The Impact of TPP on US Manufacturing

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Introduction

As table 1 shows, the United States currently runs a trade deficit in every broad sector of manufacturing trade, with the exception of processed foods. In 2015, the total trade deficit in manufactured goods was $550 billion. Of course the United States enjoys large trade surpluses in selected manufactures, such as aircraft, medical equipment, and turbines, but trade deficits are found in most products. By contrast, the United States runs a significant trade surplus in services, mainly entertainment, education, and business services. Similar patterns have characterized US trade for the past two decades. Taking goods and services together, the US trade deficit in 2015 was $530 billion, about 2.9% of US GDP.

Table 1. US manufacturing trade in 2015 (billions 2015 USD)

Sector	Imports	Exports
Apparel	130	11
Chemicals	324	306
Electrical Equipment	273	160
Food products	79	95
Machinery	405	297
Metals	149	125
Other mfg	209	131
Textiles	40	25
Transport equipment	370	271
Total manufacturing	1,979	1,421
Total goods	2,281	1,505
Total services	502	749

It is still unknown whether the Trans-Pacific Partnership will be ratified by the United States, and if so when it will enter into force.[2] However, assuming these events occur by January 2018, we attempt to forecast the long-term impact on the US manufacturing sector. Our summaries of forecasts reported in the literature draw on a computable general equilibrium (CGE) econometric analysis carried out by Peter Petri and Michael Plummer (2016), and on a methodologically similar econometric analysis conducted by the US International Trade Commission (ITC 2016).

The Petri-Plummer and ITC studies both examine the impact of reducing tariff and non-tariff barriers on trade in goods and services, and liberalizing restrictions on foreign direct investment

[1] The authors are associated with the Peterson Institute for International Economics, but views expressed are their own opinions.

[2] In order to enter into force, the TPP must be ratified by countries representing at least 85% of member country GDP, a threshold which requires ratification by both the United States and Japan. Moreover, the US president must first certify that all other TPP members have met their obligations under the agreement.

(FDI). They start with the structure of the US and other TPP economies, but make different assumptions about the effect of trade and investment liberalization on important features such as the reduction of service market barriers, induced investment, and productivity gains. In the case of manufactures, the predominant barriers are tariffs, and their reduction can be readily modeled as percentage decrements in landed import prices. In the case of services, the predominant barriers are non-tariff regulatory obstacles, and translating lower obstacles into their *ad valorem* tariff equivalents entails considerable guesswork. In the case of foreign direct investment (FDI), the predominant barriers are non-monetary obstacles, for example requirements that foreign investors must associate with local joint venture partners. Again, these are not easily translated into *ad valorem* tariff equivalent values. In light of these features, the impact of TPP on manufactures is probably the best modeled element of available forecasts. That said, the Petri-Plummer and ITC studies have significant differences (explored later) in terms of the forecast impact on the US manufacturing sector.

Before turning to those differences, it's worth commenting on the broad conclusions drawn by Petri-Plummer and the ITC. The ITC study followed a more cautious econometric approach than Petri-Plummer. In the lengthy ITC report, if existing data and models were not readily available to evaluate the impact of a particular TPP chapter, the authors did not attempt to quantify its impact, but they did provide a qualitative assessment. On the other hand, the Petri-Plummer study takes a bolder approach to the quantification of services liberalization, induced investment, and productivity gains. Consequently, the Petri-Plummer forecast of US GDP gains (0.5% over the baseline level in 2030) is about twice the size of the ITC forecast (0.23% over baseline GDP in 2032). Moreover, the Petri-Plummer model predicts much larger US export gains than the ITC model (9% vs. 1%). Table 2, taken from the ITC report, broadly compares the two forecasts:

Table 2. Findings on the impact of TPP

	Petri and Plummer	USITC
Change in real income	0.51%	0.23%
Change in exports	9.10%	1%
Manufacturing exports	10%	0.80%
Change in employment	0	128200 FTEs

1. Petri and Plummer assume no change in aggregate US employment. Instead, increased demand for US labor drives up wages rather than employment in their model.
2. FTE = full-time equivalent

