TransOutlook

January 2013
Vol. 1 No. 1

Connecting Global Commerce:

America's Container Ports Remain Critical Gateways

Outlook: U.S. Port Traffic in Rebounding Economy

U.S. container traffic is expected to increase in the coming months and throughout 2014 as the U.S. economy shows signs that the recovery is taking hold. The tonnage of international container cargo handled at the nation's ports can be expected to rise as consumers return to their spending ways, unemployment declines, economic production picks up steam, businesses readjust inventory, and the European and Asian economic crises abate. Because growth in economic activity generally results in increased freight transportion demand, the outlook for container traffic at the nation's ports is expected to be strong and positive during 2013. With the United States remaining the world's leading trading nation with the biggest economy and its trade with China still climbing, container port traffic will remain robust, dominated by higher growth rates for container exports.

Total container cargo traffic at U.S. seaports

3rd Qtr YTD 2009
147 million metric tons of container cargo

26 % increase

3rd Qtr YTD 2012
185 million metric tons of container cargo

Inside

TransOutlook is a joint publication by E-Ternational Research Consulting, Silver Spring, MD and Aubey LLC, Washington, DC.

Enabling Commerce

American container ports play an important role in handling U.S. merchandise trade to and from distant places around the world.

By the third quarter of 2012 (3rd Qtr YTD), a return to spending by American consumers helped spur container traffic that was moved through the nation's leading seaports to surpass the volume transported during the same period over the past four years (figure 1).

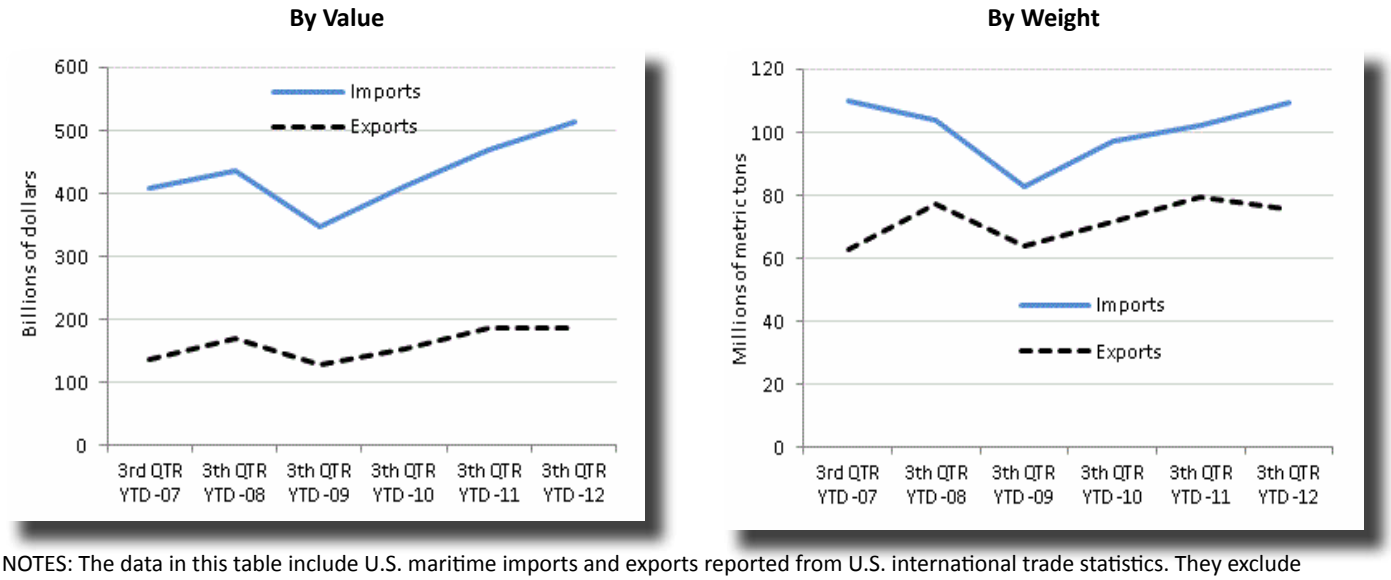
Each year, America's container ports handle vast and varied quantities of goods transported by oceangoing vessels usually the size of a football field or larger. These ports connect businesses, factories, shops, and households throughout America and its vast hinterland to markets around the world, enabling global commerce. U.S. businesses rely on this global container transport system to bring their merchandise to market in a timely manner, driven by consumer demand and retailers' inventory management systems.[1]

