WASHINGTON STATE UNIVERSITY EXTENSION

EXPORT TRENDS IN WASHINGTON STATE: VOLUME 8

By
Andrew J. Cassey, Associate Professor, School of Economic Sciences, Community and Economic Development Extension, Washington State University, **Jeremy Sage**, Assistant Research Professor and Assistant Director, Freight Policy Transportation Institute, School of Economic Sciences, Washington State University

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Export Trends in Washington State: Volume 8

Abstract

Accurate descriptions of export trends are needed so industry representatives, analysts, policymakers, and business owners can properly assess market conditions. This fact sheet provides data on manufactured and processed agricultural exports from Washington to foreign markets for industries including aerospace products, petroleum and coal products, navigational instruments, paper products, basic chemicals, other machinery, and fruit and vegetable preserves. The data here can be used to compare export changes over time.

This is the eight edition of an annual series. This volume includes data on both exports and imports, as well as a new section describing how those shipments are transported from departure facilities in Washington to ports of exit. Washington increased exports again in 2014, reaching an all-time high. Once again, the increase in statewide exports is due almost exclusively to an increase in exports from the aerospace industry. Changes in how agricultural producers shipped goods to international ports in 2015 suggest there may be differences in trade patterns in 2016, showing the importance of the transportation network within Washington for international trade.

Introduction

This fact sheet includes data that depict trends in Washington exports from 2002 to 2014, and imports from 2008 to 2014 by industry. The data are presented as an inflation-adjusted time series, which allows values to be compared over time. These figures also emphasize the relationships between the export activity of Washington's individual industries and its overall state-level exporting activity. The industries discussed include some of the largest in the state: aerospace products and parts, petroleum and coal products, navigational instruments, paper products, basic chemicals, and other machinery. Special attention is given to the processed agricultural products industries: fruit and vegetable preserves, grain and oilseed milling products, meat products, and dairy products. Readers interested in seeing the sub-industries that make up each category should visit the North American Industry Classification System (NAICS) website, which is administered by the United States Census Bureau, and click on the 2012 NAICS search button.

This volume of *Export Trends in Washington State* is the eighth fact sheet in a series of WSU Extension publications providing information on Washington exports and imports. New features include 2014 export and import data, revised 2012 and 2013 import data, and a detailed section describing the transportation network bringing exports from their departure sites in Washington to ports of exit.

The World Institute for Strategic Economic Research (WISERTrade) is the source for Washington's exports and imports data. The key feature of the WISERTrade state-level export data is its focus on the location from which exporting begins (origin of movement state), rather than on the location from which exported goods are produced (production state). This fact has important implications for the accuracy of data interpretation and conclusions. A discussion of these implications can be found in *The Collection and Description of Washington State Export Data* (Cassey 2010). Also included is a description of the process by which the state of Washington's export data used in this series are collected as well as interpretation limitations and definitions for many technical terms.

Import data are collected at the U.S. port of entry and the statistics are credited to the state indicated by the importer of record. Therefore, the import data are likely overestimates of the amount of foreign goods used for production or consumption in Washington since intermediary buyers in Washington could sell these imports to other states. However, if the overestimating remains constant over time, the import data will show trends accurately.

Though the export data for the origin-of-movement state and import data for the port-of-entry state are only available for purchase, interested readers may obtain some Washington state trade data at no cost from TradeStats Express. In this fact sheet, all nominal data have been adjusted for inflation using the annual values from the Consumer Price Index (CPI) for the Seattle-Tacoma-Bremerton area. (These CPI data are for all urban consumers for all items, except food and energy, and are available from the Bureau of Labor Statistics (BLS), Series ID: CUUSA423SA0L1E.) The base year used is the 1982–1984 average. This base year is the standard used by the BLS. This means that the dollar value of the data provided corresponds to the average value of the dollar from 1982 to 1984.

Washington Inflation-Adjusted Export Patterns in Total and by Selected Industries

In 2014, Washington's exports increased by an inflation-adjusted $2.74 billion over 2013, a 9.8% increase and very similar to the $2.72 billion increase seen in 2013 over 2012. As Figure 1 shows, this large increase in total exports follows the large increases in exports in 2011 and 2012, thus continuing an upward trend in exports beginning in 2010. Washington exports in 2014 reached an all-time high.

Figure 1 also illustrates that the aerospace products and parts industry has, for a fourth straight year, increased exports to its highest level. In 2014, exports increased by $1.95 billion in inflation-adjusted value from a year earlier, a 10.7% increase. Though setting a new export record, the increase in aerospace product and parts exports slowed slightly compared to 2013, when exports increased nearly 15%.