The TPP impact on the US manufacturing sector is, of course, only part of the global commercial picture. TPP partners accounted for 35% and 48%, respectively, of US manufactures imports and exports in 2014, and 32% and 38%, respectively, of US outward and inward FDI stock in the manufacturing sector.[3] In broad terms, TPP partners account for between a third and a half of the

[3] Manufactures include SITC Classes 5 (Chemicals and related products, n.e.s.), 6 (Manufactured goods classified chiefly by material), 7 (Machinery and transport equipment), and 8 (Miscellaneous manufactured articles). FDI figures exclude Brunei, Chile, Peru, and Vietnam as bilateral FDI statistics on the manufacturing sector are not

"action" in US manufacturing trade and investment. China, the European Union, and Brazil, among others, are major US trade and investment partners outside the TPP framework. Events affecting those countries, including the prospective enlargement of TPP and the possible conclusion of a Trans-Atlantic Trade and Investment Partnership (TTIP), could have a larger impact on the US manufacturing sector than TPP. However, our analysis is confined to the current TPP framework of 12 countries.[4]

Tariff Changes

Turning to tariffs, the United States already has in force free trade agreements with six of its eleven partners in the TPP: Canada, Mexico, Chile, Peru, Singapore and Australia. These countries have practically eliminated their tariffs against US merchandise exports, and the United States has reciprocated. Once ratified, TPP will eventually do much the same for the remaining five US trading partners: New Zealand, Brunei, Malaysia, Vietnam and Japan. The last three have the highest tariffs and offer the largest potential new markets for US exports. Table 3 summarizes US most-favored-nation (MFN) tariffs that currently apply to manufactures imports from these countries (as well other non-FTA partners), as well as significant partner country tariffs against US exports.

Table 3. Simple average MFN tariffs on US goods and US tariffs, percent of fob value

	Brunei	Japan	Malaysia	New Zealand	Vietnam	US Tariff
Specialist equipment	2	0	1	1	1	2
Vehicles	9	0	15	4	25	2
Electrical equipment	5	0	4	3	7	1
Machinery	3	0	3	3	3	1
Plastics	0	4	11	3	8	4
Organic Chemicals	0	3	0	0	1	3
Mineral fuels	0	1	1	0	4	0

Source: World Bank, WITS

As table 3 shows, in the great majority of broad manufactures categories, current MFN tariffs imposed by the five non-FTA partners are higher than US MFN tariffs. In terms of committed tariff reductions, US exporters stand to enjoy significant benefits in vehicles, electrical equipment, machinery and plastics.

It must be noted that tariff averages, such as those presented in table 3, conceal very high tariffs on a handful of line items at the 6-digit level under the Harmonized Tariff System (HTS), or the idiosyncratic US 8-digit level. As an illustration, the current average tariff collected on US imports of knitted or crocheted apparel from Vietnam is 20 percent. The same phenomenon of course can be found in the tariff schedules of TPP partners, and often it is the very high tariffs on

available for these countries for reasons of data privacy. *Sources*: World Integrated Trade Solution; Bureau of Economic Analysis.

[4] Several countries have expressed an interest in joining a second stage of TPP: Korea, Indonesia, Taiwan, Philippines, Columbia and Costa Rica.

select 6-digit line items that are the object of greatest controversy. Typically, the controversy is resolved by long phase-out periods for the highest tariffs. To return to the Vietnam illustration, US apparel tariffs will be cut by about a third upon the TPP's entry into force, but will not be fully phased out for 10 or 12 years, depending on the tariff line item.

However, after 10 years, the average tariff rates of the broad groups described in table 3 will fall practically to zero for all TPP partners. The exceptions will occur in narrowly defined 6-digit or 8-digit line items – for example, a few US apparel imports, and more importantly US imports of most autos and auto parts, where the 2.5% tariff rate phases out over 15 years, and the "chicken war" tariff of 25% on light trucks and SUVs remains in place for 17 years. But for practical purposes, free trade – in the sense of zero tariffs – will prevail among TPP countries for manufactured goods a decade after the agreement enters into force.

