# Global Third-Party Logistics Market Information Report

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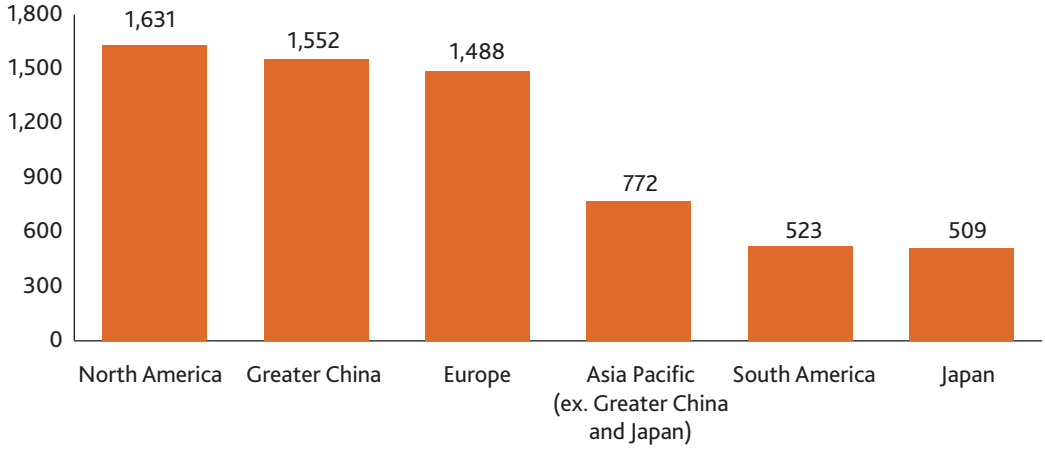
## THE GLOBAL LOGISTICS MARKET

### Logistics Spend Analysis

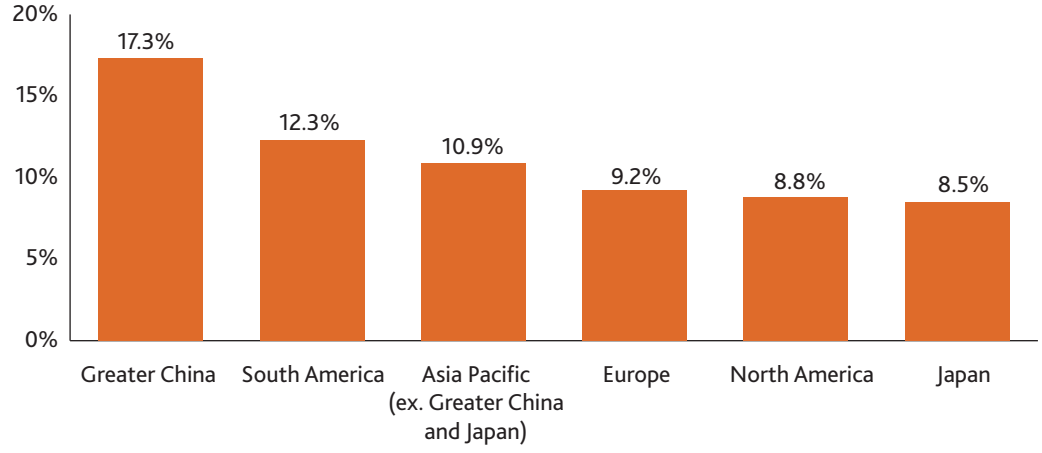
Globally, modern industrially developed and post industrial countries have the lowest relative logistics spend as a percentage of GDP. This is a function of logistics (road/rail/port) infrastructure, the lifecycle deployment of leading logistics practices, and influence of ongoing process improvements.

**2012 Logistics Spend by Major Region (US$ in Billions)**



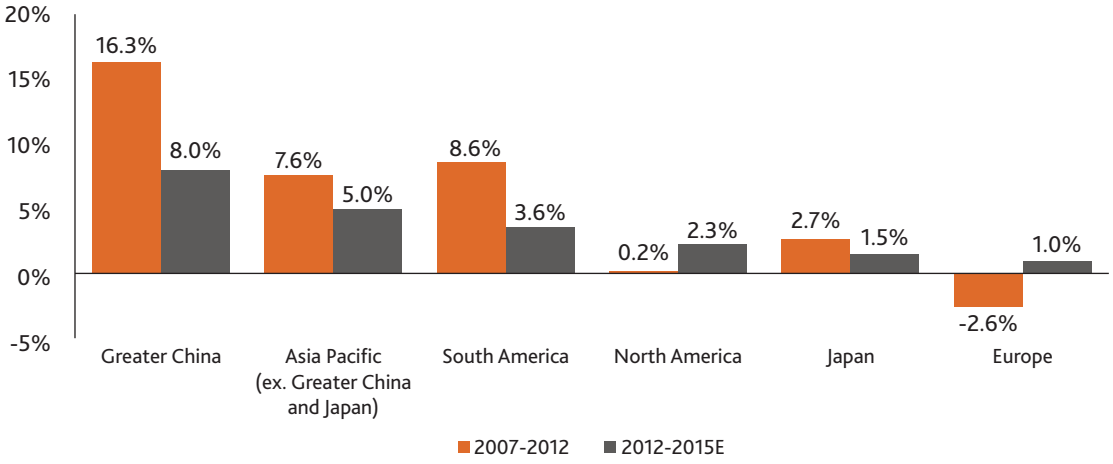

For a single country, China's logistics spend is the highest in the world at US$1.5 trillion per year (in comparison, U.S. logistics spend is US$1.3 trillion) and equivalent to more than half the Asia Pacific region. Globally, the Asia Pacific is the largest logistics market accounting for 34% of total global logistics spend and 36% of 3PL global spend.

**2012 Logistics Spend by Major Region (as a % of GDP)**

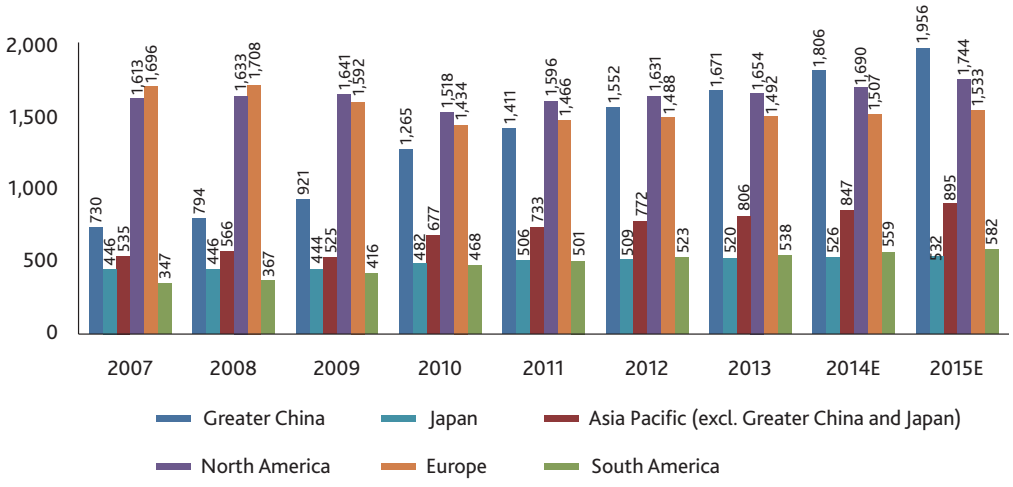



In terms of logistics spend as a percentage of GDP, developing economies normally run 11% to 15%, while Greater China is at 17%. The distribution of logistics spend percentages is similar to that for logistics performance index (LPI) numbers developed by The World Bank.

