Export Trends in Washington State

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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 trends for manufactured and processed agricultural exports from Washington State to foreign countries for several large industries (including aerospace and fruit and vegetable preserves). Unlike export data from other sources, the data here can be used to compare export changes over time.

This fact sheet is the fourth edition of an annual series. New material includes 2010 export data and tables listing Washington's top export industries and destinations. Additionally, because of its increased relevance, exports for the pulp, paper, and paperboard mill products have been included.

Introduction

This volume of "Export Trends in Washington Sate" is the fourth fact sheet in a series of WSU Extension publications providing Washington export information and data. Subsequent fact sheets in this series will update and highlight changes in this current information. The WSU Extension publication "The Collection and Description of Washington State Export Data" (Cassey 2010) includes a description of the process by which the Washington State export data used in this series are collected, along with interpretation limitations for these data, as well as definitions for many technical terms.

This fact sheet includes data that depict trends in Washington exports, by industry, from 2002 to 2010. The data are represented as an inflation-adjusted time series, which allows export trends to be observed. These figures also emphasize the relationships between Washington's individual export industries and its overall state-level exporting activity. The industries studied include some of the largest in the state, for example, the aerospace industry. But special attention will be given to the processed agricultural products industries, such as those that produce fruit and vegetable preserves and grain and oilseed milling products.

New information in this fact sheet includes updated export figures, with 2010 data and tables listing Washington State's top export markets and industries. These tables show the changing composition of exports in terms of both industry and destination. Data on the pulp, paper, and paperboard mill products industry have also been added because it has emerged as one of Washington State's top export industries.

The data given here emphasize exports in the context of time, which enables the reader to determine how industry and total exports from Washington State have changed since 2002. Unlike most publications in which data are reported in current-year dollars, the data here are inflation-adjusted. This means that year-to-year data are directly comparable. Finally, this report contains the only existent data on the number of countries receiving Washington exports that is categorized by industry. When combined with the data on exports, this information allows the reader to assess whether changes to exports result from changes in sales to current importing countries or from changes in the number of importing countries.

Washington State's Department of Commerce provides general international trade statistics in its *Commerce Quarterly Trade Bulletin*. Current and past issues are available at http://www.choosewashington.com/Pages/CommerceQuarterlyTradeBulletin.aspx. This bulletin highlights a particular foreign country in each issue, often focuses on a single industry, provides an overview of current events, and offers news on policy issues. Since it focuses on a specific market or industry in each edition, the export trend data in this fact sheet complement the trade bulletin's information by providing a more general picture of Washington's exports, especially with respect to domestic shipments.

The World Institute for Strategic Economic Research (http://www.wisertrade.org) is the source for Washington's export data. In "The Collection and Description of Washington State Export Data," Cassey (2010) provides a full description of these data and how they are collected. The key feature of the state export data is its focus on the location from which exporting begins rather than on the location from which exported goods are produced. This has important implications for the accuracy of data interpretation and conclusions. Refer to Cassey (2010) for a more detailed discussion.

Though the origin-of-movement state export data are only available for purchase, some Washington State export data can be obtained at no cost from TradeStats Express™ (http://tse.export.gov/). In this fact sheet, all nominal export data have been adjusted for inflation using the annual values from the Consumer Price Index (CPI) for all urban consumers (for all items less food and energy) in the Seattle-Tacoma-Bremerton area. (These CPI data are available from the Bureau of Labor Statistics (BLS) at http://www.bls.gov/cpi, Series ID: CUUSA423SA0L1E.) The base year used is the 1982–1984 average.[1] This means that the dollar value of the data provided corresponds to the value of the dollar from 1982 to 1984. Data on shipments are from the Geographic Area Statistics of the Annual Survey of Manufactures (http://www.census.gov/manufacturing/asm/) and the Economic Census (http://www.census.gov/econ/census07/) conducted by the U.S. Census Bureau.

[1]This base year is the standard used by the BLS. Any year may be the base year without changing the data's meaning. For convenience, we use the standard BLS base year.

Many of the subsequent figures, along with the associated data in tabular form, can be found on the website for Washington State University's School of Economic Sciences at http://www.impact.wsu.edu/survey/Extension_Exports/export_data.htm.

Washington State's Leading Export Industries and Top Destinations

Table 1 lists Washington's leading manufacturing export industries between 2005–10 and 2002-07. The value of listed exports is the sum of the inflation-adjusted export values over these five-year periods. The share column for each time period shows individual industry exports relative to the Washington manufacturing total. The ten leading industries account for $85 billion in inflation-adjusted export value, or 80% of the total export value. These data show the changing composition of Washington's export industries over time. Using export data for a five-year span eliminates idiosyncratic events that may have affected one year or one country in order to improve data interpretation. Also, note the overlap for the years 2005–07, which are included in the columns under both time periods.

The composition of export industries has been relatively stable. The leading industries between 2002–07 are the same as those between 2005–10. The aerospace industry dominates, with 60% of all Washington's exports. However, although aerospace exports have increased, their share of total Washington exports has decreased. This reflects the export gains by other leading industries, with the

Table 1. Top 10 Washington manufacturing export industries.