Rules of Origin[5]

Rules of origin (ROO) are designed to ensure that most components in complex manufactured goods such as automobiles or apparel, are produced within the free trade area, not imported from non-member countries. The ROO negotiations in the TPP auto sector focused on US-Japan bilateral trade, but Canada and Mexico also had a stake. By contrast, the ROO negotiations in the TPP textile sector were focused on exports from Vietnam.

Autos and Parts.[6] The baseline for TPP negotiations was the ROO requirement in NAFTA which called for 62.5% of the content in a finished vehicle to be manufactured in the United States, Canada, or Mexico in order to benefit from the NAFTA auto tariff schedules (eventually zero tariffs). NAFTA also required producers to use the "net cost method" to meet the ROO, which starts with the total cost of manufacturing an automobile then subtracts the costs of promotion, marketing, post sales service, royalties, shipping, and interest. The share of regional content is then calculated by subtracting the value of all parts that originate outside the trade agreement.

In its previous FTA agreements Japan had instead used the "build-down method" to calculate the share of regional value content. This method does not subtract the costs of shipping and marketing from the cost of vehicle production before making the regional value calculation. The difference in methods meant that cars measured under the build-down method were attributed with a higher share of regional content (since shipping and marketing typically took place in Japan or its partner) than cars measured using the net cost method. The TPP represented a compromise between these two calculation methods: it calls for finished vehicles to have 45% within-TPP content using the net cost method, or 55% within-TPP content using the build-down method.

In addition to the ROO requirements for finished vehicles, the TPP sets forth ROO requirements for individual auto parts, such as engines and transmissions. The requirements for auto parts

[5] This entire section paraphrases material from Cathleen Cimino-Isaacs and Jeffrey J. Schott, *Trans Pacific Partnership, volume 1, Market Access and Sectoral Issues*, February 2016.
[6] This section paraphrases from Sarah Oliver, "Auto Sector Liberalization" chapter 4 in Cimino-Isaacs and Schott, *op. cit.*

range from 35% to 45% of parts originating within the TPP. However, an additional list of parts can be considered as "wholly originating" in TPP, even though imported from a non-member country, provided that the parts are substantially modified in a TPP member country, through processes such as welding, heat treatment, or complex assembly. These "wholly originating" parts, once built into another automotive part, such as an engine, can count towards 5% to 10% of the total regional content value. For example, if Japan imported engine parts from outside the TPP and assembled them using specialized skills and machines, these parts could count for up to 10 percentage points of the 45% regional content required for duty-free engines under the net cost method.

Table 4 illustrates the ROO story for auto engine exports. The United States is the largest engine exporter of engines and parts in the TPP, while Canada and Mexico export more engines and parts to the United States than Japan does. Since NAFTA required Canada and Mexico to have 62.5% regional content, their supply chains were constructed to reflect this requirement, which led to the inclusion of many US components in their engines. Japanese engines and parts, on the other hand, do not count for NAFTA regional content.

Table 4. Auto engine exporters in 2014 (millions of US dollars)

Exporter	Total exports	Total exports to other TPP members	Total exports to the United States
United States	4,315	4,011	n.a.
Mexico	3,427	3,268	2,820
Canada	2,525	2,522	2,458
Japan	2,662	905	858
Australia	138	8	1
Malaysia	9	1.5	1.2

n.a. = not applicable

Note: New Zealand, Vietnam, Singapore, Chile, Peru, and Brunei each exported less than 1 million of auto engines in 2014. Trade data based on HS codes 840733-34.

Source: UN Comtrade database.

Textiles and apparel.[7] The rules of origin governing apparel imports under most US preferential arrangements evolved from the US textile industry's strategy for survival after the Uruguay Round of multilateral trade negotiations liberalized trade in textiles and apparel. The American apparel industry adapted by focusing on upstream design functions and downstream marketing activities, mostly leaving the labor-intensive production process to low-wage developing countries. Parts of the textile industry, which is far more capital intensive than the apparel industry, were able to adjust by moving into the production of more technologically sophisticated goods, such as protective gear for fire fighters and sports parachutes.