American households and businesses have little awareness of their dependence on the nation's container seaports. Like most transportation infrastructure, Americans take the nation's seaports for granted. Why? Because there is no readily apparent connection between the roles seaports play to how merchandise regularly purchased at a neighborhood grocery store or mall appears on store shelves. Nevertheless, today, America's container ports handle exports produced at U.S. farms and factories, and imports such as electronics, apparel, toys, and food. American households routinely purchase fresh produce regardless of the season and have come to depend on the availability of various electronics produced thousands of miles away, often in other countries. U.S. based businesses depend on the seaports to enable exchange of goods with trading partners in more than 200 countries around the world while navigating a complex system of global supply chains. Container ports handle more U.S. international freight by volume each year than the other freight modes of transportation.

At the end of September 2012, U.S. container ports handled a total of 185 million metric tons of containerized cargo, 26 percent more than the 147 million metric tons transported during the same period in 2009, when the recent economic recession was most severe. The rebound which started in 2009, steadily continued in each of the subsequent quarters (table 1).

During the three quarters of 2012, total container traffic through the ports was valued at more than $700 billion, 47 percent more than the same period in 2009. By dollar value, eight of the top 10 container ports saw year-on-year percent increases in the value of cargo handled from 2009

Figure 1. Trend in Value and Weight of U.S. Waterborne International Container Cargo Handled at U.S. Container Ports: 3rd Qtr Year-to-Date 2007–2012



NOTES: The data in this table include U.S. maritime imports and exports reported from U.S. international trade statistics. They exclude transshipments and military shipments.

SOURCES: E-Ternational Research Consulting and Aubey LLC, based on data drawn from U.S. Department of Commerce, Census Bureau, Foreign Trade Division, USA Trade Online, available at http://data.usatradeonline.gov, as of November 20, 2012.

to 2012. By weight, Los Angeles, the nation's leading container port, handled similar tonnage in 2012 as in 2011, while three of the top 10 ports saw declines (table 1).

Despite this recent pattern, U.S. container traffic is higher than the levels handled five years ago in 2007. In 2011, container traffic at the nation's ports was 242 million metric tons, up 5 percent from 232 million metric tons in 2007. During this period, while imports declined by 6 percent from 146 to 137 million metric tons, exports grew 23 percent, at an average annual rate of about 4 percent (figure 2).

Measured by TEUs, U.S. maritime container traffic at all U.S. ports in 2011 was 29.6 million TEUs, a 4 percent increase from the 28.4 million TEUs in 2010, and an identical growth from the volume handled in 2009. In the aftermath of the weak domestic consumer demand and Asia and European economic downturn, this moderate growth points to a definite steady recovery in container traffic at U.S. ports.

During the first three quarters of 2012, total container traffic at the nation's ports, was more than $700 billion.

Table 1. Trend in Value and Tonnage of U.S. Waterborne International Container Cargo Handled at Leading U.S. Container Ports: 3rd Qtr Year-to-Date 2007–2012

