

WINS FOR WASHINGTON: ECONOMIC IMPACTS OF THE TRANS-PACIFIC PARTNERSHIP ON WASHINGTON STATE



Prepared for:



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EXECUTIVE SUMMARY

Background and Purpose

The Trans-Pacific Partnership (TPP) was signed in February 2016 by twelve Asia-Pacific nations spanning North America, South America, East Asia, Southeast Asia, Australia, and Oceania. If the trade pact is successfully ratified by signatory members, it will constitute the largest free trade zone in the world. The trade deal will introduce significant reductions in tariff and non-tariff barriers across a region representing more than one-third of global GDP.

The Washington Council on International Trade (WCIT) requested an analysis of the potential economic impacts of the full implementation of the TPP on Washington state. This report provides an assessment of these potential impacts, both in total and by select industries. Importantly, many of the benefits introduced through TPP legislation are likely to be impactful but not quantifiable. This report discusses many of these rule changes that may directly benefit Washington state businesses.

Washington's Existing Linkages with the TPP Region

Washington is one of the most trade-reliant states in the U.S., and is a major exporter to countries within the TPP region. In 2015, Washington exported \$25.4 billion in merchandise and commodities to TPP countries and an estimated \$5.6 billion in services.

One of Washington's largest export markets, Japan, has no existing free-trade agreement with the U.S.; the advent of the TPP will further open the Japanese market to many Washington goods, including apples and other commodities. Similarly, in 2015 Washington exported \$1.1 billion in goods to Vietnam; this total will possibly increase following the removal of tariff and non-tariff barriers as required as part of the TPP agreement.

Potential Benefits to Washington State

The TPP includes significant reductions in tariff and non-tariff barriers, including for many of Washington's top product and services exports. For example, some of the largest scheduled tariff reductions in agriculture relate to major Washington commodities, including anticipated tariff rate reductions of up to 31% for wheat, 30% for salmon, and 10% for French fries.

Another important feature of the TPP are rules governing the digital economy. The TPP includes rules prohibiting customs duties on digital products, strengthening efforts to combat trade secret theft, and enabling cross-border data flows. Washington is a global leader in software production and cloud computing services and is well-positioned to benefit from the enactment of these rules.

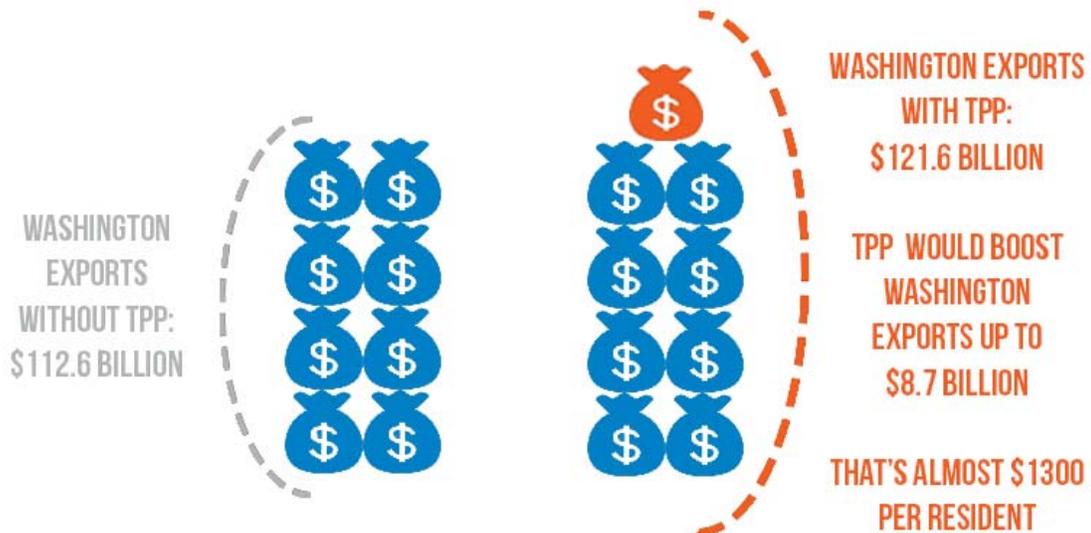
Quantifying the Potential Impacts of the TPP to Washington

Two recent studies were used to estimate the potential economic impacts of the TPP on Washington state. Petri and Plummer (2016), writing for the Peterson Institute for International Economics, project U.S. exports to increase by 9.1% over baseline forecast by the year 2030.

The U.S. International Trade Commission (ITC) presents a more conservative projection for TPP impacts. The study finds that the advent and full implementation of the TPP will raise U.S. exports, against a baseline projection, by 1.0% by 2032. U.S. exports to TPP members are projected to grow 5.6%, though exports with non-FTA signatories (e.g., Japan, Vietnam) will increase by a projected 18.7%.

These two studies were used to estimate the potential benefits to Washington state from the full implementation of the TPP. Assuming a hypothetical scenario whereby the TPP was already in full force prior to 2015, Washington's exports to the TPP would have increased by between \$2.0 billion and \$8.7 billion.

WASHINGTON EXPORTS UNDER TPP



These export gains would translate into employment increases of between 5,900 and 26,400 additional jobs. Factoring in multiplier effects from additional business-to-business transactions supported by exports, and further job gains from worker income expenditures, the total impact of the TPP could range between 16,500 and 73,200 jobs across the state economy.

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INTRODUCTION

Background and Purpose

The Trans-Pacific Partnership (TPP) was signed in February 2016 by twelve Asia-Pacific nations spanning North America, South America, East Asia, Southeast Asia, Australia, and Oceania. If the trade pact is successfully ratified by signatory members, it will constitute the largest free trade zone in the world. The trade deal will introduce significant reductions in tariff and non-tariff barriers across a region representing more than one-third of global GDP.

The Washington Council on International Trade (WCIT) requested an analysis of the potential economic impacts of the full implementation of the TPP on Washington state. This report provides an assessment of these potential impacts, both in total and by select industries. Importantly, many of the benefits introduced through TPP legislation are likely to be impactful but not quantifiable. This report discusses many of these rule changes that may directly benefit Washington state businesses.