INDUSTRY	2005–10			2002–07		
	Rank	Exports (billions)	Share (percent)	Rank	Exports (billions)	Share (percent)
Aerospace	1	62.93	59.86	1	60.59	64.37
Petroleum & Coal Products	2	4.53	4.31	2	2.84	3.02
Nav, Meas, Electromed & Control Instruments	3	3.71	3.53	5	2.94	3.12
Pulp, Paper & Paperboard Mill Products	4	2.25	2.14	3	2.22	2.36
Other General Purpose Machinery	5	2.13	2.03	4	1.70	1.81
Semiconductors & Other Electronic Products	6	2.01	1.91	6	2.26	2.41
Miscellaneous Manufactured Commodities	7	2.01	1.91	10	1.15	1.22
Fruit & Vegetable Preserves	8	1.87	1.78	9	1.38	1.46
Nonferrous Metals	9	1.51	1.44	7	0.92	0.98
Computer Equipment	10	1.49	1.42	8	1.71	1.81
TOTAL		84.42	80.32		78.14	83.02

Notes: Exports are the inflation-adjusted sum of export values over the five-year period for all manufacturing industries. Share is Washington's industry exports relative to Washington's manufacturing exports.

exception of computer equipment, which has seen its rank, exports, and share decrease. In the next section, we use the top five industries from Table 1 to follow export trends over time.

Due to the prominent role of agriculture in Washington's overall economy, Table 2 uses the top nine export industries in the processed agricultural products sector. As with manufacturing industries, the composition of these industries does not change much between the two time periods. The two major changes in these industries are the increase in exports for dairy products (moving from the 5th leading export industry to the 3rd leading) and the decrease in exports for the meat products industry (with exports decreasing by almost $125 million in 2005–10 compared to 2002–2007). In the following section, six industries from Table 2 are used to follow export trends over time. Six industries are included because the share of the 6th place industry (seafood products) is 7.6%, which is several times larger than the 7th place industry (animal foods) at 2.57%.

Table 3 lists major markets receiving Washington manufacturing exports from 2005–10. As in Table 1, the value of the listed exports is the sum of the inflation-adjusted export values over this five-year period. The percent of the listed exports is the share of total exports each country receives. The top ten countries receive over 60% of Washington's exports.

Table 2. Top 9 Washington processed agricultural export industries.

INDUSTRY	2005–10			2002–07		
	Rank	Exports (billions)	Share (percent)	Rank	Exports (billions)	Share (percent)
Fruit & Vegetable Preserves	1	1872.32	31.09	1	1377.42	28.71
Grain & Oilseed Milling Products	2	891.13	14.80	3	552.50	11.51
Dairy Products	3	831.09	13.80	5	537.68	11.21
Meat & Meat-Packaging Products	4	755.94	12.55	2	879.94	18.34
Foods Not Elsewhere Specified	5	715.73	11.88	4	545.66	11.37
Seafood Products, Canned, Prepared	6	500.15	8.30	6	492.31	10.26
Animal Foods	7	168.39	2.80	7	155.32	3.24
Bakery & Tortilla Products	8	147.16	2.44	8	135.83	2.83
Sugar & Confectionary Products	9	140.70	2.34	9	121.81	2.54
TOTAL		6022.62	100.00		4798.46	100.00

Notes: Exports are the inflation-adjusted sum of export values over the five-year period for all processed agricultural industries. Share is Washington's industry exports relative to Washington's processed agricultural exports.

Table 3. Top 10 countries receiving Washington manufacturing exports.

COUNTRY	2005–10			2002–07		
	Rank	Exports (billions)	Share (percent)	Rank	Exports (billions)	Share (percent)
Canada	1	17.40	16.55	1	12.71	13.50
China	2	11.68	11.12	3	9.25	9.83
Japan	3	11.59	11.03	2	12.03	12.79
United Arab Emirates	4	5.35	5.09	8	3.63	3.86
South Korea	5	3.96	3.77	5	4.57	4.85
India	6	3.61	3.44	13	2.26	2.40
Taiwan	7	3.61	3.44	6	3.85	4.09
Ireland	8	3.40	3.24	12	2.61	2.77
Untied Kingdom	9	3.23	3.07	10	3.36	3.57
Singapore	10	3.12	2.97	4	4.68	4.97
TOTAL		66.97	63.71		61.30	65.13

Notes: Exports are the inflation-adjusted sum of export values over the five-year period for all manufacturing industries. Share is manufactured exports to each listed country relative to Washington's manufactured exports to the world. Two countries that were in the top 10 in 2002–2007, Australia (7th) and France (9th), were no longer in the top 10 in 2005–2010.