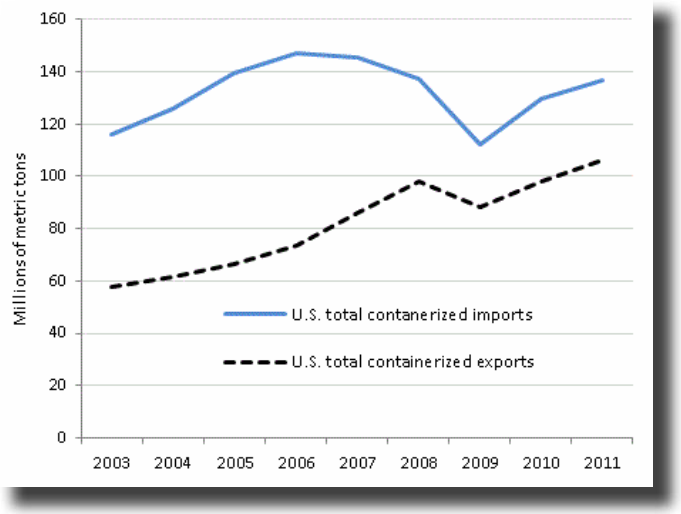
	U.S. Customs Ports	3rd Qtr YTD 2007	3rd Qtr YTD 2008	3rd Qtr YTD 2009	3rd Qtr YTD 2010	3rd Qtr YTD 2011	3rd Qtr YTD 2012	Percent change 2009 - 2012	Percent change 2011 - 2012
(Millions of U.S. dollars)									
	Total All Ports[1]	$544,560	$604,992	$476,914	$566,122	$655,798	$700,180	46.8	6.8
1	Los Angeles, CA	145,961	153,493	125,675	150,387	173,018	185,555	47.6	7.2
2	New York/New Jersey, NY/NJ	80,278	93,097	76,748	90,918	106,755	111,682	45.5	4.6
3	Long Beach, CA	53,843	56,625	41,383	53,010	57,324	59,267	43.2	3.4
4	Savannah, GA	27,227	34,387	27,682	34,482	43,233	45,353	63.8	4.9
5	Houston, TX	28,401	33,602	25,798	28,432	34,539	40,714	57.8	17.9
6	Norfolk, VA	29,959	33,863	26,744	28,837	32,913	38,307	43.2	16.4
7	Charleston, SC	30,769	34,584	24,794	28,823	33,193	36,710	48.1	10.6
8	Oakland, CA	22,686	24,835	21,827	25,746	30,521	29,227	33.9	-4.2
9	Seattle, WA	25,364	26,385	21,169	28,032	27,708	26,401	24.7	-4.7
10	Tacoma, WA	19,821	21,664	15,130	16,027	18,767	25,854	70.9	37.8
(Thousands of metric tons)									
	Total All Ports[1]	172,680	181,263	146,598	168,736	181,722	184,761	26.0	1.7
1	Los Angeles, CA	35,475	37,036	29,549	33,937	36,767	36,703	24.2	-0.2
2	New York/New Jersey, NY/NJ	22,105	24,117	20,346	23,435	25,681	25,933	27.5	1.0
3	Savannah, GA	12,351	14,332	11,268	14,411	15,897	14,962	32.8	-5.9
4	Houston, TX	11,804	12,571	10,951	11,824	13,278	14,730	34.5	10.9
5	Long Beach, CA	16,076	17,155	12,146	14,862	14,947	13,896	14.4	-7.0
6	Norfolk, VA	8,292	9,165	7,459	8,110	8,436	9,409	26.1	11.5
7	Oakland, CA	8,084	8,449	7,864	8,775	9,183	9,248	17.6	0.7
8	Seattle, WA	7,423	7,006	5,931	8,474	8,289	8,036	35.5	-3.0
9	Charleston, SC	8,461	8,413	5,629	6,955	7,648	7,699	36.8	0.7
10	Tacoma, WA	6,641	6,889	5,251	4,578	4,895	5,636	7.3	15.1

NOTES: The data in this table include U.S. maritime imports and exports reported from U.S. international trade statistics. They exclude transshipments and military shipments. The port of New York/New Jersey covers U.S. Customs ports of New York, NY and Newark, NJ. NA = Not applicable.

[1] Container ports in all U.S. coastal states and Puerto Rico.

SOURCES: E-Ternational Research Consulting and Aubey LLC, based on data drawn from U.S. Department of Commerce, Census Bureau, Foreign Trade Division, USA Trade Online, available at http://data.usatradeonline.gov, as of November 20, 2012.

Figure 2. Trend in Tonnage of U.S. Waterborne International Container Cargo Handled by U.S. Container Ports: 2003–2011