Aerospace products and parts are by far the largest export industry in Washington, accounting for 65% of all exports in 2014. Though the share of Washington exports accounted for by aerospace products and parts has been climbing from a low of 54% in 2008, it is still short of the high of 74% recorded in 2002. This may be seen in Figure 2 with the dashed black line. To further illustrate the importance of aerospace to Washington's economy, Figure 2 also shows that exports of aerospace products and parts account for about 30% of the value of all Washington sales, domestic and international.

This is seen with the dashed red line. Together, the two series in Figure 2 show the importance of aerospace to the state's economy. The importance of aerospace is returning to its highest levels after down years from 2004–2011.

The trend for Washington's other leading export industries continues to be mainly flat. Figure 3 shows total Washington export data repeated from Figure 1 (scale is shown on the right axis of Figure 3), so that the trend in exports for the five industries under discussion can be compared to the state's overall export trend. The scale differs by a factor of 20, revealing that the other large export industries were dwarfed by aerospace products and parts.

There has not been much of an upward trend in exports for Washington's other leading export industries since the 2008 recession, except for Washington's third-largest export sector, navigational instruments. Exports of petroleum and coal products, Washington's second-largest export sector, have also greatly increased since 2007, but the data show exports for this industry are highly volatile, thus making it difficult to predict an increase or decrease from year to year.

In 2014, exports of petroleum and coal products decreased by 11.7%; other machinery decreased by 4.4%; paper products decreased by 3.4%; and nonferrous metals decreased by 0.3%. Exports of navigational, measuring, electromedical, and control instruments increased by 3.1% to $786 million and basic chemicals increased by 0.7% to $249 million. Thus, even though Washington is exporting historic amounts, those export gains are almost exclusively due to increased exports in the aerospace products and parts sector.

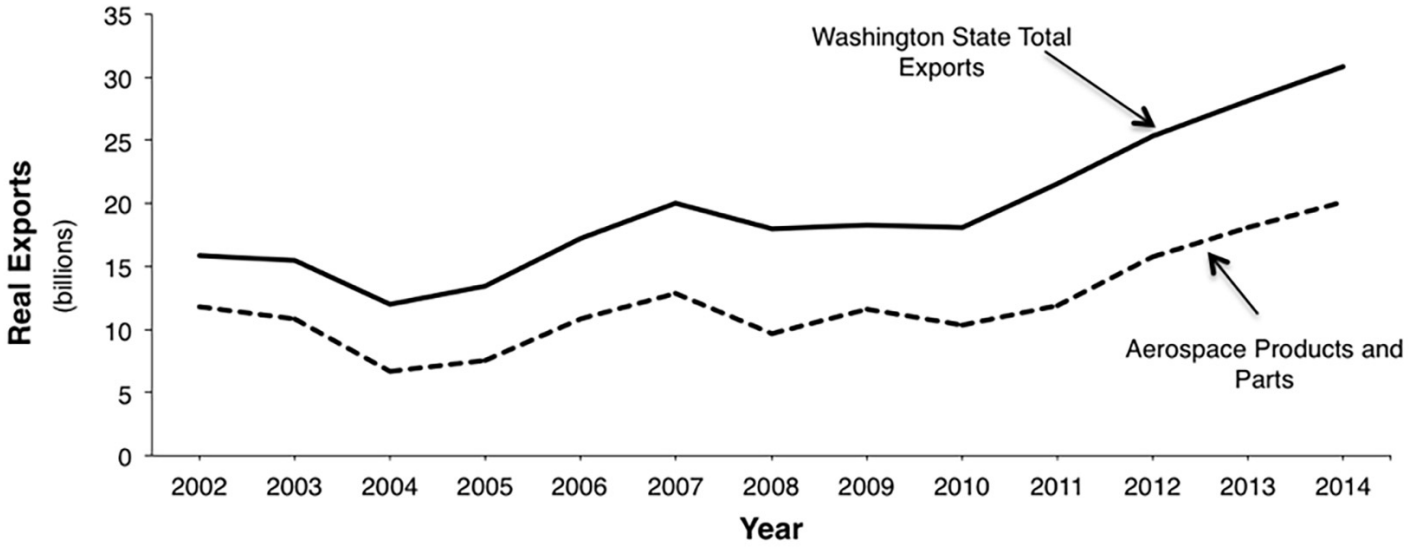

Figure 1. Inflation-adjusted exports for Washington aerospace products and parts and total exports to the world, by year.