According to the "yarn forward" rule for apparel that appears in most US trade agreements, clothing items must be produced from fabric that is produced in the beneficiary country or in the United States using either local or US yarn, and then cut and assembled in the beneficiary country. To partially offset the higher costs associated with this ROO, most

[7] This section paraphrases from Kimberly Ann Elliott, "Rules of Origin in Textiles and Apparel", chapter 5 Cimino-Isaacs and Schott, *op. cit.*

US FTAs incorporate exceptions such as tariff preference limits (TPLs), short supply provisions, or earned import allowance provisions. TPLs allow trading partners to claim FTA benefits for a set amount of specified apparel exports that use inputs from non-FTA countries. Short supply lists identify textile inputs that are not available in sufficient quantity from FTA parties and may therefore be imported from non-beneficiaries. Earned import allowance provisions allow the partner to include more non-FTA components if they import large quantities of US textiles or apparel. In addition to these formalized exceptions, the United States sometimes designates specific items as eligible for a single transformation or "cut and sew" rule under which the final apparel item may be assembled in the region using imported inputs and still be eligible for preferential treatment.

Vietnamese apparel exports to the United States were worth just over $9 billion in 2014 and accounted for almost a third of Vietnam's total exports to the United States. Vietnam is responsible for 62% of US imports of apparel from TPP countries and is the second largest global source of apparel imports (after China) among all US trading partners. Among other TPP members, Mexico, which already has access under NAFTA, is the second largest TPP source with 26% and Malaysia accounts for just 3 %. In 2014, US Customs authorities collected an average duty of 20% on $5.4 billion in Vietnamese exports of knitted or crocheted apparel and an average duty of 16% on $3.8 billion in exports of woven garments. Under the TPP, the United States will reduce the tariff by about one-third upon entry into force for many of these products, but most tariffs will not be eliminated or further reduced for 10 to 12 years, depending on the tariff line.

The TPP allows less flexibility to depart from the basic yarn forward rule than in some other FTAs that the United States has signed. There are no TPLs. However, the TPP's short supply list includes woven fabric for cotton dress shirts, and a complicated earned import allowance program could allow some duty-free exports of cotton pants ahead of the 12-year tariff phase-out.[8] Finally, the agreement allows for regional cumulation, meaning that garments made with inputs from any TPP member are eligible for TPP benefits.

Even after the United States finally eliminates tariffs on apparel, the rules of origin defining eligible products will remain. Vietnam currently imports most of the textile inputs used by its apparel sector, primarily from China. Korea and Taiwan are other important textile producers. If those countries join the TPP in the next few years, the costs of the TPP rules of origin for Vietnam will decline.

Vietnam could capture more TPP benefits, and improve its trade balance, by developing its own textile industry and producing more apparel inputs domestically. With wages and other costs rising, anecdotal evidence indicates that textile and apparel investments previously going to China are increasingly going to Vietnam. TPP tariff cuts could accelerate the process.

[8] Vietnam exported $250 million in men's or boys' cotton dress shirts in 2014, so having the fabric for those items on the short supply list is of value. The cumulation rule would become a more important source of flexibility and benefits for Vietnam if Korea or Taiwan joined the TPP.

Prospective Trade Outlook

Petri-Plummer forecasts. Petri-Plummer (2016) and the USITC (2016) have both attempted to forecast the outlook for US trade in manufactured goods roughly fifteen years after the TPP enters into force. Table 5 presents the Petri-Plummer forecasts of changes in US imports, exports and manufacturing value added in 2030, covering nine categories of manufactured products, expressed in 2015 dollars.