Methods

The report uses a combination of quantitative and qualitative methods to assess the potential benefits of the TPP to Washington state. Sources include:

- State-of-origin exports data;
- Reports and analysis of the nationwide impacts of the TPP published by the Peterson Institute for International Economics, the United State International Trade Commission, and other research organization;
- News articles, other secondary sources; and
- Interviews with representatives of industries most directly impacted by changes in the terms of trade brought about by the TPP.

The analysis presented in this memo leverages the above sources to present: 1) estimated, quantifiable impacts to Washington industries; and 2) industry-specific impacts, including interview feedback and findings. Quantifiable impacts to Washington draw primarily on estimates produced by Petri & Plummer (2016) and the U.S. International Trade Commission (2016).

ORGANIZATION OF REPORT

The rest of this report is organized as follows:

Background on the TPP and Review of Key Issues

This includes a summary of partner countries, changes in trade regimes, industries potentially impacted, and related issues.

Washington's current exports with TPP partners

Review of current export trends among TPP partners.

Types of businesses impacted by the TPP

An overview of the range of businesses and activities that may be affected by the trade agreement.

Estimated impacts on Washington's export economy from the TPP

Data analysis leveraging existing reports and resources to assess future impacts of the TPP on Washington's exports.

Summary of findings and conclusion

A review of key findings presented in this report.

OVERVIEW OF THE TPP

Description of the TPP

The Trans-Pacific Partnership (TPP) is a free trade agreement signed among twelve Asia-Pacific countries in February 2016, after seven years of negotiations.¹ The agreement, if implemented, will remove more than 18,000 tariffs across member countries, including all tariffs on manufactured goods and most agriculture products. In addition to the reductions in tariffs and tariff rate quotas, the agreement also includes provisions on investments and cross-border services, including digital trade and cross-border data flows, as well as new disciplines in areas like state-owned enterprises.

The relative reductions in trade barriers were negotiated on a bilateral basis by the U.S., and vary by country. For example, for some countries, tariffs on manufactured goods will be immediately eliminated, whereas as in others will see tariff reductions phased in over a 30-year time period.

The agreement will require implementing legislation passed by Congress to enter into force in the U.S., and the agreement's merits are currently being debated among various trade, environmental, and industry interests. The TPP, when in force, will constitute the largest free trade pact in the world, representing roughly one-third of total global output. There is also the possibility the TPP may eventually expand to include other countries within the Asia-Pacific, such as South Korea and potentially even China. Proponents of the TPP point to the greater integration, through trade and investment across the region. According to proponents of the trade deal, the agreement may also strengthen the U.S.'s ability through the terms of the TPP to shape rules on state-owned enterprises, digital trade barriers, and other trade-related issues (Fergusson, McMinimy, & Williams, 2016).

The U.S. already has free trade agreements (FTAs) with six of the eleven partnering countries. Some of the countries participating in the TPP that do not currently have FTAs with the U.S. are among the largest economies in the Asia-Pacific, most notably Japan (the third largest economy in the world).

The TPP Region and Partners

TPP members with no current FTA with the U.S. include Brunei, Japan, Malaysia, New Zealand, and Vietnam. According to the Congressional Research Service, across all eleven trade partners, approximately 90% of U.S. tariff lines and 88% of partner country tariff lines would be eliminated when the agreement enters force, particularly impactful

¹ Countries participating in the TPP include the U.S., Canada, Mexico, Chile, Peru, Japan, Australia, New Zealand, Brunei, Singapore, Malaysia, and Vietnam.

for US exports entering the five countries without an existing U.S. FTA” (Fergusson, McMinimy, & Williams, 2016, p. 4).

The 11 U.S. trading partners joining the TPP represented 13% of global GDP in 2015, measured in U.S. dollars (**Exhibit 1**). The largest of these, Japan, constituted 5.6% of global GDP, followed by Canada at 2.1%. While representing only 13% of global GDP, these countries were the destinations for nearly half (42.5%) of all U.S. commodities and merchandise exports in 2015. Canada and Mexico, the U.S.’s NAFTA partners, represented more than one-third of all U.S. commodities and merchandise exports in 2015.

Exports among non-FTA countries (Brunei, Japan, Malaysia, New Zealand, and Vietnam) were the destinations for 5.7% of all U.S. exports. However, some of these countries are expected to exhibit strong growth through 2020, based on International Monetary Fund GDP projections. Adjusted for inflation expectations, Vietnam’s economy is projected to grow 6.0% per year, while Malaysia is projected to grow 5.0% (International Monetary Fund, 2015).

Exhibit 1. TPP Countries’ Share of Global GDP and U.S. Exports, 2015

| Country | Share of Global GDP, 2015 | Share of U.S. Exports, 2015 |
|--|----------------------------------|------------------------------------|
| Australia | 1.7% | 1.7% |
| Brunei Darussalam | 0.0% | 0.0% |
| Canada | 2.1% | 18.6% |
| Chile | 0.3% | 1.0% |
| Japan | 5.6% | 4.2% |
| Malaysia | 0.4% | 0.8% |
| Mexico | 1.6% | 15.7% |
| New Zealand | 0.2% | 0.2% |
| Peru | 0.2% | 0.6% |
| Singapore | 0.4% | 1.9% |
| Vietnam | 0.3% | 0.5% |
| <i>Subtotal, countries with no FTA</i> | 6.6% | 5.7% |
| Total | 13.0% | 45.2% |

Sources: International Monetary Fund, 2016; U.S. Census Bureau, 2016; Community Attributes Inc., 2016.

EXISTING STUDIES ON U.S. IMPACTS FROM THE TPP

Recent studies have attempted to assess and quantify the long-term impacts of the Trans-Pacific Partnership on the U.S. economy; several of these studies have been consulted as part of this report. All provide different assessments of how the TPP will affect U.S. export activities, with varying implications for Washington state.