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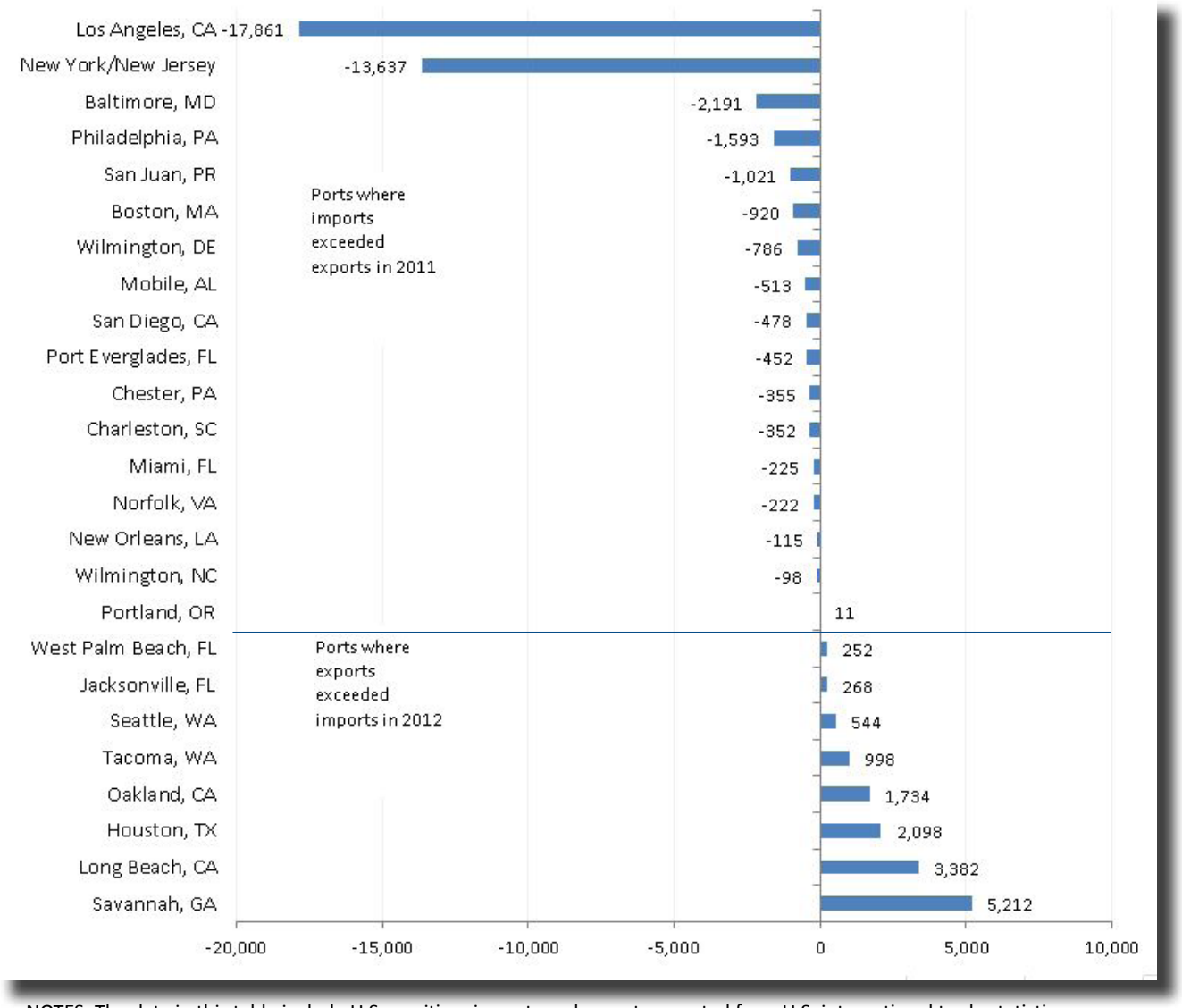
Top Gateways

While America's container ports serve as critical freight hubs for both exports and imports, there is a stark difference in the volume of container traffic by direction. Among the top 5 ports, Los Angeles and New York/New Jersey are primarily import gateways while Savannah, Long Beach, and Houston are dominantly export gateways (figure 3).

At the Port of Los Angeles, the volume of imported metric tons outweighed exports by 18 million, reflecting the massive inbound trade with Asia, especially China. By contrast, exports at Savannah, exceeded imports by 5 million tons. This difference between serving as import or export gateways reflects the ports' foreign trading partners, the major commodities handled, the services provided by shipping carriers, and the vessels permitted to call at the ports.

As container cargo traffic grows at these top gateways, pressure on port infrastructure is projected to rise, with the likely potential to increase landside congestion and alter local traffic patterns around the ports.

Figure 3. Top 25 Container Ports for U.S. Waterborne International Container Cargo, Exports minus Imports: 2011



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Ranking Among World's Top Ports

America's leading ports continue to fall in their ranking among the world leading ports measured by container traffic. In 2011, Los Angeles ranked 16th, Long Beach 20th, and New York/New Jersey 24th. This marks a fall from just a decade ago in 2000, when these top three American seaports ranked 7th, 8th, and 14th respectively among the world's top 20 container ports. During this same period, China's ports have risen in prominence and today nine of the top 20 container facilities are in China. Six of the top 10 are in China. The primary reason for this change among the top global ports is not due to declining traffic at the U.S. facilities but mostly because container traffic at the Asian ports grew at a faster rate.

