.

US Logistics Providers with a Presence in China

Forwarders and 3PLs

Much of the focus for US logistics providers remains on international transportation and customs brokerage assistance. They also tend to follow customers to China. Barriers to entry for foreign non-asset based forwarders and 3PLs are low. In 2014, China's Ministry of Transport, as part of its decentralization initiatives, transferred its administrative licensing authority for non-vessel operating common carrier (NVOCCs) to individual provincial transport departments. The differences between forwarders and NVOCCs are minimal.

Expeditors International of Washington began operations in the 1980s focusing on the China-US trade lane. Today, this remains their largest trade lane in terms of revenue and volume. Since its beginnings, Expeditors has expanded services to include warehousing and transportation services within China.

C.H. Robinson's acquisition of Phoenix International in 2012 gave it a presence in China trade. Like Expeditors, Phoenix is a highly-respected forwarder that focuses on the US-China trade lane.

XPO Logistics' acquisition of Con-Way and primarily its subsidiary Menlo Logistics gave the large third party logistics provider (3PL) a small presence in China. In 2007, Menlo Logistics acquired Shanghai-based Chic Holdings Ltd.[21] Menlo gained an established logistics network with over 1,500 employees working from 130 operating sites in 78 cities, providing a wide range of domestic third-party warehousing, logistics and transportation management services throughout the country. In addition, through its acquisition of French logistics provider, Norbert Dentressangle, XPO acquired the former Schneider Logistics freight forwarding group which had a presence in China, thanks to prior acquisitions. Norbert had acquired the operations in 2010.

SEKO Logistics is one of the more interesting 3PLs. It has fully embraced e-commerce and is establishing itself as one of the leading cross-border e-commerce logistics providers. In 2016, it added an additional 100,000 square feet of warehousing and fulfillment capacity in Hong Kong to support retail and high tech cargo owners targeting China's online consumers. Earlier this year, it signed a logistics partnership with Alibaba.

Express Providers (Integrators)

For express providers, FedEx and UPS, China represents a host of opportunities. Each has established a significant presence in the country and provides warehousing, domestic and international transportation,

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[21] Menlo Worldwide Completes Acquisition of Shanghai-Based 3PL Chic Holdings, Canadian Shipper, http://www.canadianshipper.com/transportation-and-logistics/menlo-worldwide-completes-acquisition-of-shanghai-based-3pl-chic-holdings-ltd/1000070917/

value-added warehousing services, freight forwarding, customs brokerage solutions and cross-border e-commerce solutions. Primary customers tend to be international. In 2012, the Chinese government granted both companies' rights to provide intra-China express package services. As of 2014, UPS had 33 licenses in China, while FedEx had a total of 58 licenses. At the time, Stifel Nicolaus analyst David Ross noted, "Even if they get domestic operating licenses, it looks like (highly profitable) document traffic (packages <1 lb) will still be off-limits. Over time, FedEx and UPS, if they can build out domestic China networks, could potentially offer better service at a lower cost, but that would require significant density, and we are a long way away from that, in our view. We believe both companies should continue to grow China import/export business but should remain relatively non-existent in domestic China over the next few years."[22]

It has been a struggle for international express providers such as UPS, FedEx and DHL to operate in China's domestic market. Protectionist moves by the Chinese government favor domestic providers such as SF Express, YTO Express and others. The waiting period for foreign firms to receive approval for domestic licensing is often long. In 2011, German express provider, DHL pulled out of the domestic express market claiming financial losses. Today, the company maintains it has a presence in China's domestic express market but it focuses more on the international express market.

Likewise, US express providers UPS and FedEx are focusing on China's international express delivery market. The current focus for UPS is shortening international transportation with later cut-off times for packages, likely in response to the growth of e-commerce. UPS has also recently signed an agreement with SF Holding, parent company of SF Express. According to the press release, "the joint services offerings combine the strengths of SF's extensive Chinese network, encompassing more than 13,000 service points in the world's largest and fastest growing package delivery market, with UPS's market leading globally integrated network with coverage between more than 220 countries". The joint venture will initially focus on supporting these highly competitive joint service offerings on the China-to-US lane, with planned expansion to markets in the rest of the world. The relationship will expand both companies reach internationally for SF Express and China domestic for UPS.

UPS' acquisition of Marken, a niche clinical trials logistics provider, also bodes well for further growth in China. UPS has established a network of warehousing and distribution facilities in which some offer cold chain capabilities. According to UPS' China fact sheet, it operates 200 weekly flights connecting China to US, Europe and across Asia. Its main air hubs are located in Shanghai and Shenzhen.