Table 5. Change in US manufacturing industry due to TPP in 2030 (billions 2015 USD), Petri and Plummer

Sector	Imports	Exports	Value added
Apparel	27	7	-16
Chemicals	49	54	-3
Electrical Equipment	12	38	2
Food products	4	23	7
Machinery	60	29	-13
Metals	12	8	-5
Other mfg	33	30	-1
Textiles	24	7	-19
Transport equipment	22	21	4
Total Manufacturing	242	216	-44

According to Petri-Plummer, US imports in these categories are generally projected to increase more than US exports. Overall, US imports of the listed products are forecast to increase by $242 billion as a result of TPP liberalization, while exports overall are projected to increase by $216 billion. Comparing these two trade totals, US manufacturing sales would decrease by $26 billion on account of TPP liberalization. The manufacturing sector purchases large amounts of inputs from other sectors (e.g., energy, raw materials) as well as components from abroad, so the impact of TPP on manufacturing value added differs from the impact on manufacturing sales. The figures in table 5 suggest that manufacturing value added might in the aggregate be reduced by $44 billion as a result of TPP liberalization. The biggest projected impacts are in apparel, textiles and machinery.

Table 6 enables a contrast of these TPP-induced changes with baseline projections of total US imports, exports and value added in the manufacturing sector in 2030. The TPP induced changes would add almost 25% to baseline US imports of manufactures, and more than 33% to US exports of manufactures. However, the negative impact on value added in the US manufacturing sector is only 5%.

Table 6. Baseline change in US manufacturing industry between 2015 and 2030, without TPP (billions 2015 USD)			
Sector	**Imports**	**Exports**	**Value added**
Apparel	34	9	16
Chemicals	86	181	180
Electrical Equipment	182	12	-4
Food products	23	71	104
Machinery	321	89	159
Metals	58	54	92
Other mfg	86	97	227
Textiles	23	17	15
Transport equipment	236	109	106
Total	1,048	641	895

Based on percentage changes from Petri and Plummer data.

The USITC works with a longer time horizon, reporting results both for 2032 and 2047. In the baseline scenario, US real GDP growth averages about 2.5 percent between 2017 and 2032, and slows thereafter. During that fifteen-year period, export growth averages 1.8 percent while imports grow at 2.2 percent.

Table 7 details the changes resulting from TPP in 2032 for the detailed sectors analyzed by the ITC. In the ITC framework, US manufacturing industries experience considerably more modest shifts on account of TPP than expected by Petri and Plummer. Only passenger vehicles and other transportation exhibit export gains of more than $2 billion annually over baseline estimates on account of TPP. However, several detailed sectors exhibit import gains in excess of $2 billion: chemicals, wood products, machinery and equipment, metals and metal products, passenger vehicles, auto parts, other transportation, and electronic equipment. Looking at the output column, processed foods and petroleum and coal products, are the only sectors showing sales gains of more than $2 billion annually on account of TPP, while three sectors show even greater sales losses, chemicals, metals, and electronics.

Table 7. Change in US manufacturing industry due to TPP in 2032 (billions 2017 USD), USITC				
	Exports (USD billions)	**Imports (USD billions)**	**Output[1] (billions USD)**	**Employment (percent)**
Processed foods	1.5	0.4	2.4	0.7
Chemicals	1.9	5.3	-2.9	-0.3
Beverages and tobacco	0.7	0.2	1.0	0.3
Textiles	0.3	0.9	-0.3	-0.4
Wearing apparel	0.0	1.9	0.4	0.9
Leather products	0.1	0.4	-0.1	-1.5
Footwear	0.1	1.1	0.0	0.8
Wood products	0.1	2.2	-1.5	-0.6
Paper products	0.0	0.7	-0.0	0.0
Petroleum, coal products	1.0	0.5	2.9	0.2
Machinery and equipment	1.5	3.9	-1.7	-0.2

Metals and metal products	1.2	3.2	-3.7	-0.3
Titanium downstream	-0.0	0.1	-0.2	-1.3
Passenger vehicles	2.0	2.4	1.6	0.3
Auto parts	1.2	3.0	-1.4	-0.3
Other transportation	2.1	3.0	0.1	0.0
Electronic equipment	0.6	5.3	-3.7	-0.8
Instruments and medical devices	0.2	1.0	-0.6	-0.3
Other manufacturers	0.1	1.3	-0.1	-0.3

[1] While Petri and Plummer report changes in sectoral value added, the USITC report highlights changes in output. Output is a broader measure than value added, comparable to total sales.