**Logistics Spend Growth (CAGR by Major Region)**

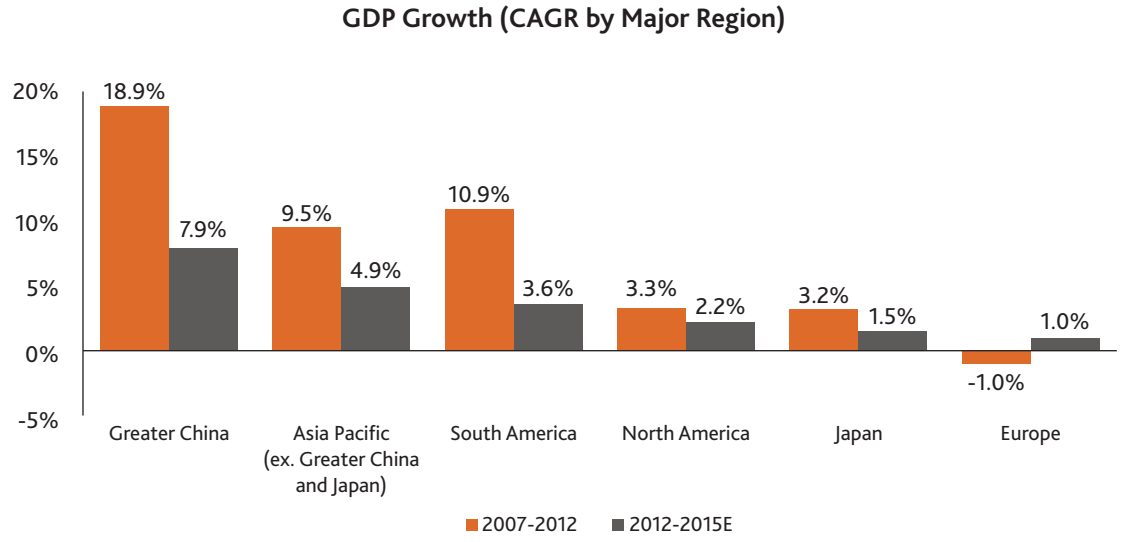



**2007-2015E Logistics Spend by Major Region (US$ in Billions)**



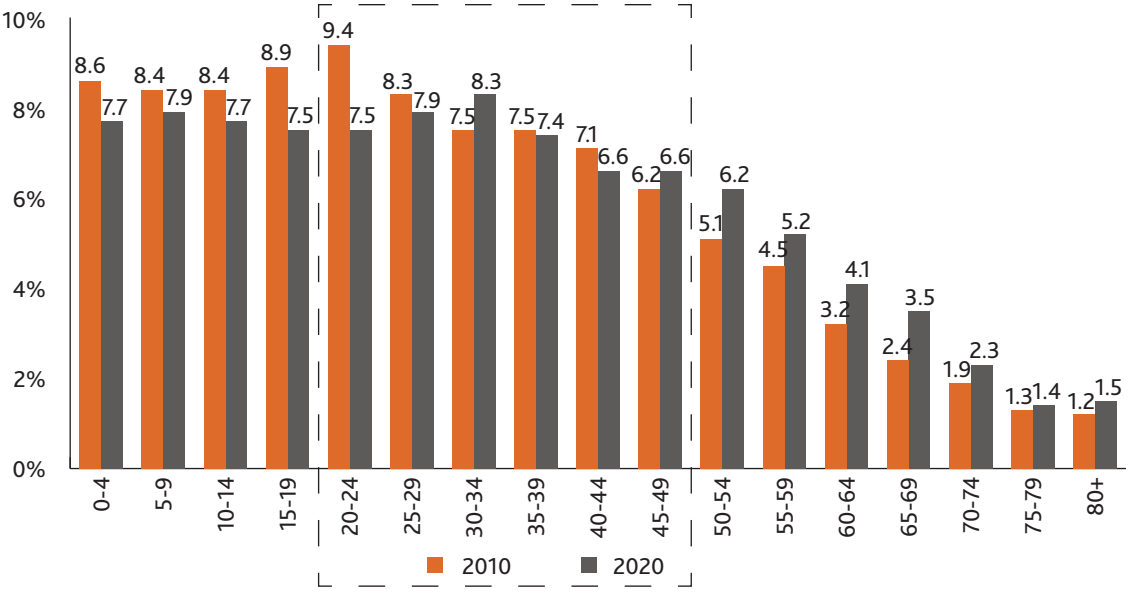

Greater China and the Asia Pacific (excluding Greater China and Japan) are expected to be the fastest growing regions in terms of logistics spend during the period from 2012 to 2015. This will primarily be driven by strong growth in private domestic consumption on general merchandise, including a range of fast-moving consumer goods for daily consumption, as well as luxury items. This growth reflects a number of factors including strong economic growth, encouraging demographics, sustained urbanisation and growth of the middle-class.

**Key Drivers of Greater China and Asia Pacific Growth**




As illustrated in the graph above, Greater China and Asia Pacific (excluding Greater China and Japan) are expected to enjoy the strongest economic growth globally during the period from 2012 to 2015.

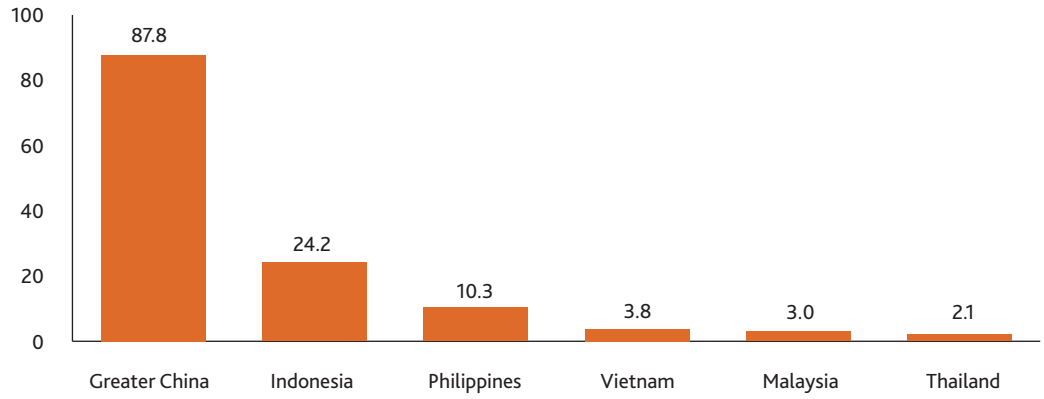
**2010 and 2020 Asia Population Distribution (% of Total Population)**




*Source: United Nations, Development of Economics and Social Affairs*

Economic growth and demand for logistics will be supported by spending momentum from Asia which has a young population. In 2010, approximately 45% of Asia's 4.2 billion people were aged 20-49, an age group that tends to have the highest disposable income and spending capacity. This percentage will remain largely unchanged between 2010 and 2020. Within Asia, China is a key market given its large population and government policies aimed at ongoing economic and infrastructure development to promote internal consumption.

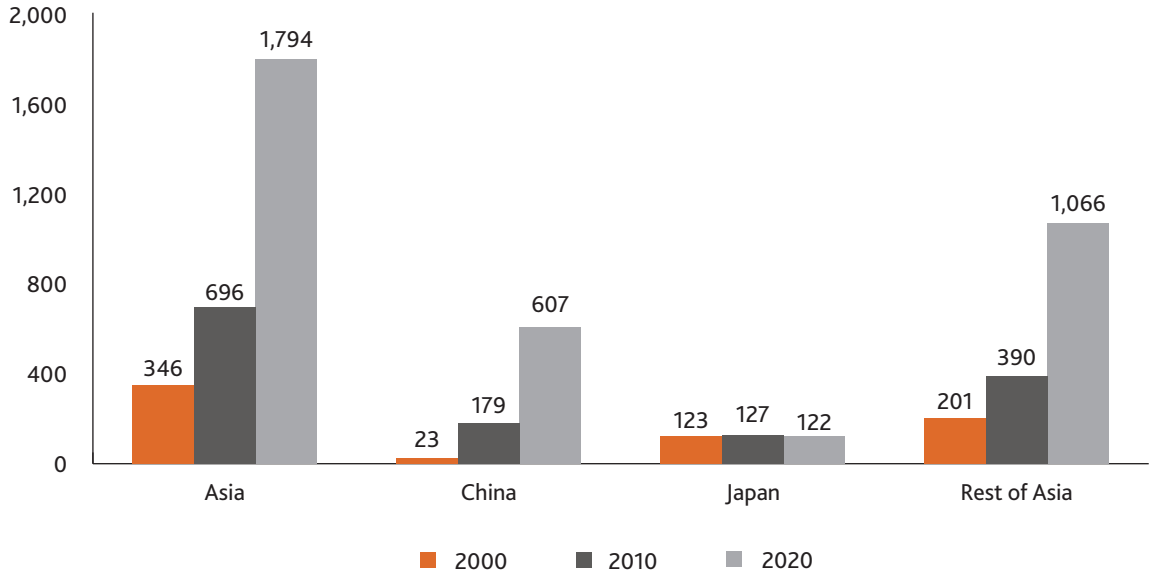
**2012-2017E Growth in Urban Population (Number of People in Millions)**




*Source: EIU*

Economic growth, demand for labor in cities and improvements in infrastructure are expected to drive the ongoing trend to urbanisation in Asia. It is estimated that approximately 87.8 million more people will move from rural to urban centers in Greater China between 2012 and 2017. Other Asian countries are also expected to experience an ongoing migration from rural to urban locations.