Petri and Plummer (2016) use a global computable general equilibrium (CGE) model to analyze the effects of the TPP on the various member countries, including real income and member country exports. Estimates suggest that the TPP will increase annual real incomes in the United States by \$131 billion and annual exports by \$357 billion, or 9.1% over baseline projections by the year 2030 (Petri & Plummer, 2016). Additional income effects for foreign TPP member countries are also estimated. Washington's two largest export destinations within the TPP are Canada and Japan. Both countries are projected to experience real income gains of 1.3% and 2.5% over baseline projections by 2030 (Petri & Plummer, 2016).

The study released by the U.S. International Trade Commission (ITC) in 2016 presents a much more conservative projection for TPP impacts. The study finds that the advent and full implementation of the TPP will raise U.S. exports, against a baseline projection, by 1.0% by 2032. U.S. exports to TPP members are projected to grow 5.6%, though exports with non-FTA signatories (e.g., Japan, Vietnam) will increase by a projected 18.7%. The ITC study also provides industry-level projections for major U.S. export goods and services. U.S. agriculture and food exports to TPP partners are projected to grow 2.6% and support an additional half million U.S. workers in these industries (U.S. International Trade Commission, 2016).²

Both studies use credible, yet different models that vary in a few ways. First, the ITC report takes a deeper look at potential sector-specific trade and investment issues that could limit the impact of certain provisions on U.S. trade. In addition, the ITC report did not assume any "spillover" benefits from increased trade liberalization on trade partners who are not TPP partners, nor does it estimate improvements in U.S. productivity. Authors of both of these studies acknowledge that there may be significant benefits not captured in their study, especially since benefits from reductions in non-tariff barriers are difficult to quantify.

² The ITC outlines four factors related to its modeling approach that explain the differences in results with the Petri & Plummer. Those differences are: 1) a more disaggregated sectoral approach to changes in U.S. exports; 2) a disaggregated quantification of changes in invest, also at the sectoral level; 3) no inclusion of policy spillover effects, e.g., additional trade liberalization policies among non-TPP members; and 4) no consideration and simulation of productivity differences at the firm level within each sector (U.S. International Trade Commission, 2016, pp. 41-42).

According to the National Association of Manufacturers, the ITC report also underreports the gains U.S. manufacturers have seen from past trade agreements. Since NAFTA, U.S. manufacturing output and U.S.-manufactured goods exports have doubled, and U.S. manufacturers sell 13 times more to free trade agreement partners than to the rest of the world. NAM also points out that the ITC report does not capture the vast benefits of reduction of non-tariff barriers, such as improvement in intellectual property protection (Dempsey, 2016).

There are also detractors that point to potential negative effects of the TPP on the U.S. economy. Capaldo & Izurieta (2016) raises concerns that previous literature on the TPP assumes full employment and discounts the possibility of unequal income distribution. The authors find that—using an alternative dynamic model—even with an increase in net trade flows there is a significant adverse impact on labor income share and subsequently a reduction in the consumption. This is due in part to the authors' prediction of a production process that becomes more export focused and capital intensive. The authors contend that the TPP may cause job loss in all TPP countries, with the United States specifically estimated to lose 450,000 jobs by 2025. However, the Capaldo & Izurieta model has been criticized by economists such as Robert Z. Lawrence of the Harvard School of Government for not being an appropriate model for projecting the impacts of trade agreements. First, the model was developed to understand macroeconomic relationships between countries, but cannot go into the level of detail that could estimate changes in imports, exports and investment. Moreover, it overemphasizes impacts of increased imports and capital outflows but does not incorporate the benefits of increased exports and capital inflow (Lawrence, 2016).

A study by Bivens (2015) presents a similar set of conclusions to Capaldo & Izurieta (2016). However, it is important to note that the Bivens study came out in April 2015, before the negotiations on the TPP were complete or the text was available, so it does not reflect the final agreement. Bivens notes that many of the proposed free trade areas are with poorer countries with labor surpluses. According to the author, TPP may have a depressing effect on the wages of most American workers and continue to aggravate unequal income distribution in the U.S. Much of the expected income loss is predicted to fall mostly on non-college educated American workers with wage losses estimated to be between 0.4% and 0.6% (Bivens, 2015).

WASHINGTON'S CURRENT TRADE RELATIONSHIP WITH THE TPP

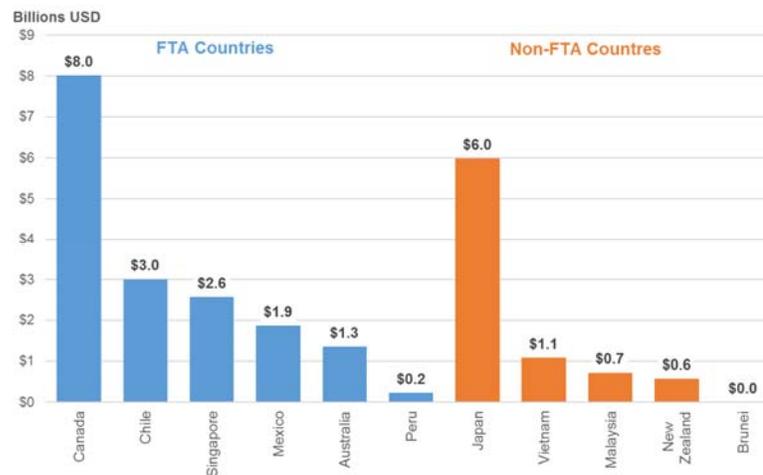
Washington may be well positioned to benefit from the TPP based on its close trade ties with many TPP countries, including Japan. New trade rules in the TPP that help U.S. workers, farmers, ranchers and inventors to compete on a more level playing field – such as new disciplines for state-owned enterprises – would also advantage the state. Washington specializes in several sectors projected to benefit from the TPP, including agriculture, seafood, software and e-commerce. The discussion below details Washington's existing trade relationships with TPP member countries to provide a baseline understanding of potential export growth from the agreement.