These shifts are all fairly minor in the context of baseline 2032 projections. Moreover, the ITC forecasts a decline from baseline employment of only 0.2 percent for manufactures and natural resources combined, on account of TPP.

Prospective FDI Outlook

Petri-Plummer (2016) have modeled the impact on foreign direct investment resulting from two TPP effects: the GDP gains of member countries and the reduction of investment barriers resulting from member commitments in TPP Chapter 9. However, their calculations do not distinguish FDI in the manufacturing sector from other FDI (principally FDI in service sectors). Table 8 reports the Petri-Plummer forecasts of total inward and outward US FDI in 2030, showing baseline values and the TPP increment. In a separate column, table 8 shows the current share of US FDI accounted for by the manufacturing sector.

Table 8. Investment effects of the TPP

$2015 billions				Percent	
Inward US FDI Stock, baseline, 2030	**Inward US FDI Stock, TPP increment, 2030**	**Outward US FDI Stock, baseline, 2030**	**Outward US FDI Stock, TPP increment, 2030**	**Manufacturing Sector share in Inward US FDI Stock, 2014**	**Manufacturing Sector share in Outward US FDI Stock, 2014**
6,690	128	10,002	149	36.0%	13.5%

Sources: Petri, Peter A., Michael G. Plummer, and Fan Zhai, 2016. *The Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment*. Working Paper Series WP 16-2. Peterson Institute for International Economics; Bureau of Economic Analysis.

Several observations can be made from the data in table 8. First, the TPP increments in US FDI are small but meaningful: for inward FDI, the increment in 2030 is forecasted to be $128 billion, not quite 2% of the 2030 baseline forecast of $6.7 trillion; for outward FDI, the increment is forecasted to be $149 billion, about 1.5% of the baseline forecast of $10.0 trillion. Based on the current share of inward manufacturing FDI, perhaps a third of the inward FDI increment will

settle in the US manufacturing sector, around $40 billion. This is quite small relative to the assets held by US manufacturing firms, now about $11.2 trillion and probably one third larger in 2030.[9]

Again based on the current share, perhaps less than a seventh of the outward FDI increment will settle in manufacturing firms in TPP partner countries, some $20 billion. Unless something dramatic happens to alter the economic landscape, it seems unlikely that manufacturing FDI will become a major part of the TPP story moving forward.

Exchange Rate Questions

The text of the TPP agreement does not address exchange rate questions. However, the *Joint Declaration of the Macroeconomic Policy Authorities of Trans-Pacific Partnership Countries* was signed at the same time TPP negotiations were concluded. This Declaration was intended to answer Congressional concerns that present and possibly future TPP members would deliberately depress their currency values in order to gain an export advantage. While the Declaration has no enforcement mechanism, TPP members agreed to consult on their macroeconomic policies and promised not to engage in "currency manipulation".[10]

Subsequently, in April 2016, the US Treasury Department issued a statement outlining its intent to monitor countries with some combination of large global current account surpluses, large bilateral trade surpluses with the United States, and large accumulation of foreign exchange reserves.[11]

Together, these actions go a modest distance in linking the obligations in a major trade agreement to the future course of exchange rates, a link that has historically been resisted by the US Treasury and other finance ministries.[12] But the link is a far cry from any commitment that US current account deficits will not widen in the years ahead, at the expense of the manufacturing sector. Historically, neither the Federal Reserve nor the Treasury has set targets for the US current account position.