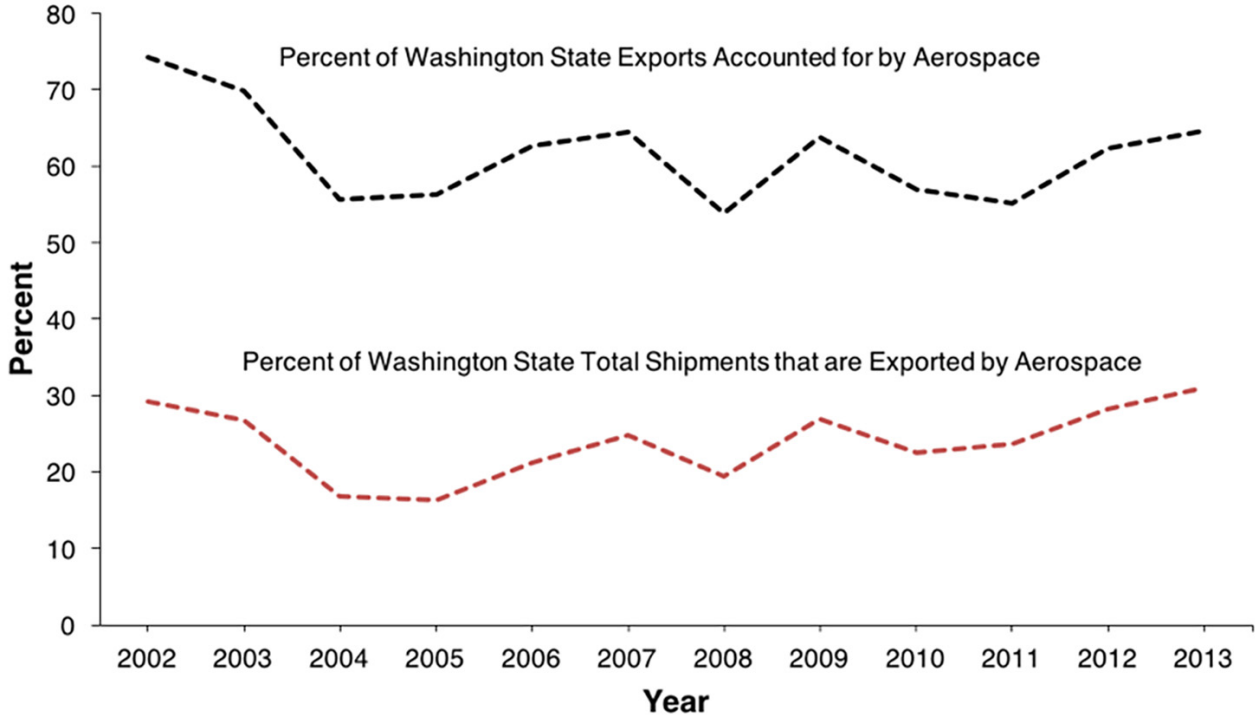

Figure 2. Percentage of Washington exports to the world and percentage of total Washington shipments exported accounted for by aerospace products and parts, by year.