Merchandise and Commodities Exports to TPP Countries

Exhibit 2 shows total merchandise and commodities (i.e., goods) exports from Washington to individual TPP member countries in 2015. The graph also differentiates between countries with existing FTAs and those without. The two largest commodity destinations within the TPP are Canada and Japan, with \$8.0 billion and \$5.9 billion, respectively. Japan does not have an FTA with the U.S., but is still the second largest destination for Washington commodities by a sizable amount.

From a low in 2009, total commodity exports from Washington to TPP countries has generally trended upwards until 2015 (**Exhibit 3**). From 2008 to 2009, Washington commodity exports to TPP countries fell 14.8% but then grew to a high of \$27.2 billion in 2014. Total commodity exports then fell between 2014 and 2015 to a total of \$25.4 billion. This represented a year-to-year shortfall of 6.7%. Despite this setback, Washington commodity exports have grown strongly since the low of 2009. Washington commodity exports to TPP members between 2009 to 2015 grew at a compound annual rate of 5.7%.

Exhibit 2. Total Merchandise and Commodity Exports from Washington to TPP-partnering Countries



Sources: U.S. Census 2016; Community Attributes Inc., 2016.

Total exports to TPP member countries with existing FTAs are larger than exports to TPP member countries without FTAs (\$17.0 billion as compared to \$11.4 billion). Much of this difference is due to exports in the transportation export sector (predominately aerospace). Transportation exports account for 43.4% of all Washington exports to TPP member countries and 67.2% of these exports are to countries with existing FTAs. Other major Washington exports to TPP member countries include vegetable products and mineral products, with \$3.3 billion and \$2.2 billion in sales, respectively (**Exhibit 4**).

Exhibit 3. Total Washington Goods Exports to TPP Member Countries, 2009 to 2015

| Year | Total Exports (\$2015 Mils) | Year to Year Growth |
|---------------------|-----------------------------|---------------------|
| 2009 | \$18,241 | -14.8% |
| 2010 | \$19,082 | 4.6% |
| 2011 | \$23,000 | 20.5% |
| 2012 | \$26,604 | 15.7% |
| 2013 | \$26,522 | -0.3% |
| 2014 | \$27,229 | 2.7% |
| 2015 | \$25,403 | -6.7% |
| 2009 to 2015 | \$166,081 | 5.7% |

Sources: U.S. Census Bureau, 2016; U.S. Federal Reserve Bank of St Louis, 2016; Community Attributes Inc., 2016.

Exhibit 4. Washington Exports by Major Commodity Sector, by TPP FTA Countries and non-FTA Partner Countries, 2015

| Commodity Sector (\$ Millions) | Free Trade Area | Non-Free Trade Area | Total |
|-----------------------------------|-------------------|---------------------|-------------------|
| Animal & Animal Products | \$341.6 | \$390.1 | \$731.7 |
| Vegetable Products | \$980.7 | \$1,685.9 | \$2,666.6 |
| Foodstuffs | \$583.1 | \$403.2 | \$986.2 |
| Mineral Products | \$2,089.5 | \$2,209.7 | \$4,299.2 |
| Chemicals & Allied Industries | \$430.9 | \$303.4 | \$734.3 |
| Plastics / Rubbers | \$336.2 | \$30.5 | \$366.7 |
| Raw Hides, Skins, Leather, & Furs | \$6.7 | \$25.3 | \$31.9 |
| Wood & Wood Products | \$794.0 | \$654.2 | \$1,448.2 |
| Textiles | \$106.4 | \$9.5 | \$115.9 |
| Footwear / Headgear | \$11.9 | \$3.1 | \$15.1 |
| Stone / Glass | \$300.8 | \$82.4 | \$383.2 |
| Metals | \$629.8 | \$175.4 | \$805.2 |
| Machinery / Electrical | \$1,775.0 | \$382.5 | \$2,157.4 |
| Transportation | \$7,886.9 | \$3,845.4 | \$11,732.4 |
| Aerospace | \$7,072.9 | \$3,822.3 | \$10,895.2 |
| Miscellaneous | \$719.9 | \$192.9 | \$912.8 |
| Nesoi* | \$40.3 | \$1,013.2 | \$1,053.5 |
| Total | \$17,033.8 | \$11,406.6 | \$28,440.4 |

*Nesoi: Not Elsewhere Specified or Indicated

Sources: U.S. Census, 2016; Community Attributes Inc., 2016.

Services Exports to TPP Countries

Washington services exports to TPP countries totaled \$5.6 billion in 2015. The largest services export sector in 2015 was royalties and license fees (\$2.3 billion), a grouping that includes the licensing of software products. The second largest services export sector was travel (\$1.3 billion; **Exhibit 5**), including expenditures by visitors from TPP member countries, e.g., Japan. Washington services exports show a similar pattern between FTA and non-FTA countries as commodity exports; FTA countries account for the largest share of services exports as compared to non-FTA countries.

Legal commitments in the TPP will likely benefit software exports in Washington. The TPP rules include greater commitments on intellectual property rights protections and the removal of requirements for establishing offices and servers overseas to do business, as well as commitments to ensure the free flow of data across borders. According to one interviewee, the rules in TPP support a broader, stronger digital ecosystem. In fact, the ITC report highlights the new rules on digital trade as one of the most important benefits of the agreement. Importantly for Washington, e-commerce services have commitments within TPP not to impose custom duties on digital products coupled with commitments for reasonable access to local network access (Office of the United States Trade Representative, 2016).

Exhibit 5. Services Exports to TPP Partners 2015*

| Services Sectors (\$ Millions) | Free Trade Area | Non-Free Trade Area | Total |
|---|------------------|---------------------|------------------|
| Business, Professional & Technical Services | \$372.8 | \$189.8 | \$562.6 |
| Financial Services | \$38.7 | \$19.7 | \$58.4 |
| Installation, Maintenance & Repair Services | \$88.7 | \$45.2 | \$133.8 |
| Insurance Services | \$29.9 | \$15.2 | \$45.1 |
| Royalties & License Fees | \$1,574.0 | \$801.9 | \$2,375.9 |
| Telecommunications, Computer & Information Services | \$163.3 | \$83.2 | \$246.5 |
| Transportation Services | \$619.2 | \$315.4 | \$934.6 |
| Travel | \$857.4 | \$436.8 | \$1,294.2 |
| Totals Service Exports | \$3,743.9 | \$1,907.2 | \$5,651.1 |

Sources: Trade Partnership, 2016; U.S. Census, 2016; Community Attributes Inc., 2016.