**Middle Class Population in Asia (Number of People in Millions)**




*Source: The Boao Review*

*Note:* Middle class is defined as those households with daily expenditure between US$10 and US$100 per person in constant 2005 purchasing power parity terms.

Asia and China have experienced rapid growth of the middle class. In 2000, approximately 346 million people in Asia and 23 million people in China were considered middle class. By 2010, the middle class had grown to 696 million people and 179 million people in Asia and China respectively. Going forward, an additional 1,098 million people will be expected to enter the middle class in China and Asia over the next ten years. This is expected to drive sales volumes in retail markets and increase the number of people who can afford to buy high-end luxury products.

## THIRD-PARTY LOGISTICS (3PL) MARKET

### Overview

Logistics involves the movement and storage of goods between different locations from origin suppliers to intermediate points, and eventually to end users. In the logistics industry, logistics service providers generally focus on two primary service functions transportation by different modes (ground, ocean, air, rail) and warehousing (storage, consolidation/deconsolidation, cross docking).

The breadth of value-added services and capabilities a logistics provider can offer customers differentiates third-party logistics providers (3PLs) from transactional transportation companies and basic warehousing operations. The figure below includes some of the primary 3PL value-added services and capabilities. The major changes since 1995 have been an increase in the complexity and clustering of these services. Several of the largest 3PLs (DB Schenker Logistics, DHL Supply Chain & Global Forwarding, Kerry Logistics, Kuehne + Nagel and UTi Worldwide) offer a wide array of these services to their largest customers.

**Third-Party Logistics Value-Added Services**

The key competitive differentiators between 3PLs include supply chain management systems capabilities, operations management skills, and logistics engineering expertise. Most tier-one 3PLs have implemented integrated systems platforms to support global transportation and warehouse management operations. These platforms offer internet visibility and exception handling capabilities combined with transportation management functionality for the daily management of orders, customer inventory, and the optimisation of thousands of shipments across large geographical areas. The same 3PLs can run value-added warehousing operations, perform supply chain network analysis and design, and manage call center and fulfillment operations. Several 3PLs have expanded their global scope to provide significant coverage, often via acquisition, and integrating operational pieces they have is a significant initiative.

**Select 3PL Acquisitions (US$ Millions)**

| Target Company | Acquirer | Acquisition Date | Purchase Price | Target Company Yearly Revenue | Target Company EBIT or EBITDA | EBIT* or EBITDA** Multiplier |
|---|---|---|---|---|---|---|
| American Backhaulers | C.H. Robinson Worldwide | 12/1999 | 100 cash/ 36 stock | 280 | 13 | 10.5* |
| Tibbett & Britten | Exel | 12/2004 | 598 | 2,600 | 87.9 | 6.8** |
| Ozburn-Hessey Logistics | Welsch, Carson, Anderson & Stone | 6/27/2005 | 396 | 302 | 43 | 9.2** |
| BAX Global | Deutsche Bahn | 1/31/2006 | 1,210 | 2,734 | 113 | 10.7* |
| Barthco International | Ozburn-Hessey Logistics | 7/7/2006 | 90 | 120 | 10 | 9* |
| Jacobson Companies | Oak Hill Capital | 6/1/2007 | 500 | 375 | 45 | 11** |
| EGL | Apollo Management/CEVA | 7/2007 | 2,200 | 3,200 | 152 | 14.5** |
| Geodis | SNCF | 7/1/2008 | 1,735 | 7,043 | 181 | 9.6* |
| Express Logistics Group | Toll Holdings | 10/23/2009 | 45 | 113 | 5.6 | 8* |
| Summit Logistics International | Toll Holdings | 2/2/2010 | 70.3 | 261 | 7.6 | 9.3** |
| ATC Technology Corporation | GENCO Distribution System | 7/2010 | 512.6 | 476 | 77.7 | 6.6** |
| Total Logistic Control | Ryder | 12/31/2010 | 200 | 250 | 36 | 7** |
| TDG | Norbert Dentressangle | 3/2011 | 320 | 1,100 | 55 | 5.8** |
| Exel Transportation Services/Mode Transportation | Hub Group | 4/4/2011 | 83 | 717 | 4 | 20.8* |
| Caterpillar Logistics Services | Platinum Equity | 5/11/2012 | 700 | 660 | 60 | 11* |
| Turbo Logistics | XPO Logistics | 10/24/2012 | 50 | 124 | 6.2 | 8* |
| Phoenix International | C.H. Robinson Worldwide | 11/1/2012 | 635 | 807 | 50.8 | 12.5** |

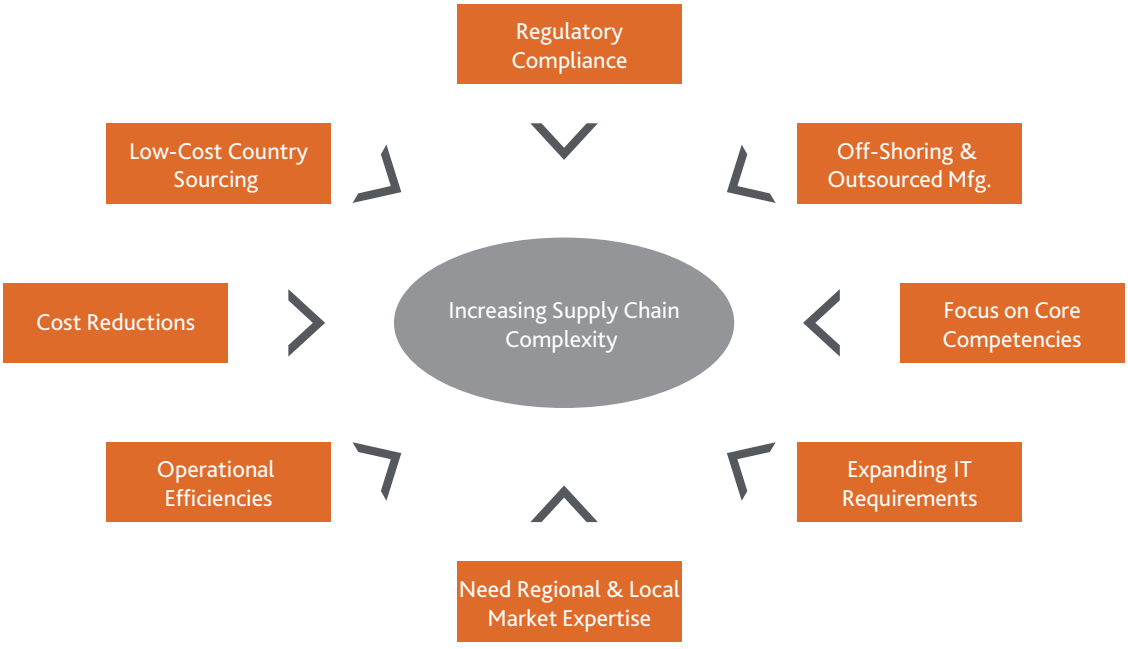
*Source: Primary, Company Information; Secondary, Armstrong & Associates, Inc. Estimates*

Key to this report is a basic understanding of International Transportation Management (freight forwarding) and Value-Added Warehousing & Distribution 3PLs.

International Transportation Management (ITM) 3PLs have a core competency in freight forwarding and often offer a host of additional value-added services. They traditionally act as intermediaries arranging for international and related domestic transportation between their customers and transportation providers. ITM 3PLs arrange and oversee all aspects of the transportation of products and materials, from origin to destination, by ground, ocean, air and rail. An ITM 3PL will typically arrange to pick up goods from a shipper, consolidate shipments, procure transportation, and provide ancillary value-added services including preparation and submission of documentation, customs and other clearance processes, and warehousing and auditing of shipments. In addition, they will have systems for tracking and tracing shipments and automating processes with customs officials. Typically, ITM is non-asset based.