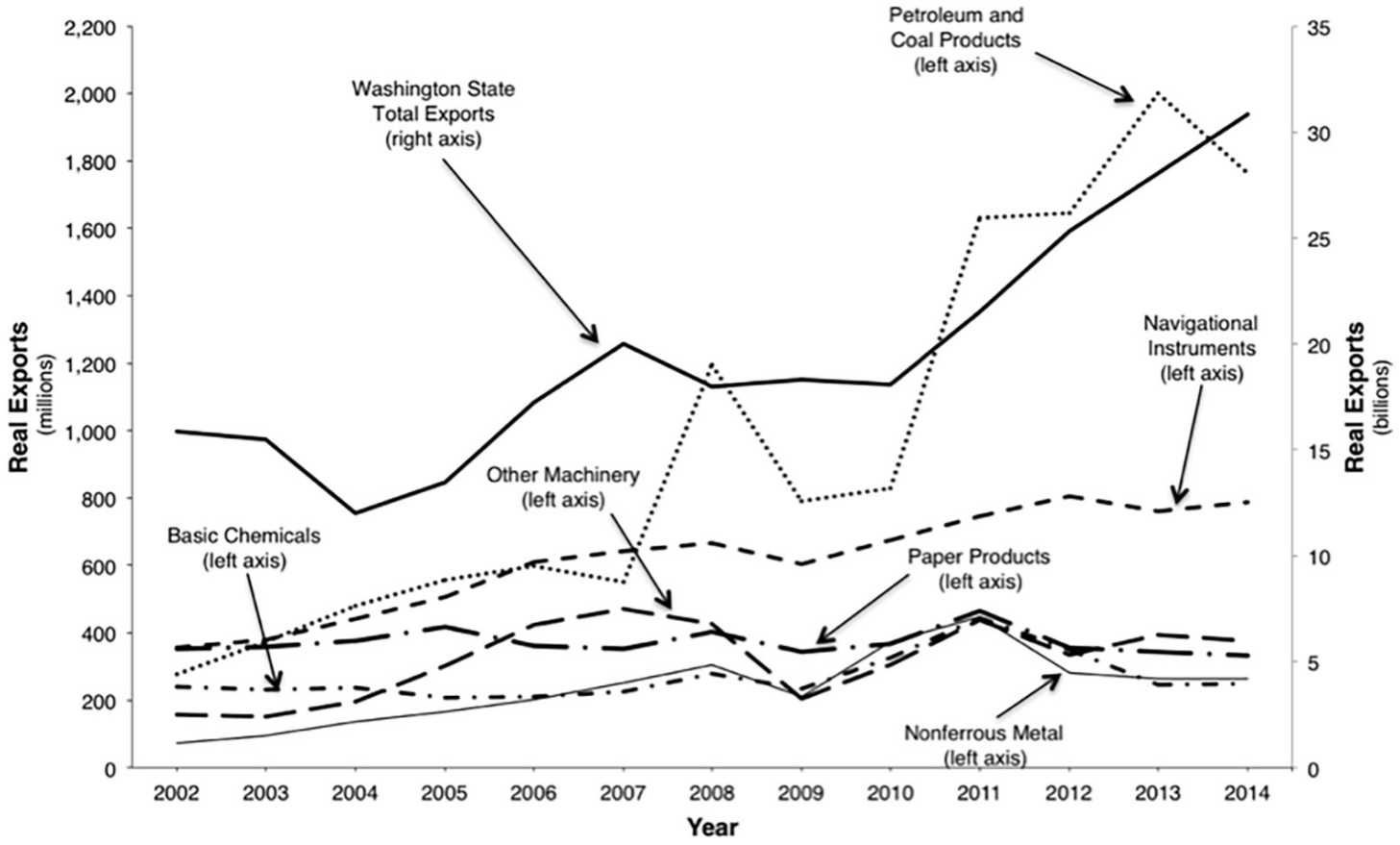

Figure 3. Inflation-adjusted exports for five Washington industries and total exports to the world, by year.

Figure 4 shows the importance of the international market compared to the U.S. market for Washington's leading industries, other than the aerospace sector. Figure 4 plots industry location quotients. A location quotient is a statistic that compares the amount of sales overseas to the amount of sales within the United States. If the statistic is more than one, then more sales are going abroad, whereas if the statistic is less than one, more sales are going to the U.S. market. A location quotient of one indicates exactly the same amount of sales to the world as to the United States.

With location quotients being less than one for the industries in Figure 4, one may see that even for Washington's leading non-aerospace export industries, most sales are to the domestic market. The navigational instruments industry had more sales abroad than in the United States from 2007 to 2011, but since 2012 sales have been about equal. That has occurred at the same time exports of navigational instruments have increased, thus indicating sales to the domestic market have increased faster than exports.

The export data on processed agricultural products fall into the food manufacturing (NAICS 311) subcategory under manufacturing (NAICS 31–33). An agricultural product must be considered processed if it is to count as a manufactured good. Processing methods include freezing, cutting, and packaging.

Thus, the Census Bureau counts many products informally considered agricultural goods as manufactured products. The export data for unprocessed agricultural products (crop and animal production, NAICS 111 and 112) are not considered, because the data collection method used attributes goods to the port state, regardless of what state actually produced the good. Consequently, the export data for unprocessed agricultural goods for port states such as Washington do not accurately reflect the state's economic activity. See *The Collection and Description of Washington State Export Data* (Cassey 2010) for details on Washington's export data and related consolidation issues in port states.

Washington's leading manufactured food products export industries include fruit and vegetable preserves and specialty foods, dairy products, meat and meat-packaging products, seafood products, foods not elsewhere specified, and grain and oilseed-milling products. Producers in the fruit and vegetable preserves industry group are primarily engaged in freezing fruits and vegetables as well as pickling, canning, and dehydrating them, regardless of the type of fruit or vegetable (www.naics.com).