Conceivably the next administration might reverse this historic neglect. If so, what are the implications? According to Cline's estimates a 10% decrease in the trade-weighted exchange value of the dollar will, in time, reduce the current account deficit by 1.7% of GDP. [13] Between 2013 and 2016, the trade-weighted dollar appreciated by 25%. Since trade in manufactures accounts for about two thirds of US goods and services trade, and since US GDP in 2016 will be around $18.5 trillion, rough calculations suggest that reversing half of the recent dollar appreciation (returning the dollar to 12.5% above its 2013 level) would eventually improve the current account position by around $300 billion, and boost US production of manufactured goods

[9] Current manufacturing assets are reported in IRS tax return balance sheet data.
[10] The Articles of Agreement of the International Monetary Fund make the same promise, but the Fund has never enforced that commitment.
[11] The policy is outline is available at https://www.treasury.gov/resource-center/international/exchange-rate-policies/Documents/2016-4-29%20(FX%20Pol%20of%20Major%20Trade%20Partner)_final.pdf.
[12] See the analysis by C. Fred Bergsten and Jeffrey J. Schott, chapter 10 in *Assessing the Trans-Pacific Partnership,* volume 2, PIIE Briefing 16-4, March 2016. Available at https://piie.com/system/files/documents/piieb16-4.pdf.
[13] See https://piie.com/publications/pb/pb15-8.pdf.

by over $200 billion. A change of this magnitude would be quite significant. The boost in manufacturing sales – both greater exports and fewer imports -- would amount to some 3.3% of baseline sales, and perhaps add 350 thousand jobs.[14] In summary, an exchange rate correction of 10% would swamp the adverse impact of TPP on the US manufacturing sector.[15]

[14] This calculation assumes than gains in manufacturing value added account for 30 percent of the increase in sales. Under that assumption, a $210 billion increase in sales would boost value added by $63 billion. The US manufacturing sector currently employs about 5600 full time equivalent workers for each $1 billion of value added, so we estimate a job-creation effect of just over 353 thousand jobs.

[15] The dollar's current index value is 125 percent of its 2013 value. Therefore, a 10 percent depreciation of current value mean a reduction to 125 - 12.5, or 112.5.

Appendix 1	
NAIC Number	**Sector**
3361 MOTOR VEHICLES	Vehicles
3342 COMMUNICATIONS EQUIPMENT	Machinery
3254 PHARMACEUTICALS & MEDICINES	Chemicals
3363 MOTOR VEHICLE PARTS	Vehicles
3341 COMPUTER EQUIPMENT	Electronic Equipment
3399 MISCELLANEOUS MANUFACTURED COMMODITIES	Misc
3152 APPAREL	Apparel
3344 SEMICONDUCTORS & OTHER ELECTRONIC COMPONENTS	Electronic Equipment
3241 PETROLEUM & COAL PRODUCTS	Chemicals
3364 AEROSPACE PRODUCTS & PARTS	Vehicles
3345 NAVIGATIONAL/MEASURING/MEDICAL/CONTROL INSTRUMENT	Machinery
3251 BASIC CHEMICALS	Chemicals
3339 OTHER GENERAL PURPOSE MACHINERY	Machinery
3343 AUDIO & VIDEO EQUIPMENT	Electronic Equipment
3314 NONFERROUS (EXC ALUM) & PROCESSING	Metals
3329 OTHER FABRICATED METAL PRODUCTS	Metals
3311 IRON & STEEL & FERROALLOY	Metals
3391 MEDICAL EQUIPMENT & SUPPLIES	Misc
3331 AG & CONSTRUCTION & MACHINERY	Machinery
3353 ELECTRICAL EQUIPMENT	Electronic Equipment
3162 FOOTWEAR	Apparel
3261 PLASTICS PRODUCTS	Chemicals