Value-Added Warehousing & Distribution (VAWD) 3PLs manage customers warehousing and related transportation management needs. These services are typically performed under multi-year contracts in which the 3PLs systems and staff take over responsibility of critical logistics functions. Responsibilities often include managing and optimising warehousing operations, transport routes and providers-whether inbound, outbound or dealing with aftermarket returns-kitting and sequencing unassembled parts, providing support during manufacturing, picking and packing finished goods, and providing quality control and other value-added services. Our European colleagues tend to lump the VAWD and related outbound transportation into "contract logistics", and Kerry Logistics refers to it as "integrated logistics". Traditionally, this 3PL segment is asset-based.

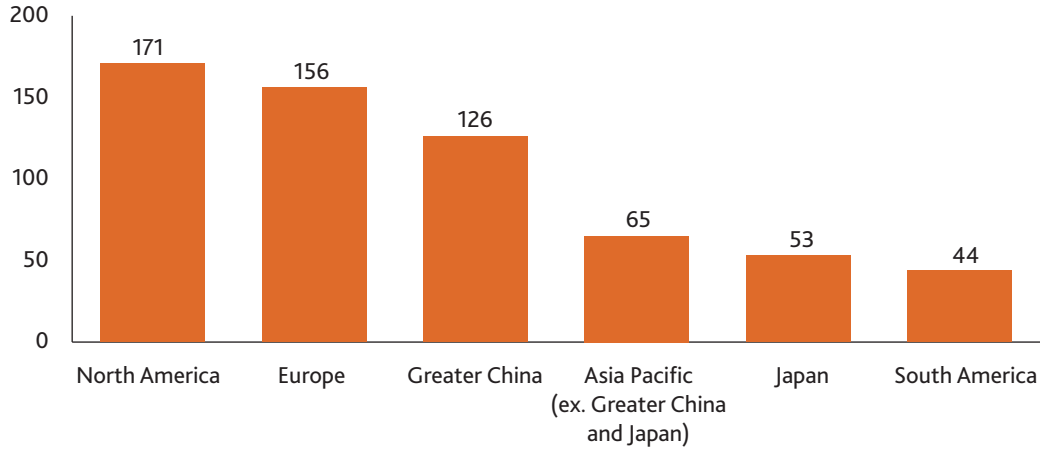
**The Key Drivers of 3PL Market Growth**



Traditionally companies outsourced functions to 3PLs in order to reduce costs, gain operational efficiencies, and focus on core competencies in manufacturing. Starting in the early 1990s there was a significant increase in off-shoring of manufacturing operations and a shift from domestic supply chains with domestic logistics management needs to global supply chains with international logistics needs. Doing business globally is more complex and requires increased regional and local market expertise in managing transportation and warehousing, and adhering to governmental regulations. These increases in supply chain complexity have driven many companies to engage the help of 3PLs as logistics and regulatory specialists. In turn, 3PLs with expertise in international transportation management and warehousing & distribution are providing economies with the operational "backbone" for global trade.

**3PL Revenue and Growth Rates Analysis**

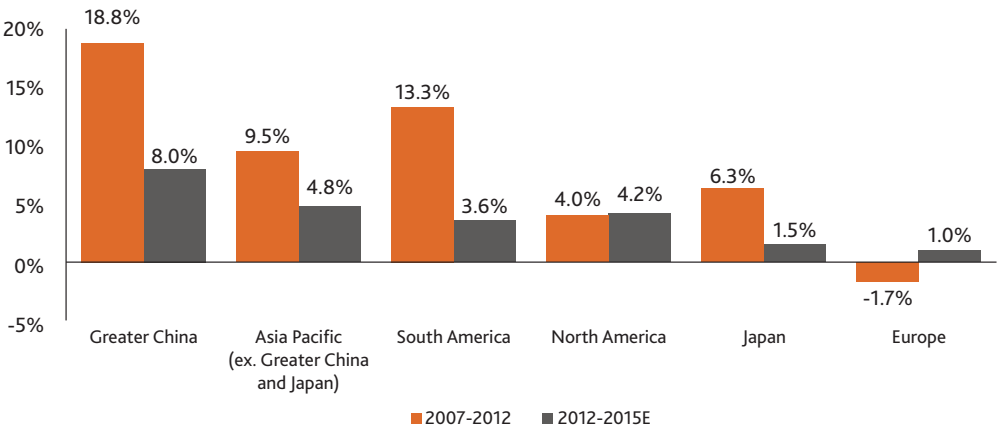
**2012 3PL Revenue by Major Region (US$ in Billions)**



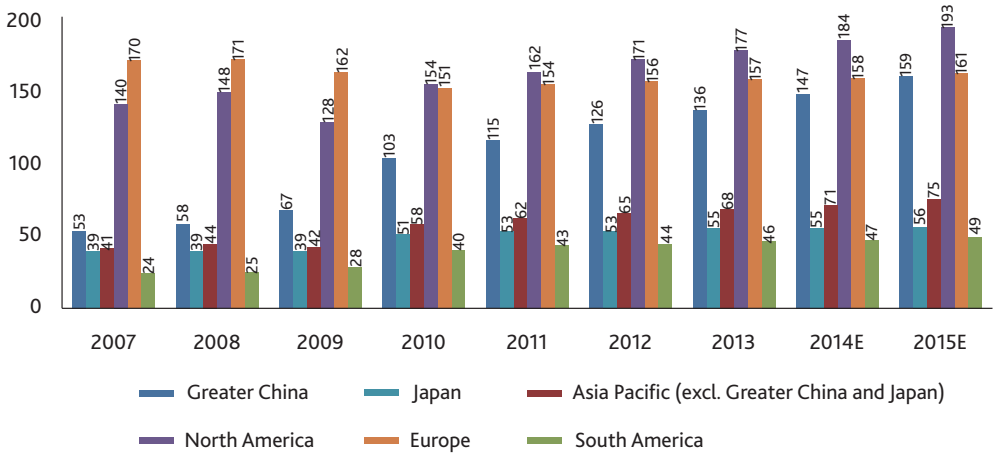

Europe continues to fluctuate in and out of recession with ongoing economic austerity which is negatively impacting its output. Based upon its 2012 regional revenue, we estimate that 3PLs operating in the Europe region have penetrated 22% of the total potential market, so the trend to outsource logistics functions to 3PLs continues to provide for growth over and above the overall economy. The best Europe-based 3PLs have made acquisitions to globalise their operations and participate in developing and developed markets with higher rates of growth.

North America is benefiting from a slowly improving U.S. economy with increasing manufacturing levels, the near-shoring of some manufacturing to Mexico, and newly addressable oil and gas operations in Canada and the U.S. Consumers in the U.S. bounced back from the great recession of 2009 and started to spend more. All of these factors are driving a slightly improved 3PL market.

**3PL Revenue Growth (CAGR by Major Region)**

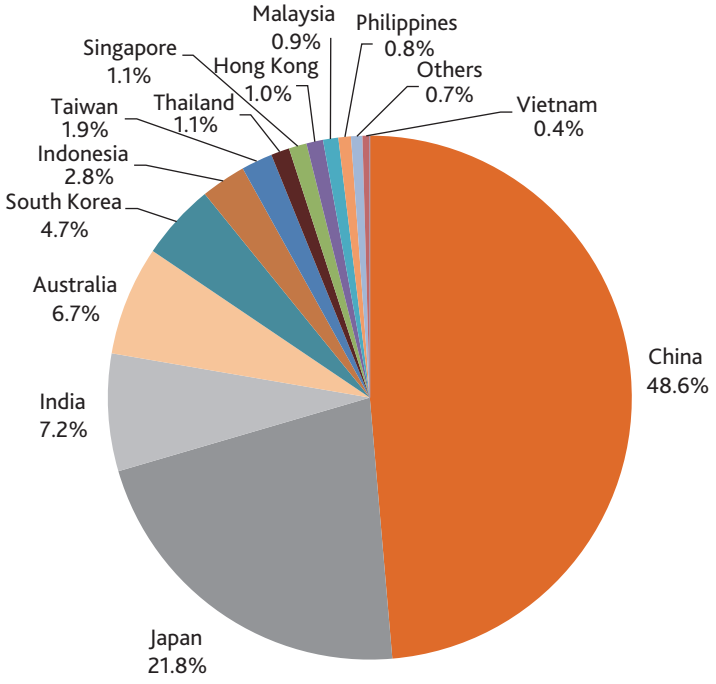



**2007-2015E 3PL Revenue by Major Region (US$ in Billions)**




The geographic region with the highest 3PL revenue spend and the highest 3PL growth rates is the Asia Pacific, where the growth has traditionally been driven by companies outsourcing or off-shoring manufacturing to lower cost countries. While this trend still continues in Myanmar, Malaysia, Indonesia, Vietnam, Cambodia, and to a lesser extent in China, Thailand, the Philippines, and Singapore, increasing domestic consumption and demand for products are driving the need for modern distribution networks in the Asia Pacific region. The emphasis is shifting away from export trade and ocean or air freight forwarding to intra-regional ground distribution. 3PLs providing value-added warehousing and distribution services in these countries are experiencing significant growth.