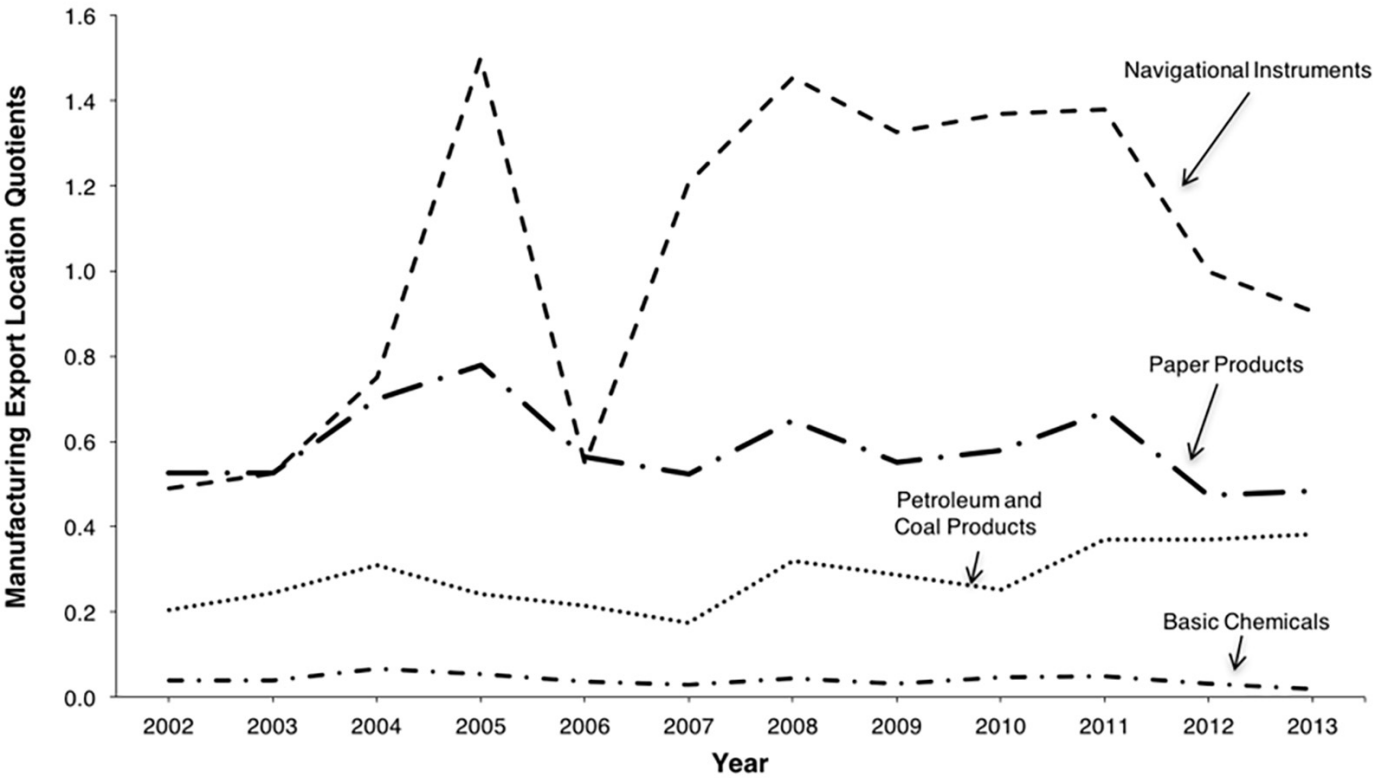

Figure 4. Exports-to-domestic-sales location quotients for four Washington industries, by year.

Figure 5 shows the inflation-adjusted export value for Washington's processed agricultural products. The fruit and vegetable preserves industry experienced a downturn in 2014 of 8.1%, or about $73 million in inflation-adjusted value. This is only the second downturn for fruit and vegetable preserves since 2002. Dairy products experienced the largest gain from 2013. Exports increased by 16.7%, or almost $30 million. Grain and oilseed milling products experienced a gain of 8.4%. However, as mentioned in earlier volumes, this category largely reflects products produced in other states and shipped through Washington. Exports were flat for meat products, seafood products, and other foods.

Washington Inflation-Adjusted Import Patterns in Total and by Selected Industry

Data for state imports included in this fact sheet date from 2008 through 2014. The data here include 2015 revisions released for the 2012 and 2013 years. Revisions to the 2013 data are miniscule. But there are large revisions to the 2012 data that change the interpretation of the recent import trends, including those described in volume 7 of this series.

The revisions include an additional $1 billion in inflated-adjusted value for the aerospace industry in 2012, as well as substantial increases in imports in the communications equipment and meat-products industries. The revision of the data comes from better assignment of imports to the correct product categories and removal of them from the miscellaneous category where they were attributed in the initial release of the data. On net, the large upward revision of the 2012 import data means that 2012 was a peak import year. Imports in 2013 declined 6.5% compared to the revised 2012 imports level and declined another 8.6% in 2014. This can be seen in Figure 6, where there is a clear peak in imports in 2012 in Washington, as well as for aerospace products and parts.

However, it seems reasonable to be suspicious of the decline in imports, as it very well could be due to poor initial assignment of imported products in 2014 rather than a reflection of the actual trend. Only time will tell if a revision to the 2014 data sees the kind of change that the revision in the 2012 data has brought. Given the uncertainty of the 2014 data, it is tough to draw a conclusion on the recent import trends at the industry level. As with exports, the aerospace products and parts industry is the largest import sector, accounting for 20% of all Washington imports.