*It is important to note that these numbers understate the importance of services trade for Washington's economy because they only capture cross-border sales from Washington companies to foreign customers. These statistics do not account for sales of overseas affiliates of U.S. companies, which account for the bulk of U.S. services firms' international business, but are not available on a state-by-state basis. For example, in 2013 services supplied by foreign affiliates of U.S. companies totaled over \$1.3 trillion, compared to \$688 billion in cross-border exports (U.S. Bureau of Economic Analysis, 2015). The market-opening services commitments in TPP would boost both cross-border exports and affiliate sales.

WASHINGTON'S INDUSTRY-SPECIFIC POTENTIAL BENEFITS

The TPP will include various trade barrier reductions specific to many of Washington's industry and export strengths. This section outlines notable TPP changes to be implemented relevant to Washington state.

Agricultural Products

Agriculture and natural resource exports comprise a large share of total Washington exports to TPP countries. **Exhibit 6** presents the trend of agriculture exports from 2005 through 2015. Between 2014 and 2015 there was a sharp dip in total agriculture and natural resource commodity exports from \$5.0 billion in 2014 to \$4.4 billion in 2015.

Exhibit 6. Washington State Exports to TPP Countries of Agriculture Commodities, 2005-2015



Sources: U.S. Census Bureau, 2016; U.S. Federal Reserve Bank of St Louis, 2016; Community Attributes Inc., 2016.

Some of the largest tariff reductions are scheduled to occur within agriculture, though rate reductions will vary by country. Tariffs on wheat, for example, are anticipated to drop up to 31%, while salmon duty rates will fall up to 30% and French fries, 10% (U.S. Trade Representative, 2015). Agriculture exports are of specific interest to Washington in part due to the significance of the agriculture production in Washington compared to other states. Washington is the largest producers of apples, pears, potatoes for processing, sweet cherries, hops, and concord grapes in the United States. Washington is also a major producer of dairy, seafood, beef and is the second largest premium wine producer (Washington State Department of Agriculture, 2015).



According to research by the Congressional Research Service, the greatest gains for U.S. agriculture exporters are likely to be in Japan, Malaysia, and Vietnam. Japanese tariffs on beef products, for example, are slated to fall from 38.5% down to 9% over 16 years. The tariff rate quote (TRQ) for dairy sales to Canada will increase to 3.25% of Canada’s annual domestic gross dairy output over five years, with further incremental increases thereafter (Fergusson, McMinimy, & Williams, 2016, p. 5).

Potatoes

Potatoes are the fourth largest crop produced in Washington by market value, totaling \$7.9 billion in 2013 (Washington Farm Bureau, 2015). Washington is also the U.S. leading producer of potatoes grown for processed foods, such as French fries (Washington State Department of Agriculture, 2015).

TPP tariff reductions will potentially benefit the potato industry in Washington. If TPP legislation takes effect, Japan will phase out its 8.5% tariff on frozen French fries over four years and immediately eliminate its 4.3% tariff on fresh potatoes. Similarly, Malaysia will immediately remove tariffs on potato products, which are as high as 8%. Vietnam will phase out tariffs on potato products over the next six years, including the 13% tariff on frozen French fries and the 20% tariff on fresh potatoes.

Fruit

Many of the proposed tariff reductions encompassed in the TPP legislation have significant implications for Washington’s agriculture exports, especially in relation to Japan, which is Washington’s second largest export destination with the TPP. Japan’s 17% tariff on apples will be phased out over 11 years along with the 8.5% tariff on cherries. Furthermore, Japan will immediately eliminate tariffs on raspberries, blueberries and cranberries, which are currently as high as 17%. Japanese import tariffs

on wine and wine-related products will be eliminated in eleven years or less, which will likely have additional positive benefits to Washington vineyards.

The TPP also includes updated sanitary and phytosanitary rules. For example, when fruit is prevented from entering a country at the port of entry, the importing country must inform the exporter within seven days whether the shipment “is being prohibited or restricted entry for a reason related to food safety or animal or plant health” (U.S. Trade Representative, 2016, p. 3). By expediting information on import checks, Washington-based exporters of fruit may potentially reroute product to another market with time remaining before spoilage.

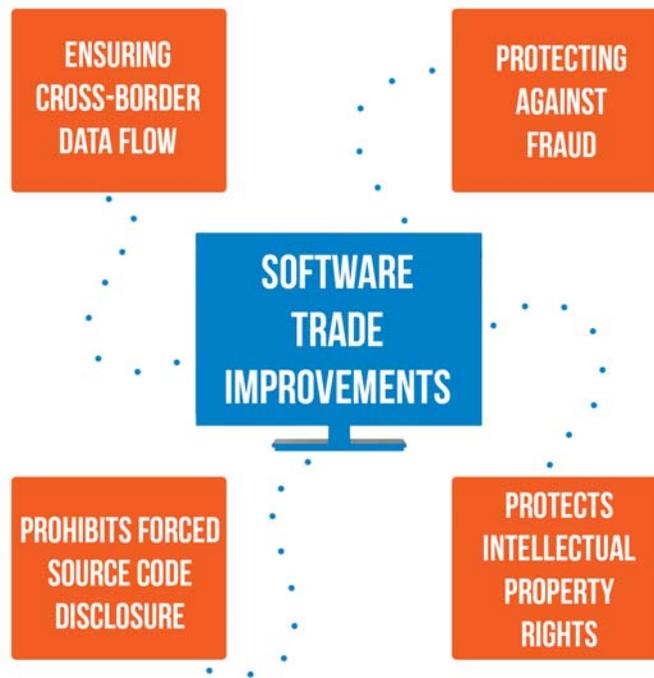
Animal Products

Canada will eliminate its 208% tariff on whey powder over the next ten years, coupled with a duty free tariff rate quota increase as the tariff is phased out. Japanese tariffs on whey powder will be eliminated in 21 years and most cheese tariffs will be eliminated in 16 years. Vietnamese tariffs on dairy products are currently as high as 20% and are scheduled to be eliminated in five years under the TPP agreement. Additionally, Japan will lower its beef tariffs from 38.5% to 9% by the 16th year of TPP implementation. Vietnam’s 34% beef tariff will be eliminated between three to eight years.