If this trend continues, America's big three container ports will be out of the world's top 20 ranking in the next few years, probably by 2015

How are the mighty falling?
U.S. Container Ports' World Rankings

2000	2010	2011
• 7th Los Angeles	• 16th Los Angeles	• 16th Los Angeles
• 8th Long Beach	• 18th Long Beach	• 20th Long Beach
• 14 New York/New Jersey	• 20th New York/New Jersey	• 24th New York/New Jersey

(table 2). This could ultimately impact the United States' influence on global trade and market operations, including the international standards setting organizations. According to a Bureau of Transportation Statistics special report, the major U.S. container ports are actively engaged in improving facilities and operational efficiency to maintain or improve U.S. market share.[2] However, due to continued expansion of the global economy, seaports worldwide are also under intense competition and must look for ways to measure and attract market share in the global environment.[3]

Table 2. Top 20 World Container Ports: 2000, 2010, and 2011

Rank in 2000	Rank in 2010	Rank in 2011	Port name	Country	2000	2010	2011*	Percent change, 2010–2011	Average annual rate percents, 2000–2011
6	2	1	Shanghai	China	5,613	29,069	31,740	9.2	17.1
2	1	2	Singapore	Singapore	17,040	28,431	29,940	5.3	5.3
1	3	3	Hong Kong	China	18,098	23,699	24,380	2.9	2.7
11	4	4	Shenzhen	China	3,994	22,509	22,570	0.3	17.1
3	5	5	Busan	South Korea	7,540	14,194	16,170	13.9	7.2
65	8	6	Ningbo	China	902	13,144	14,720	12.0	28.9
38	6	7	Guangzhou	China	1,430	12,550	14,260	13.6	23.3
24	9	8	Qingdao	China	2,120	12,012	13,020	8.4	17.9
13	7	9	Dubai	United Arab Emirates	3,059	11,600	13,010	12.2	14.1
5	10	10	Rotterdam	Netherlands	6,280	11,145	11,880	6.6	6.0
32	11	11	Tianjin	China	1,708	10,080	11,590	15.0	19.0
4	12	12	Kaohsiung	Taiwan	7,426	9,181	9,640	5.0	2.4
12	13	13	Port Klang	Malaysia	3,207	8,870	9,600	8.2	10.5
9	15	14	Hamburg	Germany	4,248	7,900	9,040	14.4	7.1
10	14	15	Antwerp	Belgium	4,082	8,468	8,660	2.3	7.1
7	16	16	Los Angeles	United States	4,879	7,831	7,940	1.4	4.5
113	17	17	Tanjung Pelepas	Malaysia	418	6,530	7,500	14.9	30.0
49	19	18	Xiamen	China	1,085	5,820	6,470	11.2	17.6
NA	21	19	Dalian	China	N/A	5,240	6,400	22.1	N/A
8	18	20	Long Beach	United States	4,601	6,263	6,060	-3.2	2.5
14	20	24	New York/New Jersey	United States	3,050	5,292	5,500	3.9	5.5
			Total: All World Ports		**233,545**	**503,512**	**N/A**		

KEY: TEUs = twenty-foot equivalent units. One 20-foot container equals one TEU, and one 40-foot container equals two TEUs. N/A = Not available.

* 2011 from The Journal of Commerce, August 20-27, 2012 (2012 V.13 N. 29). The JOC 2011 Port Ranking listed Keihin Ports, Japan in the 17th position. Keihin Ports is Japan's superport hub on the Tokyo Bay and includes Yokohama, Kawasaki, and Tokyo.

SOURCES: E-Ternational Research Consulting and Aubey LLC, based on data from various sources. 2000 – Maritime Administration, USDOT, special tabulations; 2010 – The International Association of Ports and Harbors at http://www.iaphworldports.org/Statistics.aspx, as of Nov. 20, 2012; and 2011 – The Journal of Commerce, August 20-27, 2012 (2012 V.13 N. 29).

