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Submitted via www.regulations.gov
Docket No. DOC-2018-0002

June 29, 2018

The Honorable Wilbur L. Ross, Jr.
Secretary
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, DC 20230

Re: Auto Care Association Comments Concerning Section 232: National Security Investigation of Imports of Automobiles, Including Cars, SUVs, Vans and Light Trucks, and Automotive Parts

Dear Mr. Secretary,

The Auto Care Association appreciates the opportunity to provide comments to the Department of Commerce (Commerce) concerning the Section 232 National Security Investigation of Imports of Automobiles, Including Cars, SUVs, Vans and Light Trucks, and Automotive Parts. This submission is timely filed in accordance with Commerce's notice of request for public comments and extension of public comment period published in the *Federal Register* on May 30, 2018 and June 21, 2018, respectively.[1]

We hope our submission will assist the Department of Commerce evaluate the economic harm on U.S. businesses and consumers when imposing additional duties on imported automobiles and automotive parts.

The Auto Care Association

The Auto Care Association, a Bethesda, Md.-based trade association, has nearly 3,000 member companies and affiliates that manufacture, distribute and sell motor vehicle parts,

[1] *Notice of Request for Public Comments and Public Hearing on Section 232 National Security Investigation of Imports of Automobiles, Including Cars, SUVs, Vans and Light Trucks, and Automotive Parts*, 83 Fed. Reg. 24735 (May 30, 2018); *Public Comments and Public Hearing on Section 232 National Security Investigation of Imports of Automobiles, Including Cars, SUVs, Vans and Light Trucks, and Automotive Parts; Extension of Comment Period*, 83 Fed. Reg. 28801 (June 21, 2018).

accessories, tools, equipment, materials, supplies and services. Auto Care Association member companies operate or otherwise represent more than 150,000 manufacturing facilities, repair shops, parts stores and distribution outlets that provide parts and services designed to keep vehicles on the road longer, perform better and drive safer.

Our members include businesses with global operations that depend on well-established, integrated supply chains to maintain their competitiveness and ensure that their product offerings meet the needs of their demanding customers.

The Auto Care Industry

The auto care industry, also commonly referred to as the automotive aftermarket, is the segment of the automotive industry comprised of manufacturers, remanufacturers, distributors, wholesalers and retailers of all vehicle replacement parts, accessories, tools, equipment, chemicals and services. The industry includes parts, accessories and services for light vehicles and medium and heavy-duty trucks. Any product or service that a vehicle may need after it is assembled by the original equipment (OE) manufacturer is an auto care industry product or service.

The motor vehicle aftermarket is a significant sector of the U.S. economy.

- Employing 4.6 million people (3.2 percent of the workforce) and reporting sales of more than $392 billion (2 percent of the nominal GDP) in 2018, a 3.6 percent increase over the previous year.[2]
- Includes 533,000 businesses that form a coast-to-coast network of independent manufacturers, distributors, retailers and repair shops.
- Provides parts, products and service and repair for 280.6 million cars and trucks on U.S. roads today.

Literally, we keep Americans on the road, ensuring that they can obtain affordable and convenient service for their vehicles.

Imports in the Auto Care Industry and Effects on National Security

The auto industry has an international footprint and comprises of integrated supply chains that are long and global. Our industry relies on and benefits greatly from imports, including raw materials and intermediate goods, to remain competitive while supporting a broad range of U.S. jobs throughout the supply chain. Through comparative advantage, countries have become more efficient and productive when specializing in certain tasks, resulting in parts and components to cross borders multiple times before final assembly. Even American-made automobiles contain a significant number of foreign produced parts.

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[2] "2018 Digital Auto Care Factbook: 28th Edition," https://www.autocare.org/factbook19/.