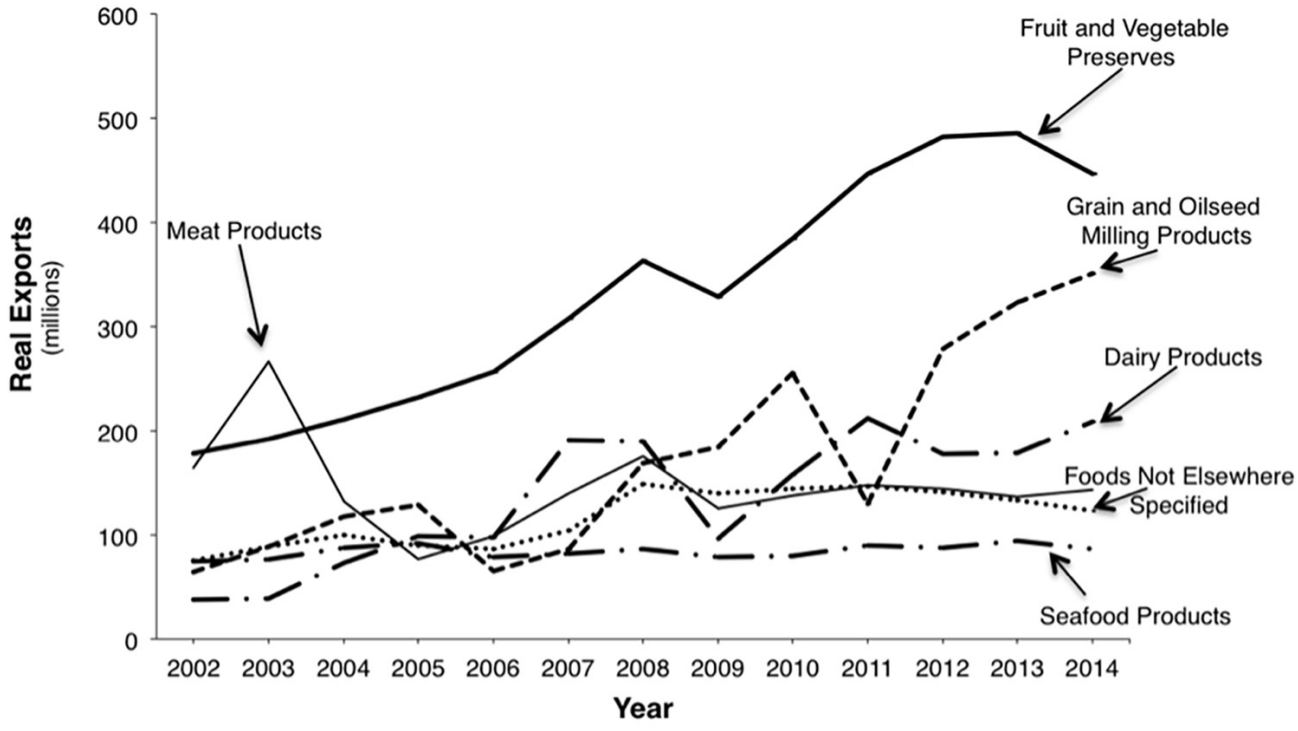

Figure 5. Inflation-adjusted exports of processed agricultural products for Washington, by year.