Leading Trading Partners

China remained the leading U.S. container freight trading partner through the 3rd Qtr YTD 2012, accounting for 29 percent of the weight (54 million metric tons) and 33 percent of the value ($227 billion) of total U.S. container trade. China was the leader by a wide margin whether ranked by value or weight of the cargo. For exports, China and Japan were the top two cargo destinations whether ranked by value or weight in 2011. For imports, China and Japan were the leaders when ranked by value, while China and Germany were the leaders when ranked by weight (table 3). During the past five years, Brazil moved up the rankings by weight, ranking sixth for U.S. containerized exports and fourth for imports, reflecting continued expansion of trade with several South American nations.

Changes among America's top container trading partners will continue to underscore the dominance of China's seaports among the global port leaders and affect the ability of U.S. ports to handle containers arriving and leaving their facilities. With U.S. container imports from China far exceeding exports to China, the container trade deficit may continue to affect the repositioning of empty containers in the United States and the availability of empty containers for exporting grain products such as corn and soybeans. In 2011, the difference between metric tons of U.S. container exports and imports with China alone were 25 million. This was down from 36 million just five years ago in 2007.

A shrinking container trade deficit implies fewer empty containers in the United States which would have otherwise been made available to companies for their outbound shipments. Fewer empty containers limits shippers options for overseas transport and affects the competitiveness of U.S.-based shippers compared to foreign-based shippers competing for similar global market shares.

With the recent 2012 U.S. drought, the demand for containers for agricultural exports should ease in the coming year. This may provide the international intermodal transport industry the opportunity to evaluate and ultimately find lasting solutions to this equipment availability issue.

In 2012, China remained the top U.S. accounting for over one-third of the

Table 3. Top 10 Trading Partners for U.S. Waterborne International Container Exports and Imports: 2011 and 3rd Qtr Year-to-Date 2012

			Value (Millions of U.S. dollars)			Weight (Thousands of metric tons)		
Rank by value in 2011	Rank by weight in 2011	Country	2011	3rd Qtr YTD 2012	Percent share of total in 2012	2011	3rd Qtr YTD 2012	Percent share of total in 2012
Export								
1	1	China	36,253	27,401	14.7	22,995	16,844	22.3
2	2	Japan	18,726	14,332	7.7	9,279	6,080	8.0
10	3	Taiwan	7,969	5,357	2.9	7,378	4,577	6.1
3	4	Korea, South	12,987	9,484	5.1	6,696	4,572	6.0
13	5	India	5,330	3,894	2.1	3,762	2,825	3.7
4	6	Brazil	11,274	8,013	4.3	3,465	2,446	3.2
21	7	Indonesia	3,305	2,498	1.3	2,730	2,052	2.7
11	8	Hong Kong	6,707	4,610	2.5	2,692	1,590	2.1
7	9	Belgium	8,989	6,908	3.7	2,133	1,780	2.4
6	10	Germany	9,171	6,798	3.6	2,065	1,474	1.9
		Total -- all trading partners	**249,045**	**186,757**	**100.0**	**106,081**	**75,591**	**100.0**
Imports								
1	1	China	259,531	199,489	38.9	48,494	37,208	34.1
3	2	Germany	33,445	29,566	5.8	5,108	4,108	3.8
2	3	Japan	53,232	49,276	9.6	4,675	4,105	3.8
12	4	Brazil	10,986	8,496	1.7	4,493	3,589	3.3
4	5	Korea, South	21,925	19,524	3.8	4,486	4,144	3.8
6	6	India	17,459	16,969	3.3	4,227	3,519	3.2
8	7	Italy	15,019	12,079	2.4	3,582	2,928	2.7
5	8	Taiwan	18,163	14,821	2.9	3,341	2,658	2.4
10	9	Thailand	13,620	10,070	2.0	3,263	2,344	2.1
9	10	Indonesia	14,358	11,103	2.2	2,974	2,174	2.0
		Total -- all trading partners	**635,398**	**513,423**	**100.0**	**136,680**	**109,170**	**100.0**

NOTES: The data in this table include U.S. maritime imports and exports reported from U.S. international trade statistics. They exclude transshipments and military shipments.

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container freight trading partner,
value of total U.S. container cargo.

What's in the Box? Major Commodities

During the first three quarters of 2012, America's container ports handled over $700 billion worth of container freight weighing more than 185 million metric tons. The wide assortment of commodities included footwear, flat-screen televisions, toys, computers, sweaters, and bananas. The leading commodity by value in 2011 was parts and accessories for motor vehicles followed by print machinery, automatic data processing machines, and televisions. By weight, the leading commodities were paper waste and scrap, ferrous waste and scrap, and furniture (table 4). In 2011, nearly all the leading commodities saw increases from the lowest volumes experienced in 2009 before the economic rebound began.

