Washington Research Council

Policy Brief

August 20, 2013 PB 13-12

Part 2 in Our Series:
Trade and Transportation

Export Activity Boosts Washington's Economy

Briefly

In 2011, $77.1 billion worth of goods were exported through Washington's seaports. Associated activity directly generated 35,000 jobs.

Washington is one of the nation's most trade dependent states. In 2011, the value of exported goods originating from Washington was $64.6 billion. The value of goods for which the port of exit was in Washington was even higher, $77.1 billion. The difference between these two measures of exports is significant. The exporting function is an important line of business for the state.

Washington's Seaports

In 2011 the value of waterborne foreign exports through 15 Washington state seaports totaled $32.6 billion, 6 percent of the U.S.'s total waterborne exports. This is three times the state's share of the nation's population or jobs. Of these waterborne exports, $13.0 billion was containerized and $19.6 billion was bulk or break bulk cargo. (Bulk cargos are unpackaged commodities, such as petroleum products, minerals and grains, that are loaded en masse; break bulk cargos are items that must be loaded individually.) These exports weighed 49.9 million metric tons in total. For containerized cargo, the average value per kilogram was $1.30. For bulk and break bulk cargo, the average value per kilogram was lower, $0.49.

Chart 1: 2011 Exports through Washington's Seaports

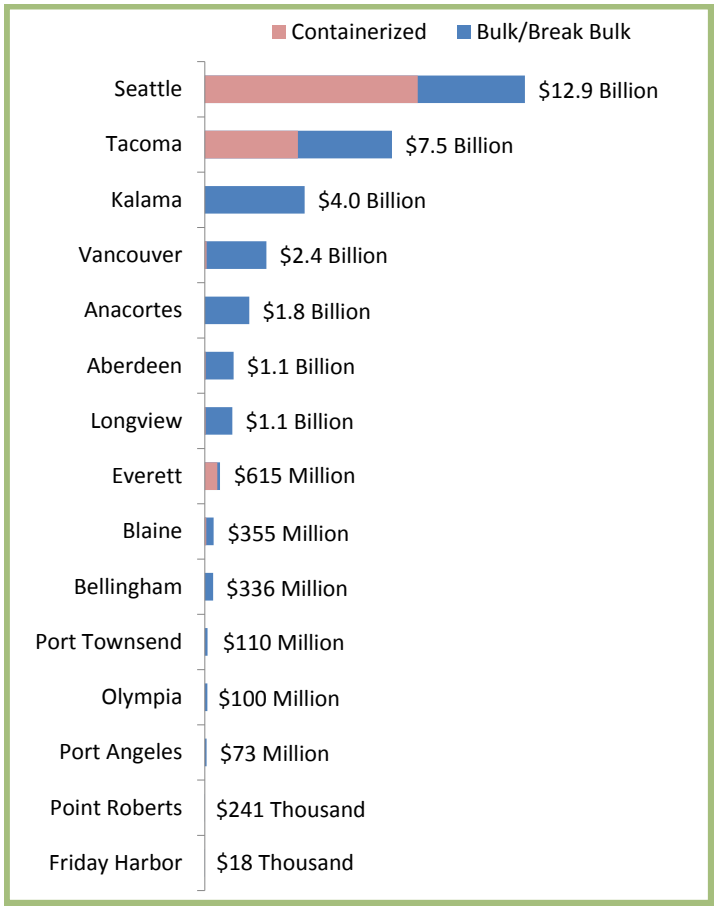

Chart 1 shows the value of exports for the 15 Washington ports. The two largest ports, Seattle and Tacoma, together account for 63 percent of exports by value and 52 percent of exports by weight. By value Seattle ranks 14th among U.S. ports (4th among those on the west coast) and Tacoma ranks 18th (5th on the west coast).

Because of the economies of scale inherent in containerization, container traffic tends to be concentrated in a limited number of locations. Seattle and Tacoma handle 95 percent of containerized exports though Washington ports. Sixty-six percent of the value through Seattle and 50 percent of the value through Tacoma is in containers.

Three ports on the Columbia River—Kalama, Vancouver and Longview—handle 23 percent of exports by value and 38 percent by weight. Nearly all of these exports are bulk or break bulk cargo.