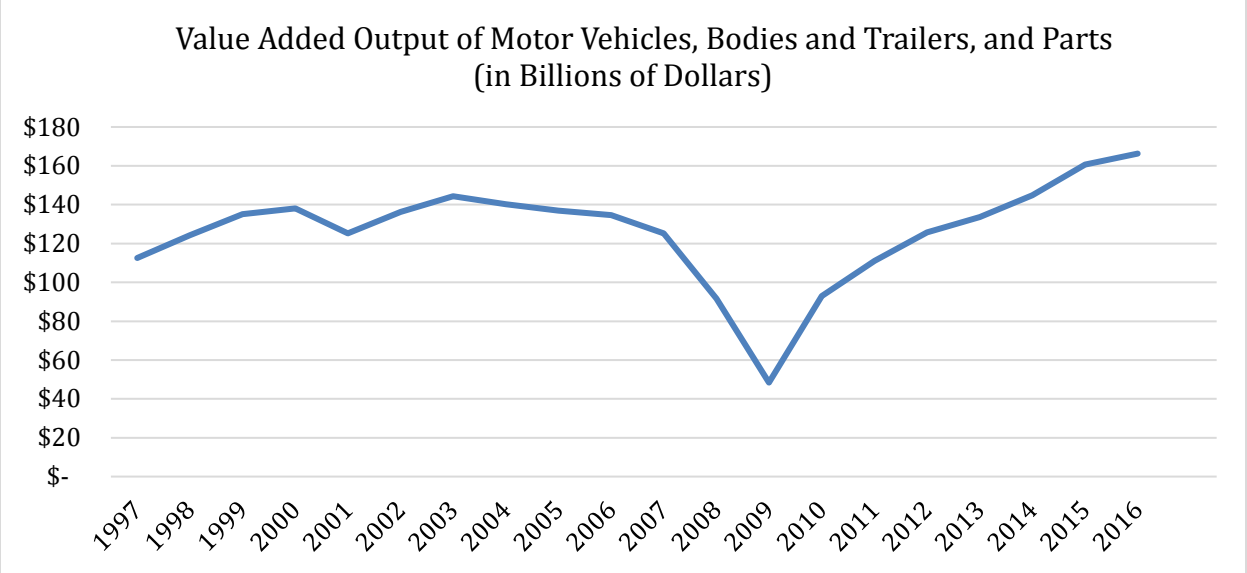
Additionally, a number of auto parts and components **cannot** be sourced in the U.S. as there are **no** U.S.-based factories producing some of these products, and would be extremely cost prohibitive if manufactured in the U.S. One prominent example is vehicle air conditioning systems, where the volume per part number is low due to the number of unique parts covering every year, make and model vehicle on the road, making it extremely unlikely that production of these parts could be moved to the U.S.

Impact of Tariffs or Quotas on the U.S. Auto Care Industry

1. *U.S. Economy and U.S. Jobs*

The U.S. auto industry is a strong and growing sector of the U.S. economy. As stated above, we reported sales of more than $392 billion, 2 percent of the nominal GDP in 2018, a 3.6 percent increase over the previous year. Manufacturing of motor vehicles, bodies and trailers, and parts comprises of 7.6 percent of total U.S. manufacturing value-added output in 2016. Additionally, manufacturing output has grown to record levels since the great recession decline in 2008-2009 as illustrated in Figure 1.0 below.

Figure 1.0 – Graph of Value Added Output of Motor Vehicles, Bodies and Trailers and Parts from 1997 – 2016[3]



[3] U.S. Department of Commerce, Bureau of Economic Analysis, GDP-by-industry Data, https://bea.gov/iTable/index_industry_gdpIndy.cfm (accessed June 12, 2018).