Software

Some of the most important beneficial TPP rules for Washington state relate to non-tariff barrier reductions and removals. Specific aspects to the TPP that will benefit Washington software and e-commerce firms include:

- Prohibiting the blocking of cross-border flows of data over the Internet and requirements that data and servers be located in-country. This part of the TPP will likely benefit cloud computing services in Washington, such as Amazon and Microsoft.
 - Adopting consumer protection laws against on-line fraud.
 - Prohibiting forced disclosure of software source code to governments and commercial competitors.
 - Adding more robust and updated rules covering intellectual property rights, including updated rules on copyrights, trade secrets, and trademarks. The new TPP rules represent a strengthening of the WTO Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, which was ratified in 1994 and has not been updated since.
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According to the U.S. Trade Representative (2016), the TPP represents an effort to ensure a free and open internet and the continued growth of the digital economy. The U.S. Trade Representative (USTR) highlights 24 core areas within the TPP that specifically benefit the digital economy; these include rules prohibiting customs duties on digital products, strengthening efforts to combat trade secret theft, and enabling cross-border data flows.

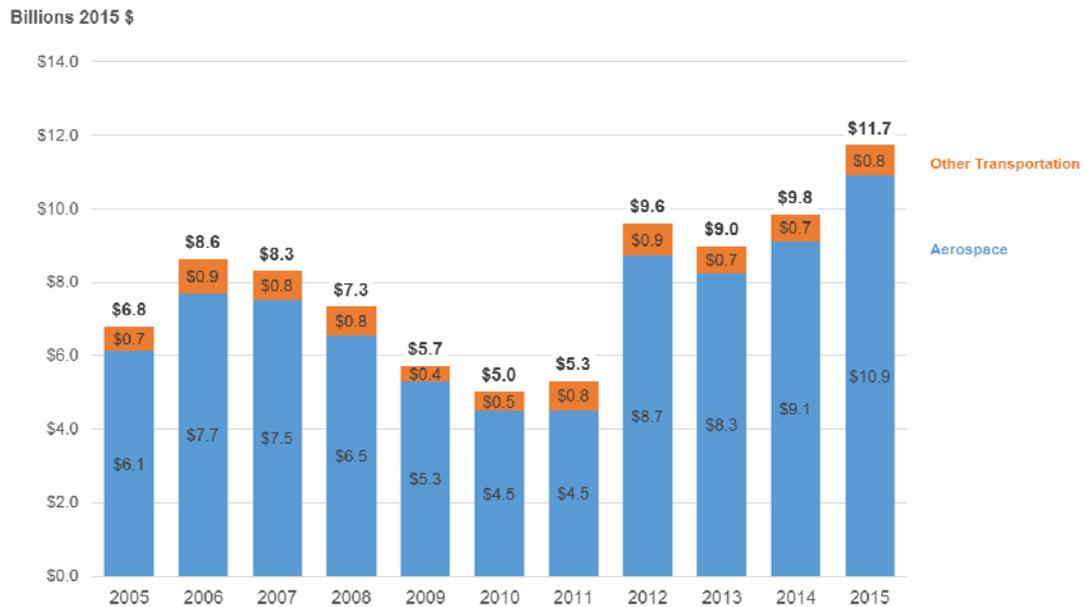
Washington software and cloud and computing firms are well positioned to benefit from these new rules, pending final passage of the TPP in the U.S. In 2015, Washington exported an estimated \$2.1 billion in software to TPP member countries. This statistic, however, does not include the sales of foreign affiliates of U.S. companies, which is the majority of U.S. services firms' international business. Within the U.S., Washington is one of the largest centers for software development and production. In 2014, the state's software publishing sector employed 55,400 workers, second only to California, and by only a small margin (U.S. Bureau of Labor Statistics, 2016).

Aerospace

Aerospace is Washington's largest single category of exports, with more than \$51.6 billion in overseas sales in 2015. Between 2014 and 2015, aerospace exports to TPP countries increased from \$9.1 billion to \$10.9 billion (**Exhibit 7**). As a share of total exports, aerospace exports accounted for 42.9% of all Washington goods exports in 2015.

Currently, there are no TPP member countries with tariffs on commercial aircraft sales. As such, there is no direct benefit through the TPP in terms of lower trade barriers. However, if the TPP does induce increased economic activity and income among trading partners with the U.S., this increase in activity may lead to greater demand for commercial aircraft in the coming years.

Exhibit 7. Washington State Transportation Exports to TPP Countries, 2005-2015



Sources: U.S. Census Bureau, 2016; Community Attributes Inc., 2016.

ESTIMATING QUANTITATIVE IMPACTS OF THE TPP ON WASHINGTON

The TPP will likely boost trade between Washington state and many of its trading partners participating in the TPP agreement. However, the extent to which exports from Washington will grow may vary according to a variety of factors, ranging from the implementation of the agreement, future trade pacts with other parts of the world, exchange rate considerations, and global growth trends.

Methodology

This section reviews two recent studies on the TPP and its potential impacts on U.S. exports. These studies were then used to synthesize projections for Washington exports, built on the assumptions and results developed by these external reports. Projections for Washington are based on the hypothetical scenario that the TPP was already in full force in 2015. Projections leverage 2015 data to demonstrate—as an illustrative counterfactual—what exports might have been, and are compared with 2015 actuals. Analytics present gains in Washington exports only to TPP member countries.