Canada, China, and Japan are the top three destinations in both time periods, each accounting for over 10% of Washington manufacturing exports. China, however, has increased in rank from 3rd to 2nd, with its share of imports increasing from 9.8% to 11.1%. India and Ireland are new to the list of top ten export destinations, India having been 13th and Ireland 12th in the previous list. Australia and France were in the top ten in 2002–07 but not in 2005–2010. Singapore dropped from the 4th leading to the 10th leading destination. These export trends show that Washington is increasingly dependent on developing countries as destinations for manufactured exports. Perhaps the most surprising country to make the top ten is the United Arab Emirates. However, this country does not import a broad range of Washington goods, but rather it imports heavily from the aerospace industry, of which Washington State is a world leader.

Similar to Table 3, Table 4 lists the top ten countries receiving processed agricultural exports from six industries that are particularly important to Washington's agricultural economy. These ten countries make up over 75% of exports in both the 2005-10 and 2002-2007 time periods. Unlike the top ten recipients of manufacturing exports, the list of top ten countries receiving processed agricultural exports is stable. No countries were added or dropped from the list between the two time periods. But perhaps the biggest change is that although Japan retains its number one ranking, it is importing less in absolute value, with a decrease of nearly $100 million. This decrease was offset by the $200 million increase in exports to Canada, although the percent of exports to Canada remains the same at roughly 18.5%. Except for Japan and the UK, Washington's exports increased to all of its top destinations. However, most of the gains in Washington's processed agricultural exports were realized in countries that were not on the list of the top ten largest importers. This change can be seen in Table 4, where the share of exports to the top ten countries has decreased from 81.58% to 77.91%, even though the value of total exports increased from $3577.87 to $4336.60.

Washington State's Export Patterns in Total and by Selected Industry

Inflation-Adjusted Total Exports

Washington State exports decreased by an inflation-adjusted (base year 1982–1984) $191 million in 2010 compared to 2009, about a 1% decrease. As Figure 1 shows, this very slight decline in total exports follows a slight increase in exports in 2009. In general, state exports have been flat since 2008 and are down from the 2007 peak of export value.

Figure 1 also shows a greater than 1% decline in exports from the aerospace products and parts industry (NAICS 3364). This trend continues because wherever the aerospace industry goes, so goes Washington's state export statistics, since aerospace is the dominant export industry in Washington.

Table 4. Top 10 countries receiving Washington processed agricultural exports.

COUNTRY	2005–10			2002–07		
	Rank	Exports (billions)	Share (percent)	Rank	Exports (billions)	Share (percent)
Japan	1	1031.30	18.53	1	1113.38	25.39
Canada	2	1031.15	18.52	2	809.03	18.45
Philippines	3	553.95	9.95	5	259.55	5.92
Mexico	4	414.29	7.44	3	335.59	7.65
China	5	356.64	6.41	4	292.27	6.66
South Korea	6	238.59	4.29	6	234.40	5.34
Indonesia	7	194.03	3.49	10	108.81	2.48
Australia	8	180.48	3.24	9	120.53	2.75
United Kingdom	9	170.67	3.07	7	176.50	4.02
Taiwan	10	165.50	2.97	8	127.82	2.91
TOTAL		4336.60	77.91		3577.87	81.58

Notes: Exports are the inflation-adjusted sum of export values over the five-year period for the following six industries: fruit & vegetable preserves, grain & oilseed milling products, dairy products, meat & meat-packaging products, seafood products, prepared, canned, and packaged, and foods not elsewhere specified. Share is the exports from these six industries to each listed country relative to Washington's exports from these industries to the world.

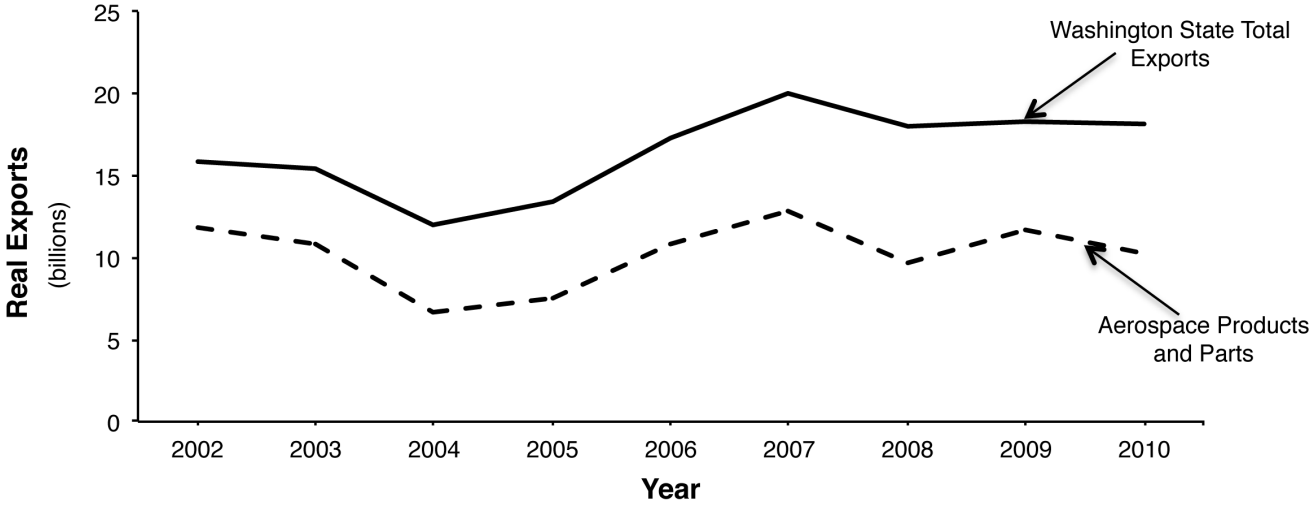

Figure 1. Inflation-adjusted exports of Washington State aerospace products and parts and total aerospace exports to the world, by year (1982-84 dollars).