**2012 Asia Pacific 3PL Revenue Breakdown (%)**

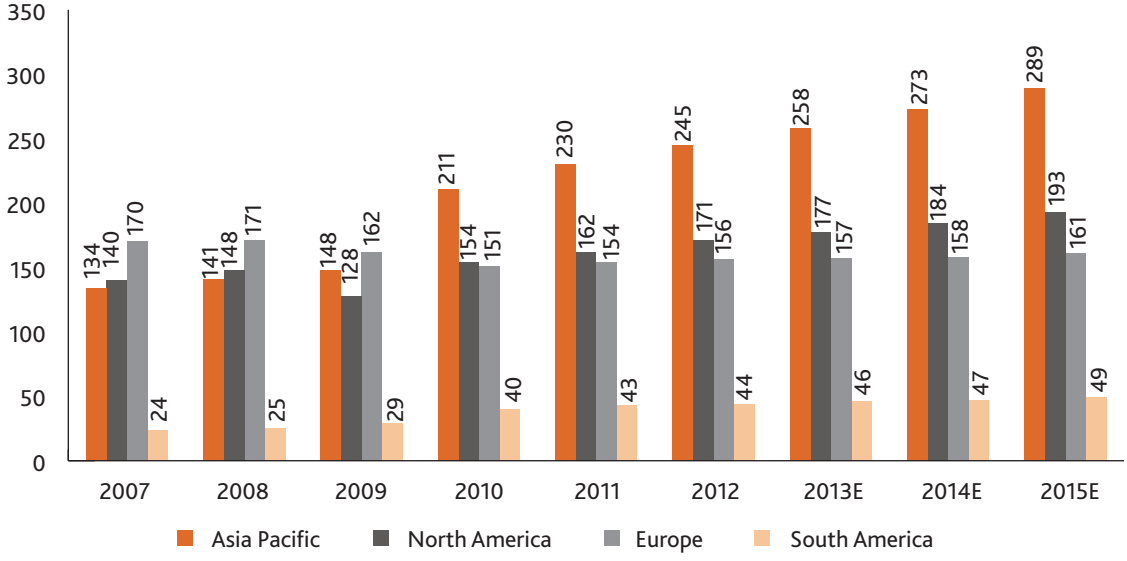



The graph above shows the 3PL revenue by Asia Pacific countries in 2012. As demonstrated, China accounts for 48.6% of all Asia Pacific 3PL revenues.

Our estimate of 3PL penetration of the total potential U.S. 3PL market is 21%, up from 10% in 2002. This compares to current 3PL market penetration rates of 22% in Europe and only 16% in the Asia Pacific. As a result, the underlying structural market dynamics are good and will support the trend for continued outsourcing to 3PLs in Asia. In combination with its above-average economic growth, we anticipate Asia to continue to realise above-average growth rates for third-party logistics.

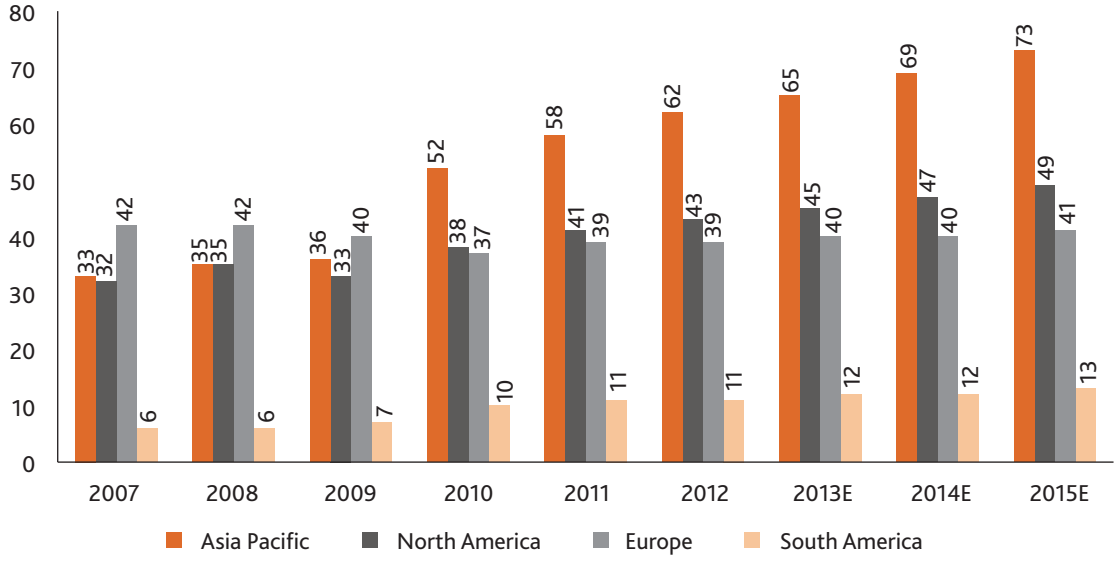
**Major Region 3PL Market Growth Trends**

**3PL Revenue by Major Region (US$ in Billions)**



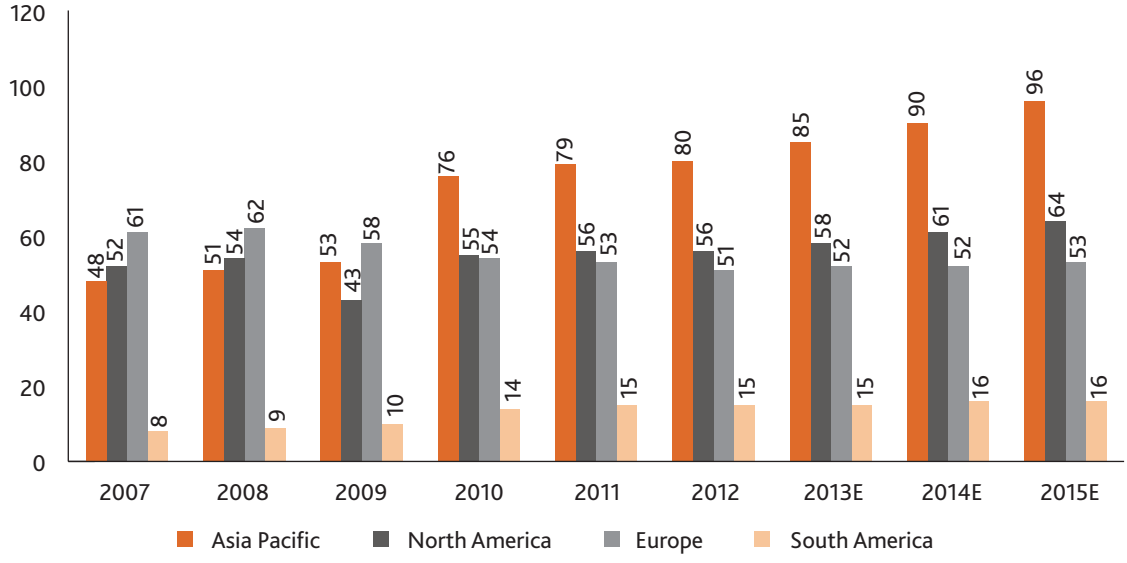
In 2012, the Asia Pacific 3PL market, at US$245 billion was 40% larger than the 3PL markets in North America and Europe. We estimate that it will surpass US$289 billion in 2015. When we look at regions for future 3PL market growth through 2015, the chart above highlights the Asia Pacific with a projected above-average compound annual growth rate of 10.1% from 2007 through 2015E. Its growth exceeds North America at 4.1%, South America at 9.4%, and Europe which is in decline with a rate of -0.7%.