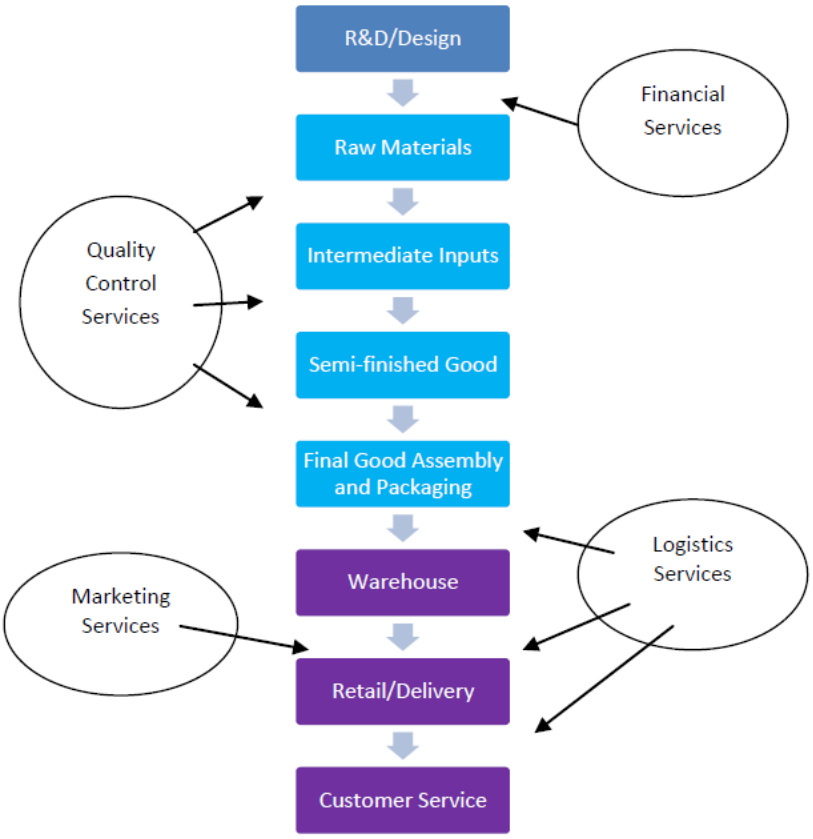
The availability of affordable high-quality parts from foreign sources creates thousands of jobs that might be threatened should the Trump administration move forward with a tariff on vehicles and vehicle parts. A recent economic study completed for the Auto Care Association by John Dunham and Associates found that a 25 percent tariff on imported auto parts could cause a reduction of 17,800 jobs in the auto parts manufacturing sector, resulting in $1.4 billion in lost wages.[4]

Furthermore, there would be a 6,800 loss in jobs by the repair shops and a loss of 85,200 jobs in the auto care wholesale and retail segments due to lower demand.[5] These are mostly small family-owned businesses that would suffer severe economic harm should a 25 percent tariff be levied on autos and auto parts.

The administration's focus on direct manufacturing job losses does not take into consideration the number of jobs supported by imports. As shown in Figure 2.0 below, a number of steps are involved from conceptualization to consumption of a product. For example, U.S. R&D engineers may develop the design of a brake pad and export raw materials to another country for production into a semi-finished product. That product is then exported back to the U.S. for final assembly and packaging designed by the marketing team. The U.S. port and customs agents work to process the cargo while transportation workers deliver the shipment. The local sales and customer service team oversees fulfillment and final delivery to domestic customers or re-exported to international markets.

[4] See Appendix I at 1.
[5] Id at 2.

Figure 2.0 – Illustration of a simple supply chain[6]



In addition, the automotive supply chain supports a number of jobs in other sectors, including electronics, metals, textiles, rubber, chemicals and plastics.

2. U.S. Competitiveness

The auto industry operates on a global platform where goods are rarely designed, manufactured and consumed in one country. Technological efficiencies, lower trade costs and improved logistics have allowed companies to tighten and optimize supply chains. Imports help lower costs and improve product quality, allowing companies to remain competitive domestically and export globally.

[6] U.S. International Trade Commission, *The Economic Effects of Significant U.S. Import Restrictions,* Seventh Update 2011, USITC Pub. 4253, August 2011, Figure 3.1, https://www.usitc.gov/publications/332/pub4253.pdf

As stated in Auto Care Association's written comments in the Section 301 China technology transfer investigation[7], sourcing determinations are made months and years in advance. Even minimal adjustments to tariffs would require a significant investment and force our members to modify their supply chains, find new sources for parts, face new capacity or quality issues and likely pass the increased costs downstream to the consumer. All of these factors and disruptions could cause companies to be less competitive in the U.S. and in global markets, or even force them to cease operations.

3. U.S. Consumers and Families

Although the picture has been painted that "exports are good" and "imports are bad," all American families benefit from imports through a broader selection of goods at lower costs, giving U.S. consumers greater spending power to support industries across the country.