Table 1: Top 30 Export Destinations, 2011

	Value		Metric Tons	
	(Millions)	Rank	(Thousands)	Rank
China	$8,829.1	1	14,598.8	1
Japan	$6,514.1	2	10,714.9	2
South Korea	$3,076.7	3	6,064.9	3
Taiwan	$1,645.2	4	2,995.9	4
Canada	$1,473.9	5	2,304.9	5
Singapore	$1,115.0	6	622.5	12
Philippines	$894.1	7	1,870.9	6
Australia	$852.0	8	595.7	13
Indonesia	$825.3	9	1,595.0	7
Hong Kong	$642.1	10	408.9	18
Mexico	$629.2	11	685.5	11
Chile	$597.6	12	874.8	8
Malaysia	$494.6	13	804.1	9
Thailand	$465.8	14	753.4	10
Russia	$434.9	15	123.9	27
India	$375.7	16	457.3	16
Netherlands	$354.8	17	145.9	25
Germany	$308.3	18	65.8	32
Saudi Arabia	$250.0	19	517.4	15
Vietnam	$239.1	20	387.9	19
Guatemala	$229.5	21	521.2	14
Brazil	$197.9	22	132.7	26
United Arab Emirates	$192.0	23	417.5	17
United Kingdom	$180.4	24	48.2	35
Iraq	$147.8	25	361.8	20
New Zealand	$146.3	26	204.5	23
Egypt	$103.2	27	252.1	22
Yemen	$87.1	28	279.8	21
Mongolia	$80.1	29	5.6	58
Belgium	$76.9	30	22.3	43
Total All Countries	$32,642.6		49,925.8	

Port of Export vs. Origin of Movement

U.S Census Bureau datasets allocate exports geographically in two different ways. The *port of export* series identifies goods that are exported by sea or air with the locations where they are loaded onto the ships or aircraft which take them out of the country. This series identifies goods that are exported by truck or train with the locations at which they cross U.S borders into foreign countries. Alternately, the *origin of movement* series identifies goods with the states from which the export journeys begin. For a manufactured good, this is usually the state of manufacture. For bulk agricultural products, the origin is often a port terminal at which crops of many farmers are consolidated.

In 2011 Washington's exports total $77.1 billion by port of export and $64.6 billion by origin of movement. Washington ranked 6th highest among states in the total value and 3rd highest in the per capita value of exports by origin of movement.

In 2011, 184 different countries were the ultimate destinations of goods shipped through Washington ports. The top 30 countries, which account for 96 percent of exports by value, are shown in Table 1. China ranks first, with goods valued at $8.8 billion, representing 27 percent of exports by value. Japan ranks second, $6.5 billion, 20 percent of exports. South Korea, Taiwan and Canada round out the top five.

Overall, 31 percent by value and 13 percent by weight of all goods exported through Washington ports originated outside of the state of Washington. The five states with the greatest value of exports through Washington ports are Oregon (4.9 percent of the total), Minnesota (3.7 percent), Illinois (3.3 percent) Michigan (2.5 percent) and Alaska (2.0 percent). States with lands to the east of the Mississippi provide 14.5 percent of the value of exports through Washington ports (22.4 percent of the value of containerized exports).

Competition

Table 2 shows export volumes for the top 30 U.S. ports ranked by value. These 30 ports accounted for 88.4 percent of U.S. exports by value and 85.1 percent by weight. Three Washington ports (Seattle, Tacoma and Kalama) make the top 30.

There is stiff competition among ports for export business. Traditionally, Washington's biggest competitors have been other ports on the U.S. west coast. In 2011, 23.3 percent of west coast exports passed through Washington ports; 72.9 percent passed through California; and 3.8 percent passed through Oregon. The adjacent ports of Los Angeles and Long Beach ranked second and fourth nationally in the value of exports, while Oakland ranked 10th. Seattle and Tacoma ranked 14th and 18th. Interestingly, when the ranking is done by weight rather than value, Seattle and Tacoma both move up the list, while the three California ports move down.

Washington's ports face additional competition on the west coast from British

Table 2: The Top 30 Ports by Value of Exports, 2011

	Value		Metric Tons	
	(Billions)	Rank	(Millions)	Rank
Houston, TX	$88.3	1	71.2	1
Los Angeles, CA	$43.8	2	23.6	6
Metro New York City, NY/NJ	$42.9	3	14.9	9
Long Beach, CA	$34.9	4	25.0	5
New Orleans, LA	$32.7	5	65.4	2
Savannah, GA	$30.9	6	17.3	8
Norfolk-Newport News, VA	$24.0	7	47.5	3
Charleston, SC	$22.2	8	6.5	24
Baltimore, MD	$20.5	9	21.5	7
Oakland, CA	$18.0	10	10.3	15
Gramercy, LA	$13.5	11	39.2	4
Albany, NY	$13.4	12	8.4	18
Port Everglades, FL	$13.3	13	2.7	36
Seattle, WA	$12.9	14	13.8	11
Miami, FL	$11.9	15	3.1	34
Jacksonville, FL	$10.8	16	2.4	39
Corpus Christi, TX	$9.9	17	14.7	10
Tacoma, WA	$7.6	18	12.0	14
Beaumont, TX	$7.4	19	10.3	16
Texas City, TX	$5.5	20	7.7	20
Portland, OR	$5.1	21	13.0	13
Baton Rouge, LA	$4.8	22	6.8	23
Pascagoula, MS	$4.3	23	7.1	21
Lake Charles, LA	$4.2	24	7.0	22
Kalama, WA	$4.0	25	10.1	17
Anchorage, AK	$3.5	26	3.4	31
Mobile, AL	$3.5	27	13.6	12
Tampa, FL	$3.5	28	6.2	25
Wilmington, NC	$3.4	29	1.6	48
Brunswick, GA	$3.4	30	0.9	55
Total Top 30	$504.2		487.2	
Total All Ports	$570.3		572.6	

Columbia. In 2011, exports through the consolidated ports of metro Vancouver weighed 82.1 million metric tons, while exports through Prince Rupert weighed 19.3 million metric tons. In 2012 B.C. Premier Christy Clark announced an 8-year, $25 billion public/private plan to invest in infrastructure to expand exports to Asia.