Cotton and motor vehicles and parts saw the largest year-on-year percent changes by value of container exports. Cotton exports during the 3rd Qtr YTD 2012 were already near the total for the entire 2010. By 2012, motor vehicle exports recovered to prerecession levels. Coffee, parts and accessories for motor vehicles, semiconductors, and tires saw the largest year-on-year percent changes by value of imports. Imports of footwear saw slight declines by the 3rd Qtr YTD 2012. The top five U.S. international container commodities overall make up 9 percent of the total value and 12 percent of the total tonnage.

The mix of commodities transported into and out of the United States remains varied and is expected to continue as such in the coming years. This mix underpins the ongoing container equipment imbalance and supply chain logistics challenges for the U.S. international container transport industry. In line with the recent economic rebound, U.S. container ports handled 106 million metric tons of container exports in 2011, up 20 percent from 88 million metric tons in 2009.

By weight the leading exported commodities in 2011 were paper waste and scrap, ferrous waste and scrap, and chemical wood pulp. The ports handled 137 million metric tons of container imports in 2011, up 22 percent from 2009. By weight, the top commodities were furniture, parts and accessories for motor vehicles, and oil products from petroleum and bitumen minerals.

Table 4. Value and Weight of Top 5 U.S. Waterborne International Container Cargo by 4-Digit Commodity: 2009–2011 and 3rd Qtr Year-to-Date 2012

(Rank in 2011)

Commodity code	Commodity description	2009	2010	2011	3rd QTR YTD 2012	Percent change, 2009–2011
Value			(Millions of current U.S. dollars)			
	Total, all commodities	651,259	772,590	884,443	700,180	35.8
8708	Parts & Access For Motor Vehicles (head 8701-8705)	15,988	22,038	25,206	22,468	57.7
8443	Print Mach Incl Ink-jet Mach Ancil T Prnt Pt Nesoi	15,373	15,784	16,443	12,611	7.0
8471	Automatic Data Process Machines; Magn Reader Etc	9,153	14,589	14,983	11,301	63.7
8528	Tv Recvrs, Incl Video Monitors & Projectors	13,734	14,639	13,211	9,094	-3.8
6110	Sweaters, Pullovers, Vests Etc, Knit Or Crocheted	10,100	11,134	12,493	8,566	23.7
	Top 5 commodities	64,348	78,184	82,337	64,041	28.0
	Top 5 percent of all commodities	9.9	10.1	9.3	9.1	
Weight			(Thousands of metric tons)			
	Total, all commodities	200,631	227,447	242,762	184,761	21.0
4707	Waste And Scrap Of Paper Or Paperboard	8,780	8,045	9,351	6,661	6.5
7204	Ferrous Waste & Scrap; Remelt Scr Iron/steel Ingot	5,353	5,164	6,330	4,251	18.3
9403	Furniture Nesoi And Parts Thereof	4,181	5,068	4,837	3,697	15.7
2710	Oil (not Crude) From Petrol & Bitum Mineral Etc.	2,656	3,095	4,498	4,068	69.3
4703	Chemical Woodpulp, Soda Or Sulfate, Not Dissoly Gr	3,459	3,910	4,457	3,010	28.8
	Top 5 commodities	24,430	25,281	29,473	21,688	20.6
	Top 5 percent of all commodities	12.2	11.1	12.1	11.7	

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Photo credits: Aubey LLC, E-Ternational Research Consulting, and Port of Los Angeles.

Endnotes

[1] Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transportation Trends in Focus, Containerships Carry Inventory for U.S. Retailers, September 2012.

[2] Research and Innovative Transportation Administration, Bureau of Transportation Statistics, Special Report, The Changing Tide of U.S.-International Container Trade: Differences Among the U.S. Atlantic, Gulf, and Pacific Coasts, December 2011.

[3] Transportation Research Record, Journal of the Transportation Research Board (TRB), No. 2273, Marine Transportation, Marine Environment, and Port Terminal Operations 2012, "Performance Evaluation for Implementation of Port Community System, TRB of the National Acadamies, Washington, DC. 2012.

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