3371 HOUSEHOLD & INSTITUTIONAL FURN & KITCHEN CABINETS	Misc
3359 ELECTRICAL EQUIPMENT & COMPONENTS, NESOI	Electronic Equipment
3352 HOUSEHOLD APPLIANCES AND MISC MACHINES, NESOI	Machinery
3336 ENGINES, TURBINES & POWER TRANSMSN EQUIP	Machinery
9900 OTHER SPECIAL CLASSIFICATION PROVISIONS	Machinery
3262 RUBBER PRODUCTS	Chemicals
3121 BEVERAGES	Food
3252 RESIN, SYN RUBBER, ARTF & SYN FIBERS/FIL	Chemicals
3335 METALWORKING MACHINERY	Machinery
3351 ELECTRIC LIGHTING EQUIPMENT	Machinery
1141 FISH, FRESH/CHILLED/FROZEN & OTHER MARINE PRODUCTS	Food
3141 TEXTILE FURNISHINGS	Textiles
3334 HVAC & COMMERCIAL REFRIGERATION EQUIPMENT	Machinery
3313 ALUMINA & ALUMINUM & PROCESSING	Metals
3332 INDUSTRIAL MACHINERY	Machinery
3333 COMMERCIAL & SERVICE INDUSTRY MACHINERY	Machinery
3169 OTHER LEATHER PRODUCTS	Apparel
3221 PULP, PAPER & PAPERBOARD MILL PRODUCTS	Textiles
9200 USED OR SECOND-HAND MERCHANDISE	Misc
3253 PESTICIDES, FERTILIZERS & OTH AGRI CHEMICALS	Chemicals
3256 SOAPS, CLEANING COMPOUNDS & TOILET PREPARATIONS	Chemicals
3116 MEAT PRODUCTS & MEAT PACKAGING PRODUCTS	Food
3222 CONVERTED PAPER PRODUCTS	Misc
3114 FRUITS & VEG PRESERVES & SPECIALTY FOODS	Food

3119 FOODS, NESOI	Food
3372 OFFICE FURNITURE (INCLUDING FIXTURES)	Machinery
3113 SUGAR & CONFECTIONERY PRODUCTS	Food
3325 HARDWARE	Metals
3272 GLASS & GLASS PRODUCTS	Misc
3159 APPAREL ACCESSORIES	Apparel
3322 CUTLERY & HANDTOOLS	Machinery
3212 VENEER, PLYWOOD & ENGINEERED WOOD PRODUCTS	Misc
3279 OTHER NONMETALLIC MINERAL PRODUCTS	Misc
3271 CLAY & REFRACTORY PRODUCTS	Misc
3132 FABRICS	Textiles
3149 OTHER TEXTILE PRODUCTS	Textiles
3211 SAWMILL & WOOD PRODUCTS	Misc
3231 PRINTED MATTER AND RELATED PRODUCTS, NESOI	Misc
3259 OTHER CHEMICAL PRODUCTS & PREPARATIONS	Chemicals
3369 TRANSPORTATION EQUIPMENT, NESOI	Vehicles
9100 WASTE AND SCRAP	Metals
3327 BOLTS/NUTS/SCRWS/RIVTS/WASHRS & OTHER TURNED PRODS	Metals
3323 ARCHITECTURAL & STRUCTURAL METALS	Metals
3324 BOILERS, TANKS & SHIPPING CONTAINERS	Metals
3362 MOTOR VEHICLE BODIES & TRAILERS	Vehicles
2123 NONMETALLIC MINERALS	Misc
1111 OILSEEDS & GRAINS	Food

3115 DAIRY PRODUCTS	Food
3366 SHIPS & BOATS	Misc
3326 SPRINGS & WIRE PRODUCTS	Metals
3117 SEAFOOD PRODS, PREPARED, CANNED & PACKAGED	Food
3151 KNIT APPAREL	Apparel
3273 CEMENT & CONCRETE PRODUCTS	Misc
2122 METAL ORES	Metals
3161 LEATHER & HIDE TANNING	Apparel
3312 STEEL PRODUCTS FROM PURCHASED STEEL	Metals
3379 FURNITURE RELATED PRODUCTS, NESOI	Machinery
3255 PAINTS, COATINGS & ADHESIVES	Chemicals
3133 FINISHED & COATED TEXTILE FABRICS	Textiles
3315 FOUNDRIES	Machinery
3365 RAILROAD ROLLING STOCK	Machinery
3346 MAGNETIC & OPTICAL MEDIA	Machinery