FedEx has also expanded its cold chain capabilities in China and through its acquisition of TNT Express, additional clinical trial/pharmaceutical logistics capabilities. FedEx's major air hub is Guangzhou. FedEx Express operates 30 weekly flights between China and the US.

Amazon

Amazon entered China in 2004 through its acquisition of Joyo.com, an online retailer. However, it failed to gain traction in the domestic market thanks to the strong presence of Alibaba and JD.com. Much like other logistics and express providers, Amazon is focusing more on cross-border solutions. In 2015, Amazon

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[22] UPS, FedEx Receive More Licenses for Domestic Express Package Services in China, Logistics Management, http://www.logisticsmgmt.com/article/ups_fedex_receive_more_licenses_for_domestic_express_package_services_in_ch

filed an application with the Shanghai Shipping Exchange that would allow its Chinese subsidiary, Beijing Century Joyo Courier Service, to serve as a shipping broker to countries in Europe, Japan and the United States. A similar application to the US Federal Maritime Commission was filed as well, allowing it to serve as a NVOCC for ocean freight services to other US-based companies that wish to export to other countries.

Amazon also introduced Prime to Chinese consumers that includes free, cross-border shipping from the Amazon Global Store as well as no minimum free domestic shipping. These international orders will be delivered by Amazon fulfillment centers in the U.S. through its global logistics capabilities and Prime members will receive those packages in an estimated 5-9 days in 82 cities. Much of the cargo will travel through China's first FTZ located in Shanghai. In 2014, Amazon signed an agreement with the Shanghai FTZ and Shanghai Information Investment Limited to open its cross-border e-commerce platform within the FTZ.

Post Offices

China Post

China Post Group Corporation, is a state-owned enterprise that operates the postal service, the Postal Savings Bank of China and EMS, its logistics and express service. EMS operates as a complete 3PL offering warehousing value-added services such as parts management, supply chain financing and industry-specific services (e.g., automotive, pharmaceutical and fast moving consumer goods). EMS also operates as a delivery service including air, rail and truck.

The postal group owns about 25 airplanes and has been expanding service not only throughout China but overseas including Korea, India (includes also cold chain) for cross-border e-commerce services. In addition, the postal group has integrated into social media, WeChat, whereby consumers can scan a QR code to pay for items.

USPS

USPS financially struggles to meet certain requirements but it has been innovative in its own right. In the United States, it has established lockers in certain locations as alternative delivery locations. It has also dabbled in grocery delivery services. Parcel volume growth has increased greatly over the years thanks to e-commerce and relationships with UPS, FedEx and DHL to manage some final mile delivery on behalf of these integrators.

In addition, USPS has signed agreements with Alibaba for cross-border cooperation and has partnered with international post offices for international delivery services and it delivers packages to consumers 7 days a week.

Recommendations

- Bottlenecks exist in cross-border e-commerce. As such, it is recommended that the US Customs Border and Control collaborate with US businesses and logistics providers to speed up the process. This would in turn benefit businesses (particularly small to medium-sized businesses) as well as the final customer. Some suggested areas to focus on include:
    - Collaborating with US businesses and logistics providers to improve their

transparency/track and trace capabilities throughout the process.
    - Counterfeits need to be addressed
    - Establish a return process that is not costly
    - The US should establish FTZs or specialized facilities focused on cross-border e-commerce. These facilities can serve as inspection points, speed customs clearance, and provide value-added services such as returns and temporary warehousing
- High-value logistics offerings for specific industries such as pharmaceutical and luxury items – There is a need for skilled logistics providers with specific industry knowledge and experience in logistics handling. As part of China's 13th Five Year-Plan, the government plans to invest in and encourage the growth of the biopharmaceutical industry; specialized warehousing and handling and transportation services will be needed. U.S. logistics companies like UPS and FedEx are well-placed to meet this demand.
- Technology – In its 13th Five-Plan, China has identified the creation of "smart cities" and "smart supply chains" as a priority. US technology companies could potentially provide consulting and support in this area.
- International vs. Domestic - The domestic market is highly fragmented and is typically based on price. Average delivery costs are around $2.00, a rate not sustainable for many foreign competitors. In addition, government support of some Chinese logistics players creates an uneven playing field. Therefore, greater opportunities exist for foreign companies in China's international express delivery market, particularly with providing logistics offerings that benefit the Silk Road initiative.