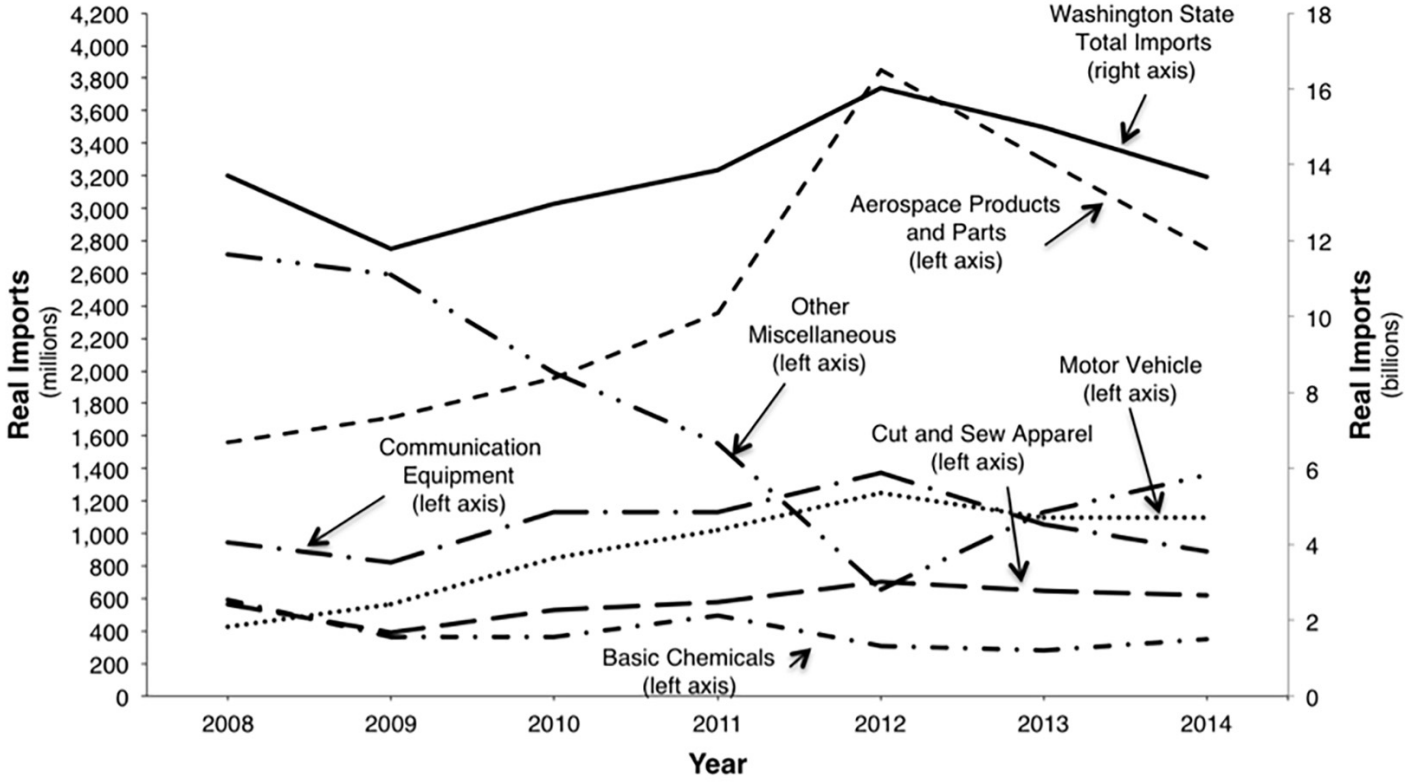

Figure 6. Inflation-adjusted imports for five Washington industries and total imports from the world, by year.

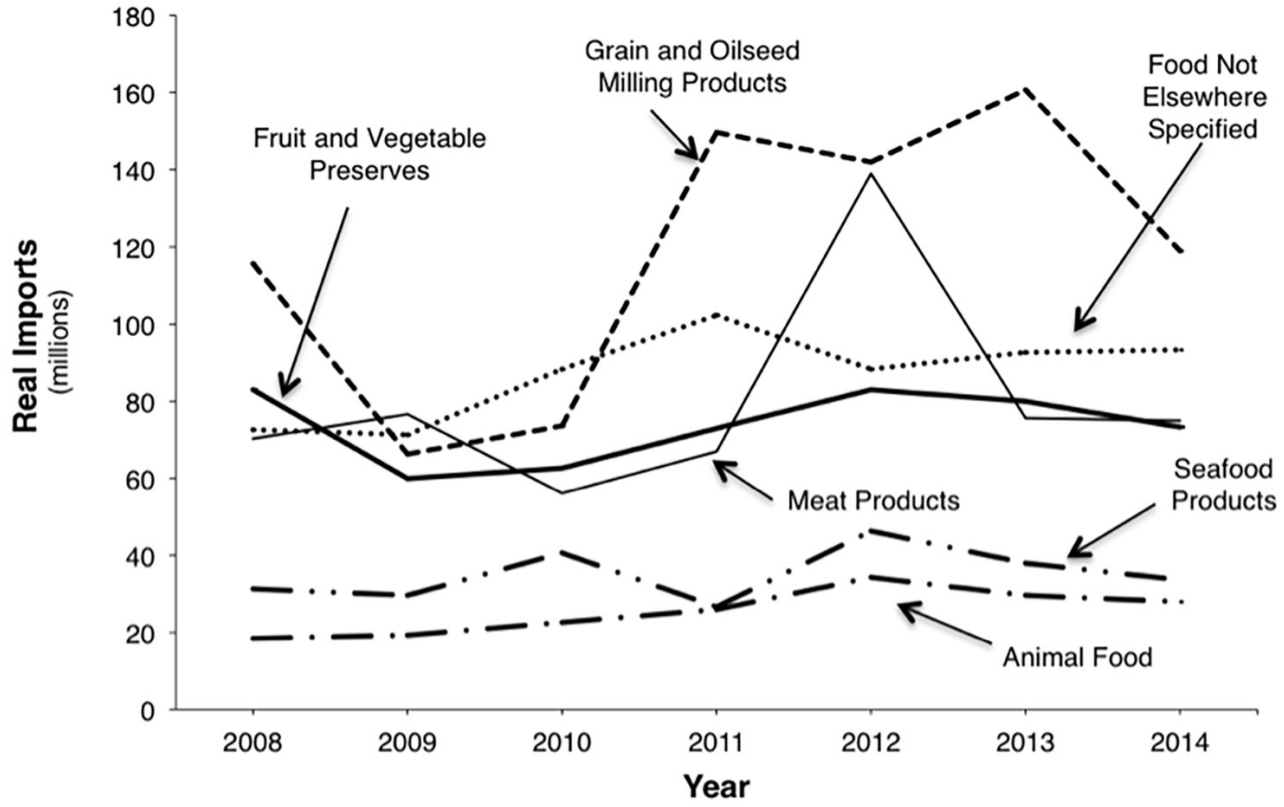

Figure 7. Inflation-adjusted imports of processed agricultural products for Washington, by year.