Even though aerospace is the dominant export industry, its 2010 decline was partially offset by gains in most of Washington's other leading export industries. This can be seen in Figure 2, where there are gains in inflation-adjusted exports of petroleum and coal products (NAICS 3241), navigational, measuring, electromedical, and control instruments (NAICS 3345), pulp, paper, and paperboard mill products (NAICS 3221), and other general-purpose machinery (NAICS 3339), including such goods as pumps, compressors, and material-handling equipment. Total Washington State export data were taken from Figure 1 (scale is on the right axis of Figure 2), so that the trend in exports for these five industries can be compared to the state's export trend. Note the difference in scale (by a factor of 20), which shows that the other large export industries are dwarfed by the aerospace industry.

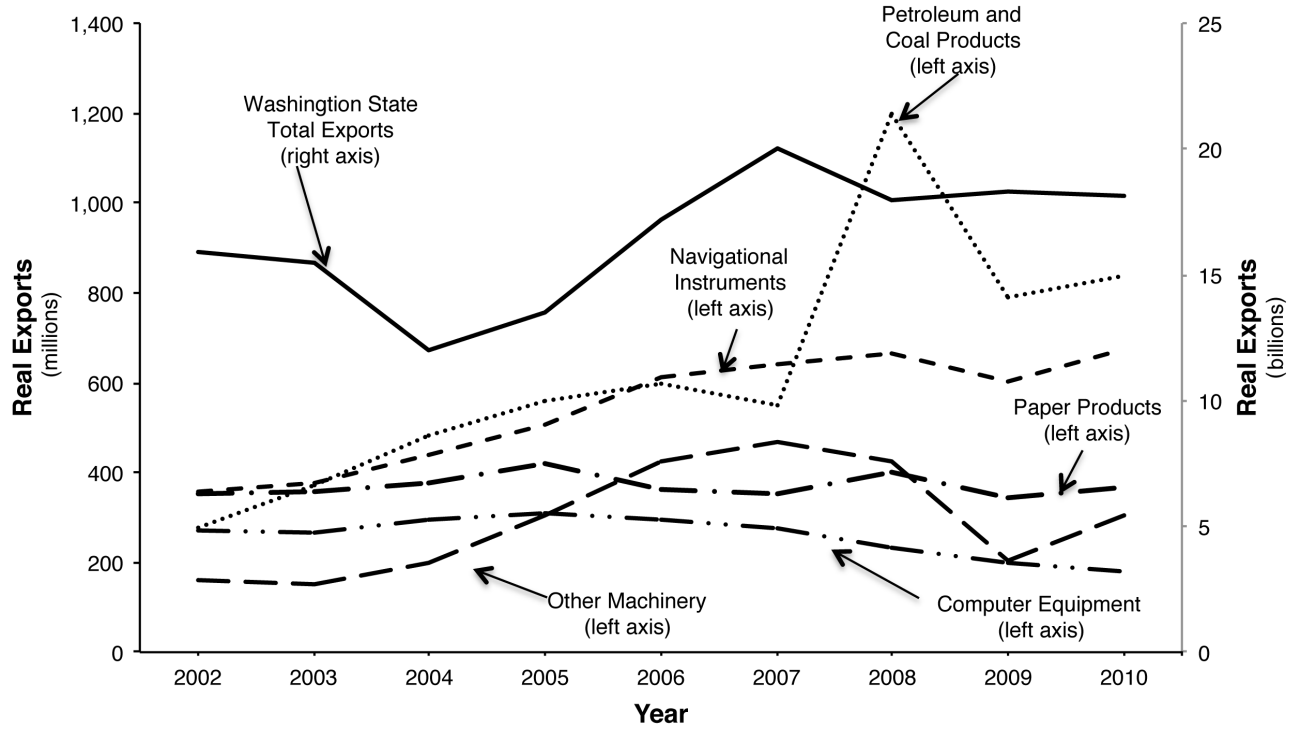

Figure 2. Inflation-adjusted exports from five Washington State industries and total exports from these industries to the world, by year (1982-84 dollars).

The only one of Washington's leading export industries to see a decline in 2010, besides the aerospace industry, was the computer equipment industry (NAICS 3341). In this industry, export values have been steadily declining since 2005, and if this trend continues, it will not be among Washington's leading export industries in 2011 or 2012.