CAI reviewed two studies on the TPP to inform estimates of how the trade agreement may impact Washington. Petri & Plummer (2016) forecast growth in U.S. exports from the TPP reaching 9.1% above baseline projections by full implementation of the agreement (reported for year 2030), though the study does not provide estimates of the impacts on a sectoral basis. The U.S. International Trade Commission (2016) does provide more granular estimates of U.S. export gains or losses by sector, but reports a much more conservative projection for TPP-induced gains—just 1.0% growth in U.S. exports, and 5.6% to TPP partner countries, against a baseline projection by 2032.

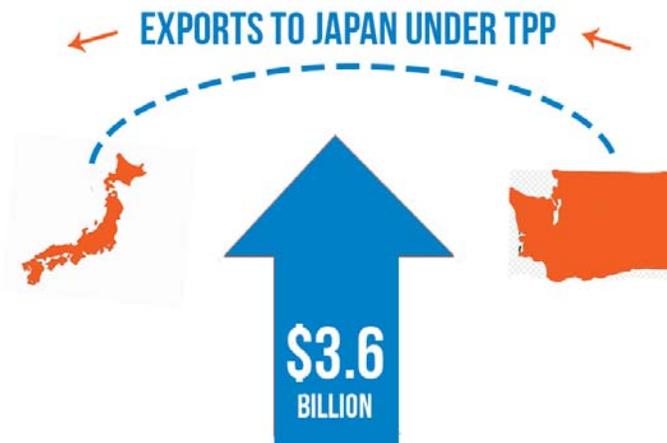
In each of the three scenarios presented below, estimates are only for increases in exports to TPP countries. Potential further effects in the international trade system that may benefit Washington's exports are not included.

Scenarios

The first two scenarios are based on Petri & Plummer, and assume the 9.1% growth rate in U.S. exports as reported in the authors' study. While the study does not provide projections for U.S. exports by country or region, it does report estimated gains in real income by country owing to the advent of the TPP. These projections were used to apportion U.S. export growth, i.e., U.S. gains in exports allocated by the amount of TPP-induced real income gains by country.

For example, in 2015 the U.S. exported \$1.5 trillion in merchandise and commodities and \$710.2 billion in services (U.S. Bureau of Economic Analysis, 2016; U.S. Census Bureau, 2016). To TPP member countries only, total exports summed to just over \$1.1 trillion (17.7% in the form of services exports), representing approximately 47% of all

U.S. exports (ibid). If the TPP had already been fully in force prior to 2015, then U.S. exports would have been 9.1% above 2015 actuals, or an absolute increase in U.S. exports of more than \$202.3 billion. According to analytics by Petri & Plummer, the TPP will support real income gains across the globe, of which 25.4% of these gains would accrue to Japan. This percentage is then applied to total U.S. exports, yielding total new U.S. exports to Japan of \$51.4 billion. Because Washington is credited with 6.9% of all exports to Japan, Washington would have seen—according to this approach—an increase of \$3.6 billion in exports there, against baseline actuals for 2015.



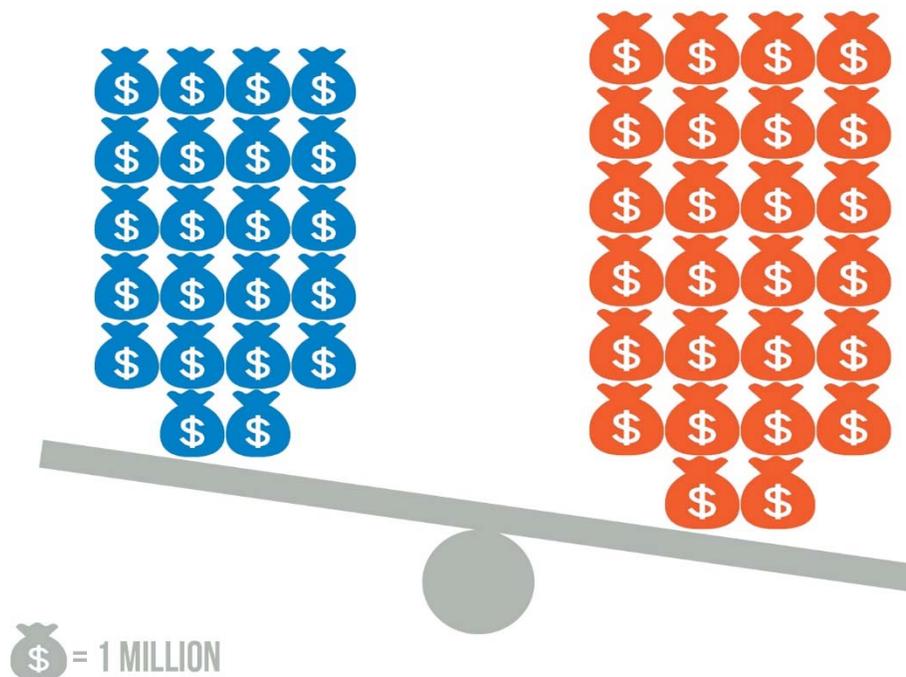
The second scenario, again based on the findings from Petri & Plummer, reproduces the same analytics but does so only for non-aerospace exports. The reasoning, explained earlier in this report, is because exports of aircraft among TPP members is already at a 0% tariff rate. Aircraft sales will possibly increase over existing orders in the coming years if, based on Petri & Plummer, the TPP does in fact spur further economic growth and real income gains among partnering countries. However, to provide a range of possible scenarios, this scenario assumes existing aircraft orders will not change due to the TPP.

The third scenario makes use of the ITC report, which includes a more conservative projection of U.S. export gains from the TPP. The ITC report provides a more detailed and disaggregated simulation of impacts at the sectoral level, leveraging more detailed information and considerations at the market and sectoral level. These include, for example, Japanese preferences for domestic beef and the structure of the TPP Agreement's TRQ provisions, among many other factors (U.S. International Trade Commission, 2016, p. 41).