The import trends of processed agricultural products are shown in Figure 7. Washington's leading import industry among processed agriculture remains grain and oilseed-milling products, despite a large decrease in 2014. Otherwise, the remaining leading import industries show little to no change in import values from 2013. As with Figure 6, uncertainty in the 2014 data make drawing conclusions about trends at the industry level difficult.

Transportation and Washington Trade

The ability of Washington to maintain its role in international trade is heavily dependent upon the multi-modal transportation network within the state to efficiently move goods to and from its ports. The state's highway and rail infrastructure is complemented not only by coastal seaports such as Seattle and Tacoma, but also the longest West Coast inland waterway system that stretches 465 miles to Lewiston, Idaho. The combination of deep-water ports, well-developed rail and highway networks, and the inland waterways continue to make Washington and the Pacific Northwest a major hub of international trade for goods entering and leaving the U.S. However, maintenance issues and costs pose a potential disruption in the future.

Washington's Rail Corridors Move Containers to U.S. Markets

Railroads play a major part in the movement of containers, automobiles, and merchandise from Washington's seaports to final markets. Roughly 40% of the state's rail traffic is related to activity at the ports (BST Associates 2009). Typically, roughly 50% of the tonnage handled in Washington is inbound to the state, 16% is outbound, and 29% passes through. The same major industry groups that rely heavily on rail transportation are also among Washington's leading export sectors: agriculture, manufacturing, and wholesale (Cambridge Systematics 2013). Outbound commodities on rail in 2012 were made up of intermodal (29%), waste and scrap (13%), lumber and wood (11%), and agricultural products (11%). More than half of trains terminating in Washington are carrying farm products (49%) or other food products (8%) (https://www.aar.org/data-center/railroads-states#state/WA).

In addition to the Class I railways of Union Pacific and BNSF, Washington hosts 22 short line railroads totaling nearly 1,400 miles. Short line railroads are sub-regional lines that frequently serve as vital first and last mile connectors to major production regions, particularly agricultural production. However, many short line operations in Washington are at risk of becoming obsolete without significant effort to upgrade the lines and overcome substantial deferred maintenance.

Not only do the lines provide access to a larger market area than trucks, but they also serve to replace thousands of trucks that otherwise would contribute to roadway congestion. In 2014, Tacoma Rail moved 234,572 carloads of international intermodal, crude oil, automobiles, chemicals, and frozen foods, among other goods. As the major intermediary between the Port of Tacoma and the mainline railroad, Tacoma Rail's operations allow the Port of Tacoma to be competitive, and its use diverts more than 500,000 truckloads off already-congested roadways (Sage, Casavant, and Eustice 2015).

The River System Supports Agriculture

The river system is one of the freight lifelines for the inland Northwest, connecting upriver ports with lower Columbia River export load centers. Barge traffic along the Columbia and Snake rivers brings grain and other bulk goods downriver to lower Columbia River international trade ports. While this system still is largely used to handle bulk movements of wheat production from southeast Washington, it has also traditionally relied on container movement from the Port of Portland upriver to the Port of Lewiston. From the Port of Lewiston, pea and lentil producers, among others, efficiently load pallets of 100-pound sacks into containers for movement down river to Portland to be exported.

In early 2015, Hanjin and Hapag-Lloyd announced they would no longer call on the Port of Portland for containers. This decision was largely associated with ongoing labor disputes between the Pacifica Maritime Association, the International Longshoremen and Warehouse Union (ILWU), and the International Container Terminal Services, Inc (ICTSI). (http://portoflewiston.com/media-room/shipping-reports/). The loss of Hanjin and Hapag-Lloyd effectively cuts off the supply of containers at the Port of Lewiston. Farmers formerly reliant on the barge system now must truck peas, lentils, and other beans to Seattle and Tacoma ports at roughly $1,000 more per container.

Summary

Statewide exports increased again in 2014, achieving the highest inflation-adjusted total on record. But similar to previous years, nearly all of the increase in total exports was due to a large increase in aerospace products and parts exports. The aerospace products and parts industry has largely returned to its historical place of prime importance to Washington's economy, accounting for 30% of all Washington sales, domestic and international. Other leading export industries still receive most of their sales from the United States market. A major revision to the import data for 2012 has created uncertainty in the data for 2014 and, thus, also has created a challenge for interpreting the recent trend in imports at the industry level.

Washington's internal transportation network to support international trade is important, as the Ports of Seattle and Tacoma are the closest to Asia. However, maintenance of short line railroads and labor costs along the ports of the lower Columbia River threaten to disrupt the established transportation network in the future.

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