Comparing the aerospace industry exports to the state's total exports (Figure 1), as well as to other industries' exports (Figure 2) shows how dominant aerospace products are in terms of Washington's total exports. Aerospace accounted for between 50% and 75% of Washington's total exports from 2002 through 2010. In 2010, no other industry in Washington accounted for more than 5% of total state exports. Graphs showing the percentage of each industry's exports that contribute to Washington's total exports from 2002 through 2010 are available at http://www.impact.wsu.edu/survey/Extension_Exports/Graphs/graph2A2B.pdf.

Figure 3 shows the year-over-year percent change in exports for the leading export industries. (Note that 2002 is not shown because the 2003 point indicates the percent change from 2002 to 2003, likewise for the other points.) As previously mentioned, the aerospace and computer equipment industries decreased export sales in 2010 compared to 2009. Aerospace decreased by 11.5% and computer equipment exports decreased by 10.75%. But the rest of Washington's export industries increased their foreign sales. Exports from the category "other machinery" were the biggest winners, with exports up nearly 50%. Navigational, measuring, electromedical, and control instruments also experienced strong export growth in 2010, going up 12%.

Figure 4 shows the number of countries Washington firms have exported to since 2002. The overall trend shows that Washington's top six manufacturing industries currently export to more countries than they did in the early 2000s. In 2010, five out of six of Washington's top export industries increased (or maintained) the number of countries they exported to, reversing their 2009 positions, where the number of countries decreased for five out six of these exporters. Given the increase in the number of destination countries, the decrease in exports across all industries mostly likely comes from fewer sales in each individual country. Even the aerospace industry, which had a decrease in exports, exported to more countries in 2010 than they did in 2009, further suggesting that the number of sales to each country decreased.

Inflation-Adjusted Processed Agricultural Exports

The export data on processed agricultural products fall into the food manufacturing (NAICS 311)

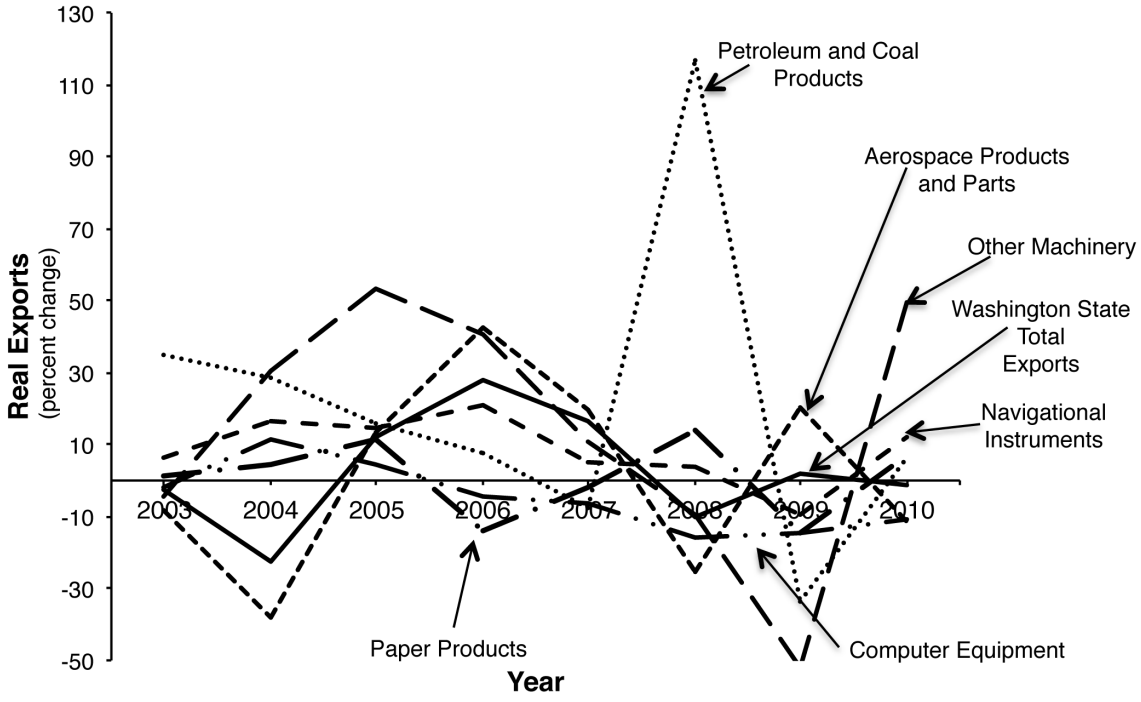

Figure 3. Year-to-year percent change in real exports for six Washington State industries.