**Value-Added Warehousing & Distribution Revenues by Major Region**
**(US$ in Billions)**




Within the specific 3PL market segment of Value-Added Warehousing & Distribution (VAWD), the Asia Pacific VAWD market grew to US$61.6 billion in 2012 and will surpass US$73 billion in 2015. With increased regional and interregional consumer demand for goods, VAWD is the fastest growing 3PL segment within the Asia Pacific. Segment growth through 2015, has the Asia Pacific with a projected above-average compound annual growth rate of 10.4% from 2007 through 2015E. Furthermore, its VAWD growth exceeds North America at 5.4%, South America at 10.4%, and Europe which is in decline with a rate of -0.3%.

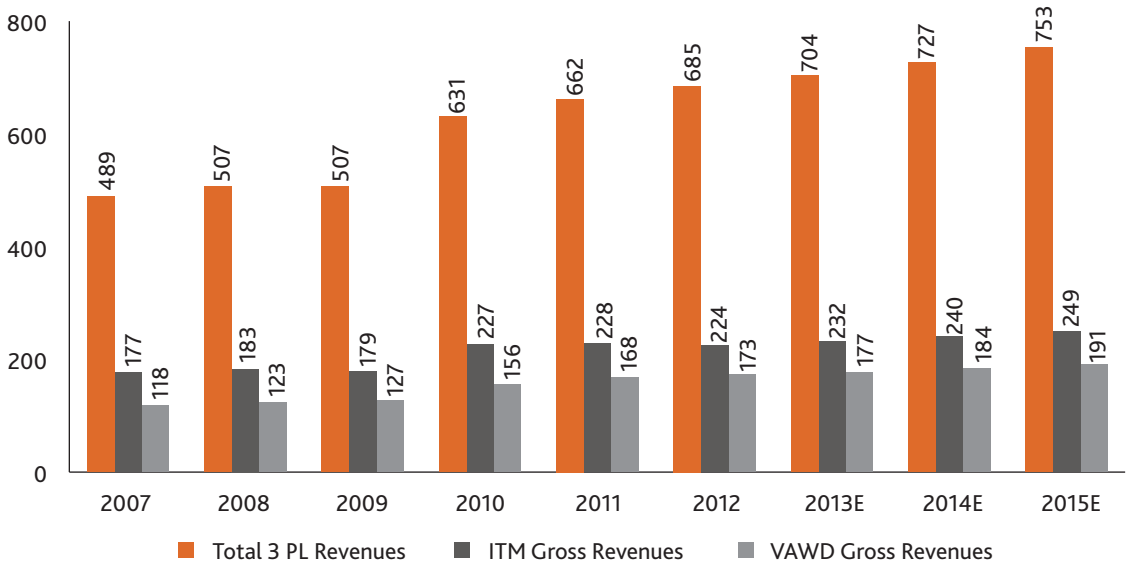
**International Transportation Management Revenue by Major Region**
**(US$ in Billions)**



International Transportation Management (ITM) is the 3PL segment focused on freight forwarding activities from point of origin to the point of delivery. It often includes significant pieces of domestic ground transportation in conjunction with international air or ocean freight moves.

In the Asia Pacific, ITM grew to US$80 billion in 2012 and will surpass US$95 billion in 2015. Even with more recent moderate growth in exports from Asia to the U.S. and Europe, the Asia Pacific has a projected above-average compound annual growth rate of 9.1% from 2007 through 2015E. Its ITM segment growth exceeds North America at 2.6%, South America at 8.4%, and Europe which is in decline with a rate of -1.8%.

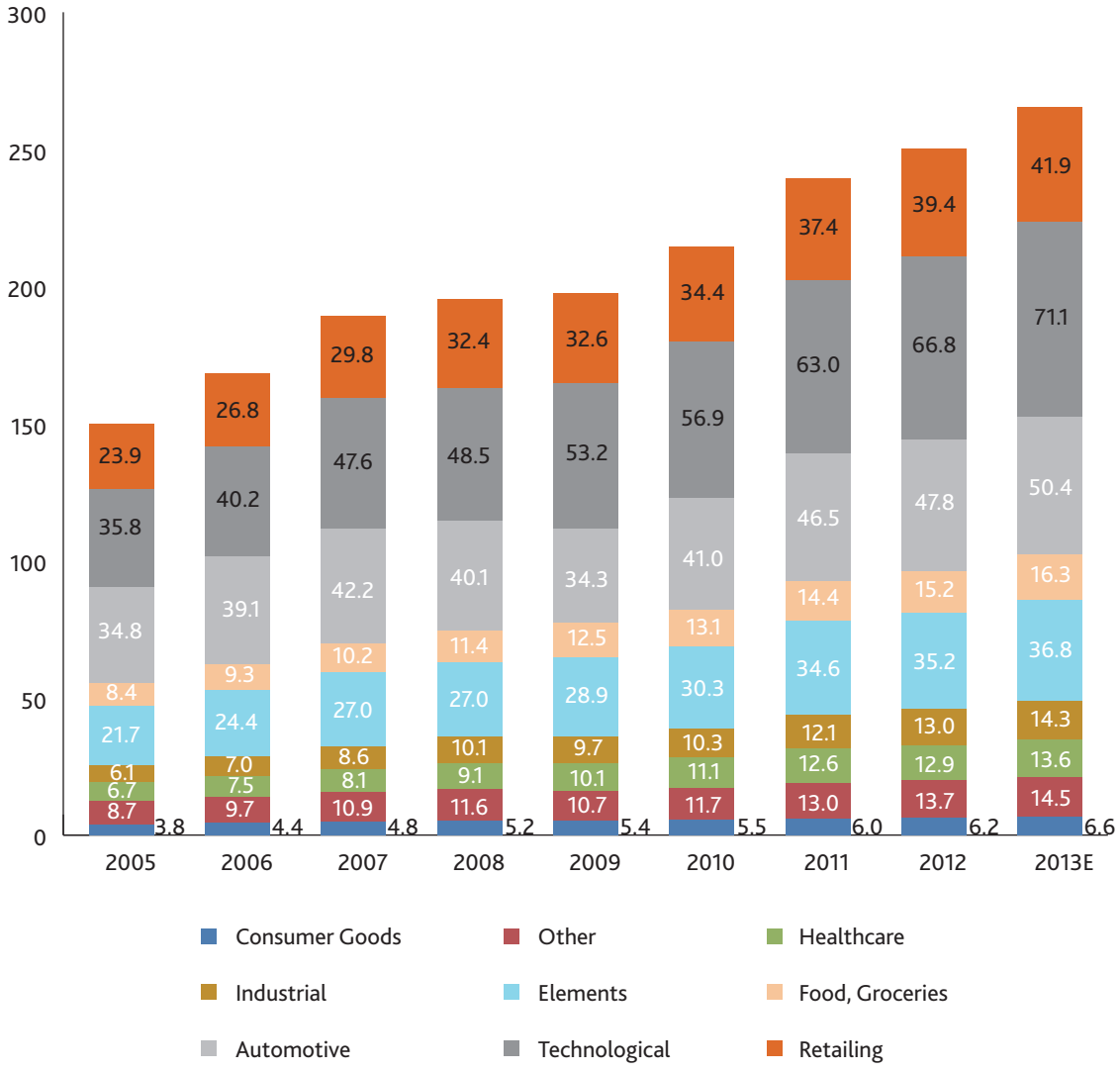
**Total and Segment 3PL Global Revenues (US$ in Billions)**




Our estimate of the 2012 3PL revenues from the Global Fortune 500 is US$250.2 billion, a 67% increase from 2005. For 2012 these companies accounted for 37% of the US$685.1 billion global 3PL market.

In the Asia Pacific, third-party logistics has been growing at over 14% annually since 2006. Throughout the 1990s and early 2000s, the growth tended to be ITM (freight forwarding) focused. However, in the last five years there has been increased focus on domestic distribution (VAWD) to address consumer spending growth and the resultant demand for goods in developing countries including China, Indonesia, India, Singapore, and Thailand.