For this scenario, projected U.S. export gains (%) by sector to TPP countries are applied to matching goods and services exports to TPP countries from Washington state. For example, Washington state exported \$22.0 million in frozen beef to TPP countries in

2015. According to the ITC study, U.S. exports of beef to TPP member countries will increase 18.4%. Applying this growth rate to Washington beef exports yields an increase of more than \$4.0 million in sales to TPP countries against 2015 baseline actuals.

WASHINGTON BEEF EXPORTS TO JAPAN WOULD INCREASE \$4 MILLION UNDER TPP



Estimated Potential Export Gains for Washington

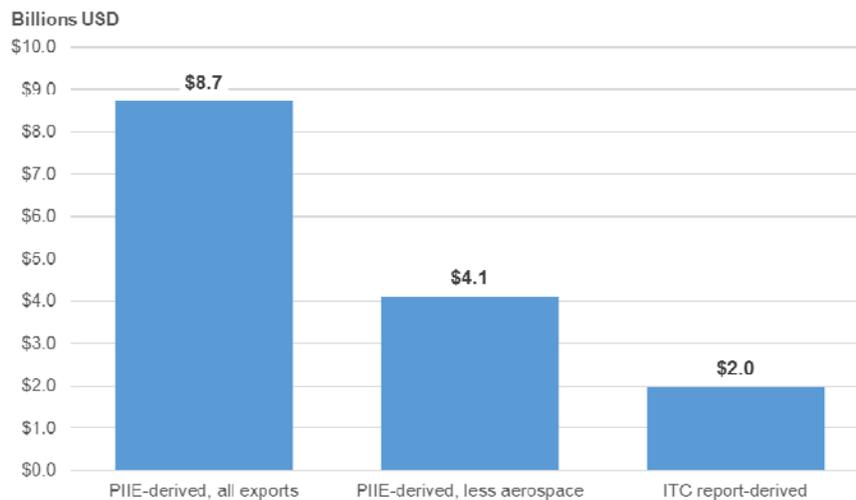
Based on the above scenarios, Washington state exports would have been between \$2.0 billion and \$8.7 billion higher to TPP countries through the advent of the TPP (**Exhibit 8**). In percentage terms, if the TPP was already fully in force prior to last year, Washington's 2015 exports (goods and services) would have been between 1.8% and 7.8% above 2015 totals.

The first scenario, based on Petri & Plummer's analysis, presents the highest overall gains in Washington exports (\$8.7 billion). However, exports of aircraft constitute a majority of these sales; after removing aerospace, remaining non-aerospace exports would increase by \$4.1 billion. The largest country-specific export gains for Washington, based on this scenario, would be among participating countries that do not already have an FTA with the U.S. Washington exports to Vietnam would experience a \$1.5 billion increase in non-aerospace exports over 2015 actuals, followed

by Japan (\$1.2 billion) and Malaysia (\$1.1 billion). These three markets in aggregate would constitute 93% of total non-aerospace export gains, based on this scenario.

The third scenario, based on the ITC report, shows a total increase of \$2.0 billion in Washington exports. This increase would lead to a 1.8% increase in total Washington exports, or 6.3% to TPP countries. Based on the ITC-derived scenario, Washington exports of mineral fuels and related products would increase by \$150.2 million; similarly, exports of electrical machinery would grow by \$65.1 million.

Exhibit 8. Potential Gains in Washington Exports from the TPP, Compared with 2015 Export Actuals



Sources: Petri & Plummer, 2016; U.S. International Trade Commission, 2016; Community Attributes Inc., 2016.

PIIE refers to the "Peterson Institute for International Economics." ITC refers to the U.S. International Trade Commission.

Potential Jobs Impacts

The above scenarios for export gains for Washington from the TPP may also result in employment gains. Based on analytics published by the Trade Development Alliance of Greater Seattle (2015), an estimated \$331,300 in exports supported one additional job statewide.³ Applying this ratio to projected export gains presented above, the TPP may support between 5,900 (based on the ITC report) and 26,400 (based on the Peterson Institute report) additional jobs in Washington when full in force.

³ This ratio is based on an estimate for 2014 and then adjusted to 2015 dollars.

TPP COULD CREATE UP TO 26,000 JOBS IN WASHINGTON



Based on this same study, adjusted to 2015 dollars, each \$1 million in exports is associated with 8.4 jobs across the state economy, including direct jobs as well as jobs supported through business-to-business transactions (indirect impacts) and income expenditures among supported workers (induced impacts). Applying this ratio to projected export gains yields a potential jobs gain, after full implementation of the TPP, of between 16,500 and 73,200 jobs.

SUMMARY AND CONCLUSIONS

The TPP presents a significant opportunity for Washington state exporters, though the magnitude of future export gains will vary by industry and products and services exported, as well the schedule for tariff reductions by country.

According to the USTR, the more than 18,000 tariff rate reductions and increased tariff rate quotas will benefit many merchandise and commodities producers in Washington, helping level the playing field and make Washington goods more price competitive overseas. Sanitary and phytosanitary rules include a greater emphasis on science-based measures and provisions to expedite information on the reason for an import check, among many other improvements.

The TPP will include new and stronger rules on services exports, such as software and digital media, where Washington is a national and global leader. Washington's high tech sector stands to benefit through improved rules on intellectual property rights protections (compared with existing WTO TRIPS rules) and prohibitions on required localizations of data servers—the latter potentially benefiting many of the cloud computing services in Washington.

Some of the largest exporting opportunities will likely be to countries joining the TPP that do not have a pre-existing FTA with the U.S. According to one scenario discussed above, nearly all the export gains for Washington would occur among these countries, namely Vietnam, Japan, and Malaysia.

Analytics presented in this report suggest that, if the TPP were already fully in force prior to 2015, Washington state exports would have been between \$2.0 billion and \$8.7 billion higher than 2015 totals. These gains translate into between 5,900 and 26,400 additional direct jobs, or 16,500 and 73,200 jobs when factoring in additional multiplier effects throughout the economy.

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