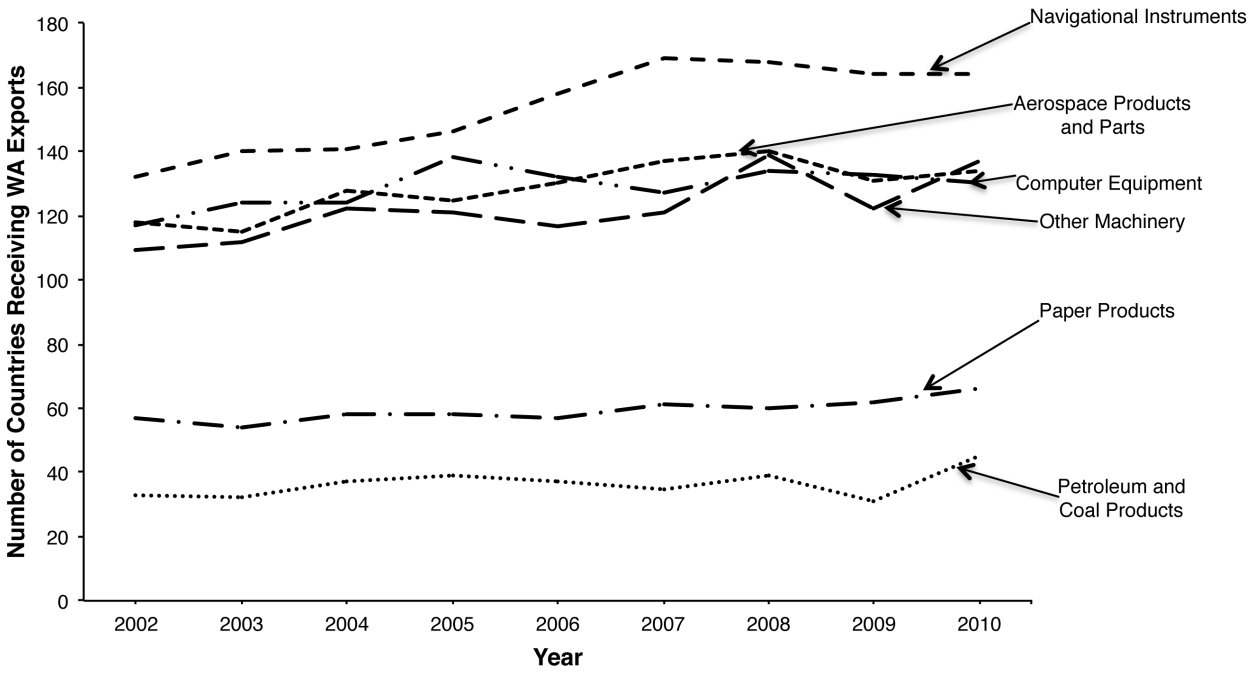

Figure 4. The number of destination countries for Washington State manufacturing products, by year.

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 state where the good exists, rather than the state of production. Consequently, the export data for unprocessed agricultural goods for port states such as Washington do not accurately reflect the state's economic activity. See Cassey (2010) for details on Washington's export data and related consolidation issues in port states.

Washington is the fourth largest state in exports of manufactured food products. As Table 2 shows, the leading export industries include fruit and vegetable preserves and specialty foods (NAICS 3114), meat products and meat-packaging products (NAICS 3116), grain and oilseed milling products (NAICS 3112), and seafood products, prepared, canned, and packaged (NAICS 3117).

Figure 5 shows the inflation-adjusted (real) value of exports for Washington's processed agricultural products industries, which are comparable to Figures 1 and 2. All major industries saw an increase in exports in 2010 compared to 2009, a reverse from 2009, where most major industries saw a decrease in exports. Notably, fruit and vegetable preserves and specialty foods returned to an increasing trend after the past eight years of decreases. Dairy products (NAICS 3115) increased 64% in export value, rebounding from a large decrease of 50% in 2009, and grain and oilseed milling products continued their remarkable export growth. The processed agricultural products industry has been Washington's most successful in terms of export expansion during the last decade. However, grain and oilseed milling production is a pass-through industry, meaning many exports could have been produced in another state prior to being consolidated and shipped from Washington.

Figure 6 shows the same data presented as a year-to-year percent change, which is comparable with Figure 3. Unlike the industries in Figure 3, processed agricultural products industry exports show greater volatility, expanding and contracting rapidly. For example, Washington exports of dairy products doubled from 2003 to 2004 and 2006 to 2007 but were roughly unchanged from 2005 to 2006.

In 2010, exports for all processed agricultural products industries grew, which is similar to previous patterns, with increased exports for dairy products at 63%, grain and oilseed milling products at 39%, fruit and vegetable preserves and specialty foods at 17%, meat products and meat-packaging products at 11%, foods not elsewhere specified