3PL Gross Revenue by Industry 2005-2013E – Fortune 500 Global (US$ in Billions)




Compound Annual Growth Rates by Industry for the Fortune 500 Global

| Major Industry | 2005-2012 CAGR | 2005-2013E CAGR |
|---|---|---|
| Industrial | 11.4% | 11.1% |
| Healthcare | 9.7% | 9.3% |
| Technological | 9.3% | 8.9% |
| Food, Groceries | 8.9% | 8.7% |
| Retailing | 7.4% | 7.3% |
| Consumer Goods | 7.2% | 7.0% |
| Elements | 7.2% | 6.8% |
| Other | 6.8% | 6.7% |
| Automotive | 4.6% | 4.7% |

## PEOPLE'S REPUBLIC OF CHINA LOGISTICS AND THIRD-PARTY LOGISTICS (3PL) TRENDS

China's 12th Five-Year plan approved in March, 2011 includes the following objectives which support third-party logistics market growth:

- To accelerate the establishment of a social, professional, information-based modern logistics system, aggressively develop third-party logistics, prioritise the integration and use of existing logistics resources, support the construction and linking-up of the logistics infrastructure, improve logistics efficiency, and reduce logistics costs.

- To promote agricultural products, bulk mineral products, key industrial areas, and other fields important to the development of logistics.

- To optimise the development of regional distribution systems and support the orderly development of logistics parks and other cluster areas of logistics.

- To promote the development of modern logistics management and improve the sophistication and standardisation of logistics.

In developed countries such as the U.S., Hong Kong, Japan, and Singapore transportation infrastructure is relatively homogenous allowing goods to be efficiently transported throughout the country. By contrast, China's vast disparity in the quality of urban versus rural transportation infrastructure makes managing logistics more complicated and costly.

Without good transportation infrastructure, transportation costs are higher. In addition, warehousing and inventory carrying costs are higher due to the need to maintain higher levels of inventory closer to demand because of longer delivery cycle times.

In the long-term with governmental support, improved road and rail infrastructure should greatly reduce China's overall logistics costs as a percentage of GDP from its current 18% to the 8.5-9% range seen in developed countries. In addition, improved transportation infrastructure will increase asset and labor productivity within large 3PLs such as Sinotrans and Kerry Logistics who already have significant domestic Chinese distribution networks. Less time spent navigating poor roads, or having to utilise alternative transportation modes (sea, inland waterway, air), will improve transportation routings, reduce operating costs, and allow for shorter origin to delivery cycle times. Being able to be quicker to market for retailers, healthcare and other companies will greatly benefit consumers with improved food and grocery product quality, more efficient pharmaceutical and healthcare supply chains, and reduced product shelf times.

By our estimates, there are over 10,000 3PLs operating in China. Many are small and mid-sized providers operating in only one province. As China's 3PL market continues to develop, we anticipate increased mergers and acquisition activity and further 3PL market consolidation. As we have seen in the U.S. and Europe, those large 3PLs with established networks will most likely be the acquirers where they can identify a strategic fit.

## THE GREATER CHINA AND ASEAN LOGISTICS MARKET COMPETITIVE ANALYSIS

### Kerry Logistics Greater China and ASEAN Market Distribution Service Capabilities

In the Asia Pacific, the last five years have seen a shift in focus from an export economy to regional and interregional distribution to address increased consumer spending growth and demand for goods in developing countries including China, Indonesia, Malaysia, Thailand, and Vietnam.

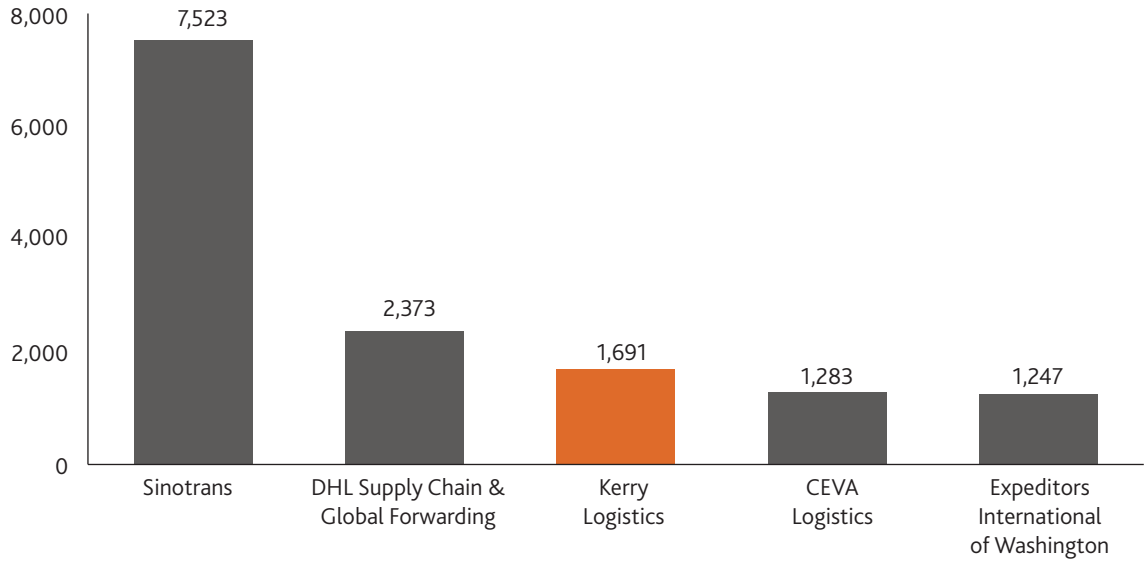
In addition, within these countries, buyers of 3PL services tend to trust providers with their own assets versus contracted warehousing or transportation capacity. This preference has limited the growth of 3PLs who have been unwilling to invest capital in trucking, which accounts for approximately 44% of total logistics spend in Asia Pacific, and warehouses, which accounts for approximately 9% of total logistic spend in Asia Pacific. By comparison, companies such as Kerry Logistics, CEVA Logistics, and DHL Supply Chain & Global Forwarding have experienced significant growth via an asset-based model.

With transportation assets of over 6,000 trucks operating in its Greater China and ASEAN market and 29.3 million sq.ft. of warehouse space as at 31 December 2012, Kerry Logistics has built a significant leading warehousing and distribution footprint. The 29.3 million sq.ft. under management represents the largest warehouse network in Greater China and ASEAN — the next largest are CEVA Logistics, Sinotrans, DHL Supply Chain & Global Forwarding, and Yusen Logistics with 20.0 million, 18.9 million, 17.1 million and 13.1 million sq.ft. respectively. Moreover the majority of its warehousing footprint is owned versus leased which plays well with customers in Asia who tend to trust providers with assets more than those who rely on contracted capacity. As such, Kerry Logistics has built a significant competitive advantage being able to effectively warehouse and distribute product within the region from China to Hong Kong, Vietnam, Thailand, and Singapore. Most of its major competitors have lesser regional distribution capabilities and are often limited to distributing goods within a country, or subcontracting significant volumes of carrier (trucking) capacity to facilitate transportation which decreases the amount of control over end-to-end transportation performance. In terms of gross and net revenues, we estimate that Kerry Logistics ranks as one of the five largest.

**Greater China**

Greater China accounts for over half of Asia Pacific 3PL revenues. With an annual compound growth rate of 14.6% from 2007 through 2015E, it has the fastest rate of growth versus other countries within the region.

**2012 3PLs Gross Revenue in Greater China (US$ in Millions)**

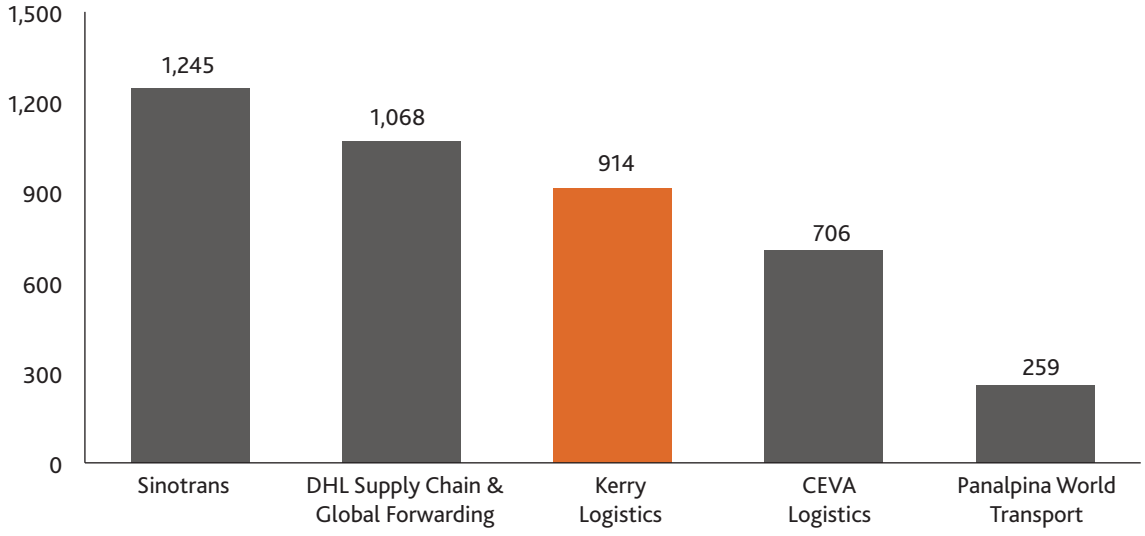



*Source: Company Information; Armstrong & Associates, Inc. Estimates*

*Note:* Company supplied revenues in US$, or currency conversion using average yearly exchange rates.