In the future the competition won't just be from west coast ports. The Panama Canal Authority is in the midst of an eight-year project to expand the canal. Currently the largest vessel that can use the canal is 965 ft. long and 106 ft. wide with a draft of 39.5 ft. (Panamax size). After expansion the limits will be 1,200 ft. long and 160.7 ft. wide with a draft of 49.9 ft. (New Panamax size). A Panamax container ship may carry up to 5,000 standard containers (20 ft. × 8ft. × 8.5 ft.), while a New Panamax ship might carry up to 13,000. The larger ships are expected to significantly decrease the cost of direct ocean shipping between ports on the East and Gulf coasts and ports in Asia.

East and Gulf coast ports are racing to prepare. By the time that the expanded canal opens in 2015, the ports of Baltimore, Houston, Miami, New York/New Jersey, and Norfolk will be ready to accept New Panamax container ships. The ports of Savannah, Jacksonville and Charleston, among others, are also planning to accommodate the larger ships.

It has been estimated that 20 to 35 percent of current Asia traffic through west coast ports could be diverted to the east and Gulf coasts.

Transportation to the Ports

Rail is the dominant transportation mode for moving large volumes over long distances. Rail is also the preferred mode for moving large volumes of heavier cargoes for shorter distances. Trucks dominate the movement of smaller volumes within the Pacific Northwest region. Barges are used to move bulk agricultural commodities down the Columbia River system.

Table 3 shows estimates made by BST Associates of the inland transportation modes associated with waterborne commerce (both domestic and international) through Washington's ports in 2007. The numbers come from a 2009 report prepared by BST for the Washington Public Ports Association and the Washington State Department of Transportation.

Table 3: Flows of Goods to and from Washington Ports by Mode, 2007
(Thousands of Metric Tons)

	Puget Sound Ports				Lower Columbia Ports			Percent
	Container	Break Bulk	Dry Bulk	Liquid Bulk	Break Bulk	Dry Bulk	Liquid Bulk	of Total
Rail	8,964	554	18,070	501	706	12,702	0	41.5%
Truck	12,519	2,954	3,408	461	1,662	233	0	21.2%
Barge/Raft	191	171	81	255	11	2,089	0	2.8%
Plant	477	0	217	32,648	210	567	399	34.5%

Containers. Forty percent of container traffic by weight is carried by rail; 57 percent, by truck; and 1 percent, by barge. The remaining 2 percent involves waterborne shipments directly to or from industrial plants. Truck is the dominant inland move for export and domestic movements, while rail is the dominant mode for imported containers.

Break bulk. Twenty percent of break bulk cargo is carried by rail; 74 percent, by truck; and 3 percent, by barge. Three 3 percent of shipments are directly to or from industrial plants.

Dry Bulk. Eighty-two percent of dry bulk cargo is carried by rail; 10 percent, by truck; and 6 percent, by barge. Two percent of shipments are directly to or from industrial plants.

Liquid bulk. Ninety-six percent of liquid bulk shipments are directly to or from industrial plants. Shipments of petroleum to and petroleum products from the five refineries located on Puget Sound account for almost all of this.

Employment

The movement of goods to, through and from Washington ports generates a substantial number of jobs in the state.

A 2009 study for the Port of Seattle by Martin Associates found that export and import activities at Port-owned terminals directly generated 12,428 jobs in 2007. Wages, salaries and benefits from these jobs contributed $637 million to state personal income in that year.

A similar 2005 study for the Port of Tacoma by Martin Associates found that marine cargo activity at the Port's terminals in Commencement Bay was directly responsible for 10,978 jobs in the year 2004. Of these jobs, 9,370 were at terminals owned by the Port, while 1,608 were at privately owned terminals. Wages, salaries and benefits from these jobs contributed $496 million to state personal income in 2004.

Both studies calculate multipliers relating direct jobs to metric tons moved for various categories of cargo. Based on these multipliers, we estimate that the export activity in 2011 from the state's 15 ports generated 35,000 jobs in 2011, of which 1,870 were in railroading and 6,090 were in trucking.

Comment

Washington's deep water ports and short shipping distances to Asia give the state a comparative advantage in the exporting function. This is an important line of business for the state, and it is one that the state should nurture.

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