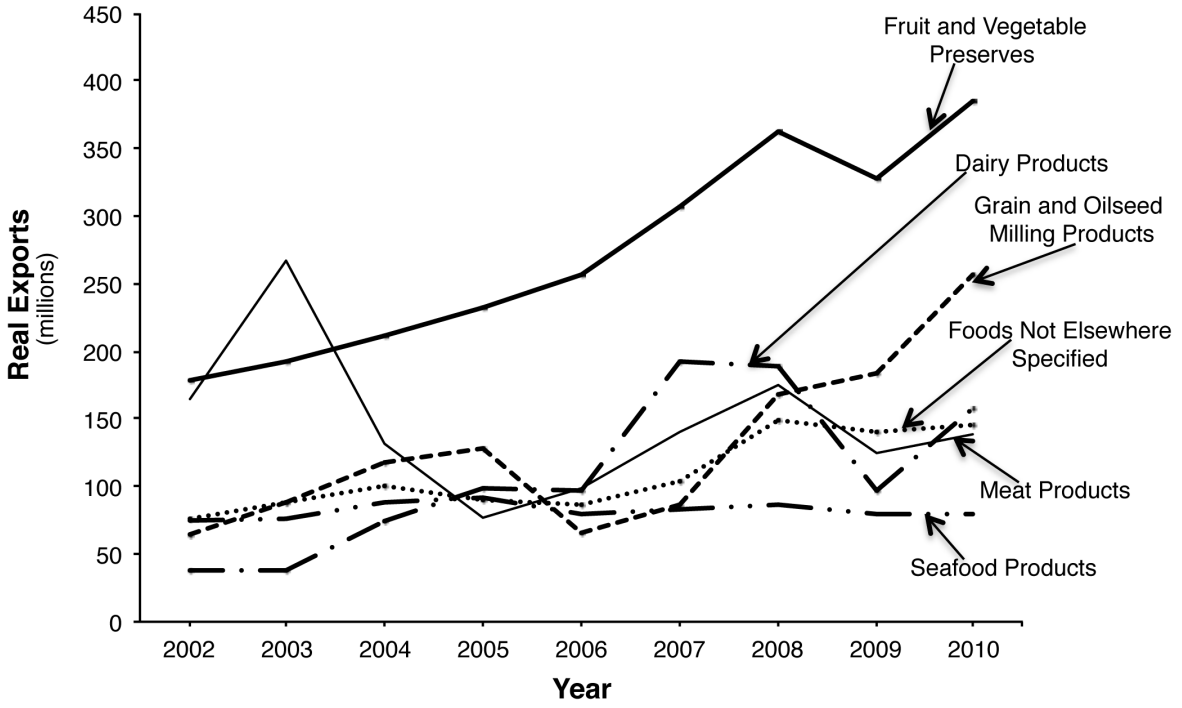

Figure 5. Real exports of processed agricultural products for Washington State, by year.

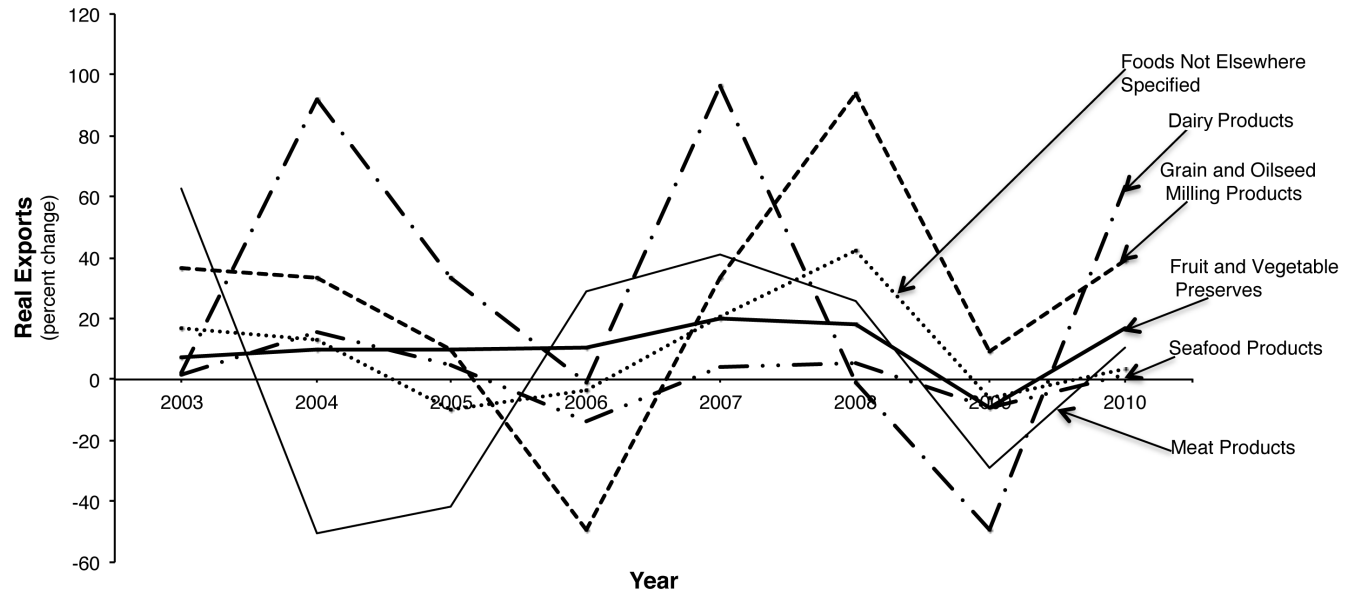

Figure 6. Year-to-year percent change in real exports of processed agricultural products for Washington State.

or identified (NAICS 3119) at 3%, and seafood products, prepared, canned, and packaged at 2%.