Within the Greater China market, Sinotrans is the largest provider with US$7.5 billion in gross revenue followed by DHL Supply Chain & Global Forwarding, and Kerry Logistics. However, net revenue, which refers to gross revenue less purchased transportation, is a better measure of third-party logistic size and performance because it is not inflated by pass-through transportation spend amounts.

**2012 3PLs Net Revenue in Greater China (US$ in Millions)**

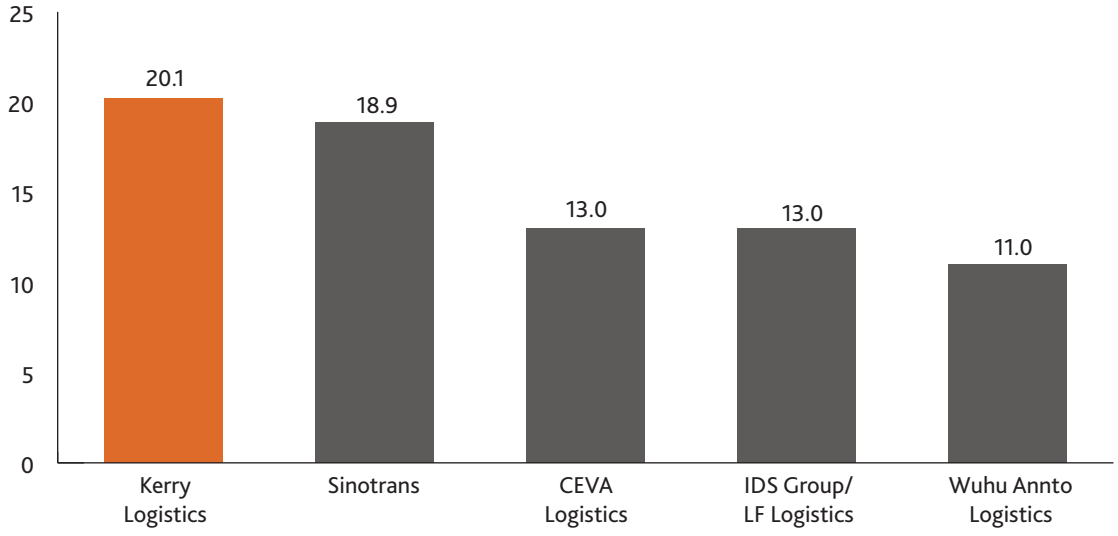



*Source: Company Information; Armstrong & Associates, Inc. Estimates*

*Note:* Company supplied revenues in US$, or currency conversion using average yearly exchange rates.

In terms of net revenue, Sinotrans is the largest provider with US$1.2 billion, followed by DHL Supply Chain & Global Forwarding and Kerry Logistics. Each has significant international transportation and domestic distribution capabilities within the People's Republic of China. Kerry Logistics' large net revenue as a percentage of gross revenue was due to a significant self-owned warehouse network and self-owned trucking fleet where every dollar of gross revenue equals a dollar of net revenue. Kerry Logistics is the largest international 3PL headquartered in Hong Kong and manages the largest portfolio of logistics facilities among 3PLs based on warehouse square footage.

**2012 3PLs Warehousing in Greater China (Square Feet in Millions)**



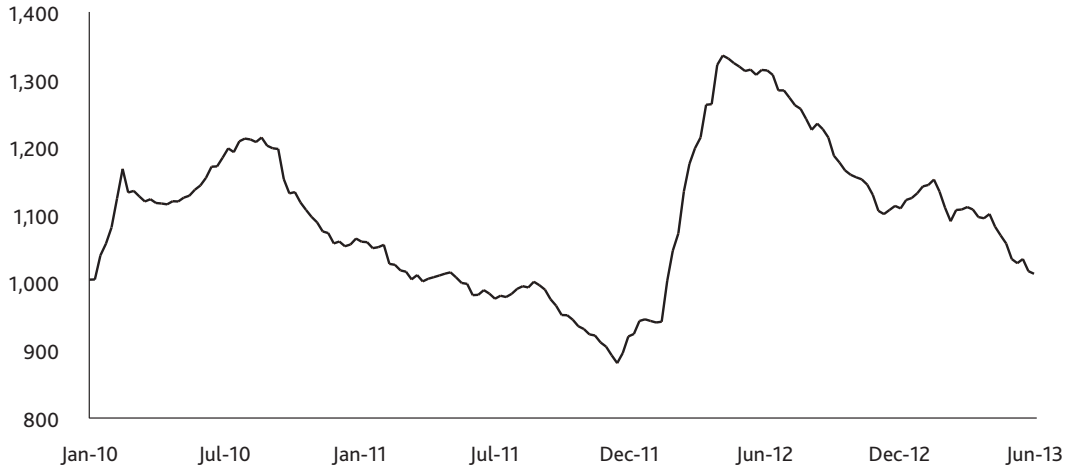

*Source: Company Information; Armstrong & Associates, Inc. Estimates*

*Note:* Excludes Global Logistics Properties, which is primarily engaged in the development of logistics facilities as a facilities provider and is not considered a third-party logistics service provider.

In terms of warehousing network, Kerry Logistics is the largest player with 20.1 million sq.ft. followed by Sinotrans and CEVA Logistics.

The following chart shows the ocean freight rate index in China.

**China Export Ocean Freight Rate Index**




*Source: Shanghai Shipping Exchange – China Containerised Freight Composite Index*

**3PL Value-Added Services Terms and Definitions**

| | |
|---|---|
| Carrier Mgmt and Contracting | Handles carrier management, negotiations, and contracting. |
| Consulting/Reengineering | Provides consulting and process reengineering services. |
| Cross Docking | Performs cross dock operations by consolidating and deconsolidating shipments and loads. |
| EDI | Electronic Data Interchange. |
| Factoring/Financial Services | Provides banking, factoring, credit and other financial services. |
| Food Grade/Sterile | Provides facilities or equipment that are food grade quality or sterile conditions such as those for pharmaceuticals. |
| Freight Brokerage | Is licensed as a freight broker. |
| Freight Pay Outsourced | Offers freight bill payment services through a third party. |
| Freight Pay Performed In-house | Provides freight bill payment services through internal operations. |
| Hazardous Materials | Handles substances or materials that are capable of posing a risk to health, safety, and property when stored or transported. |
| Installation/Removal | Can perform installations or take-downs. |
| Inventory Control/Vendor Mgmt | Controls inventory including performance of physical audits and controls raw material inflows from vendors. |
| ISO Certified | Has achieved ISO certification for quality in at least one location. |
| KanBan | Can replenish manufacturing/assembly lines in a JIT environment. |
| Manufacturing Support | Can support manufacturing operations in other ways. |
| Merge in Transit | Merges shipments from multiple origins into one large shipment prior to delivery at the final destination. |
| Order Management | Takes customer orders and manages order statuses through the supply chain. |
| Pick/Pack | Can pick and package orders from locations within a warehouse. |

| | |
|---|---|
| Pool Distribution . . . . . | Can "pool" small shipments into truckload quantities. |
| Project Logistics. . . . . | Can handle logistics functions of entire projects such as trade shows or oil well construction. |
| Radio Frequency . . . . . | Uses radio frequency technology to identify goods in the system. |
| Reverse Logistics . . . . . | Performs reverse logistics; e.g. recycling, used asset disposition, repossession, etc. |
| Sub-Assembly . . . . . | Performs sub-assembly services for manufacturing operations. |
| Temperature Controlled . . . . . | Handles items requiring temperature-controlled conditions including protect from heat or freezing and/or maintaining temperature. |