Figure 7 shows the number of destination countries for the six leading processed agricultural products industries. The other miscellaneous food manufacturing industry (that is, food products not elsewhere categorized) consistently exports to the most destinations. The big gain was in the category of seafood products, which were exported to ten more countries in 2010 than in 2009. However, two industries, dairy products and foods not elsewhere specified, exported to fewer countries in 2010.

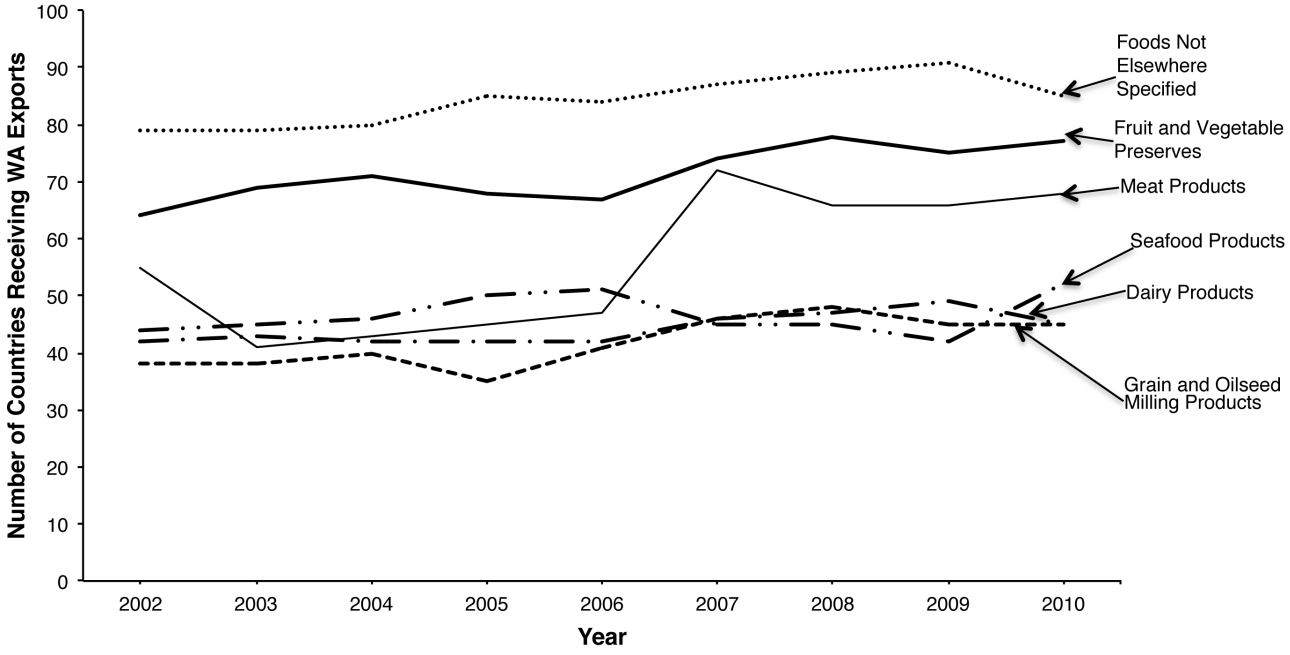

Figure 7. The number of destination countries for Washington State processed agricultural products, by year.

Summary

Though the aerospace industry remains by far the dominant export industry in Washington State, it has weakened relative to industries that export goods, such as petroleum and coal products, navigational, measuring, electromedical, and control instruments, and fruit and vegetable preserves. Nonetheless, the composition of Washington's leading export industries was relatively unchanged in both the 2005–10 and 2002–07 time periods. However, that is not the case for Washington's export destinations, where considerable change has taken place. Previously leading destinations, such as Australia and France, have dropped off the list of leading importing countries, and Japan's share as the top destination for Washington's processed agricultural exports has decreased. Washington is increasingly exporting products to developing countries, such as China and India. Thus, Washington continues a long-term trend of increasing the number of countries that receive Washington goods. This trend can be seen in nearly all of Washington's leading manufacturing and processed agricultural export industries.

Manufactured exports, including processed agricultural products, decreased. After an upturn in 2009, total Washington exports decreased by 1% in 2010. But this loss is not widespread across all industries. Most of the decrease was due to the decrease in the export of aerospace products and parts. Most of Washington's other top exporting industries expanded slightly in 2010. Nevertheless, aerospace products and parts are so dominant in the state's export statistics that the fact that other industries expanded could not keep overall state exports statistics from decreasing. Computer equipment, once commonly associated with Washington, continues its over five-year decline and may even fall out of the group of leading export industries. On the other hand, fruit and vegetable preserves and grain and oilseed milling products continue to experience the tremendous export growth that has occurred over the last five years.

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WASHINGTON STATE UNIVERSITY EXTENSION

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