Imposing additional tariffs on auto parts and components would increase their price substantially, making it more difficult for working Americans to afford a new car or the cost of repairing the vehicle they currently own. Our economic study estimates that the cost of car ownership will increase by more than $700 per year per household should the tariffs be imposed.

Therefore, we do not see any benefits to the U.S. economy or U.S.-based manufacturers as a result of an auto tariff. In fact, when taking into account the cost of the tariff likely being passed on to consumers, the rising prices and decreased demand will ultimately hurt U.S. jobs, small family-owned businesses as well as the end consumer.

4. Retaliatory Actions from Trading Partners

We further are concerned with retaliatory actions from trading partners. Following the administration's announcement of tariffs on imports of steel and aluminum[8] and imports from China[9], a number of countries have retaliated with their own list of import tariffs on U.S. exports. The escalation of tariffs and trade tensions around the world damages global growth and puts U.S. businesses at risk.

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[7] Auto Care Association Comments Concerning Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation (May 8, 2018).
[8] President Donald J. Trump Approves Section 232 Tariff Modifications, https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-approves-section-232-tariff-modifications-2/ (May 31, 2018).
[9] Statement by the President Regarding Trade with China, https://www.whitehouse.gov/briefings-statements/statement-president-regarding-trade-china/ (June 15, 2018)

As the U.S.'s largest trading partner, China's large population and growing economy have made it the fastest growing market for U.S. exporters in the last decade, and third largest market for U.S. exports of auto parts in 2017. [10] The number of vehicles in operation on China's roads is growing to be the largest in the world, with vehicles requiring repairs currently growing at a double-digit rate. [11] Further retaliation from China and our other trade partners on U.S. products would be costly to U.S. businesses that depend on these export markets.

Auto Care Association Policy Recommendations

We urge the Trump administration to consider the severity of imposing tariffs on imported goods and the unintended negative consequences, not only on the U.S. automotive industry and the jobs it creates, but also on the overall U.S. economy. Our industry's ability to source parts and components globally supports U.S. auto exports, provides U.S. consumers with a wider selection of vehicles and parts, and keeps vehicle repair and maintenance costs affordable for working families.

We respectfully recommend the Trump administration refrain from trade restrictions that would undermine the auto industry, and instead seek solutions that protect U.S. investments, facilitate trade and create competitive value chains that benefit the global growth of our industry.

We appreciate the opportunity to provide comments in this investigation. We look forward to continuing this dialogue and welcome the administration to contact us if there are any additional questions.

Respectfully submitted,

/s/ Aaron Lowe
Aaron Lowe
Senior Vice President, Regulatory and Government Affairs
Auto Care Association

[10] U.S. International Trade Commission Interactive Trade DataWeb (USITC DataWeb), using data retrieved from the U.S. Bureau of the Census (accessed June 12, 2018).
[11] "2017 China Market Report: An Assessment of China's Light Passenger Vehicle Aftermarket," Auto Care Association at 34.

APPENDIX I

The American Auto Care Industry is an Important Part of the US Economy

High Tariffs on Imported Automobiles and Automobile Parts Will Harm the Domestic Auto Care Industry and American Consumers

Produced for:
Auto Care Association

By
John Dunham & Associates

June 17, 2018

High Tariffs on Imported Automobiles and Automobile Parts Will Harm the Domestic Auto Care Industry and American Consumers

The Trump Administration has requested that the US Department of Commerce initiate an investigation under Section 232 of the Trade Expansion Act of 1962, to determine whether imports of automobiles, including SUVs, vans and light trucks, and automotive parts into the United States threaten to impair the national security.

According to the Commerce Department, the investigation will consider whether the decline of domestic automobile and automotive parts production threatens to weaken the internal economy of the United States, including by potentially reducing research, development, and jobs for skilled workers in connected vehicle systems, autonomous vehicles, fuel cells, electric motors and storage, advanced manufacturing processes, and other cutting-edge technologies. If history is a guide, the Department will conclude that a loss in worldwide automobile and automobile parts market share is enough to *threaten the security* of the country, and the tariffs would be initiated based on an extremely broad interpretation of the 232 provisions.

There is currently no direction from the Administration as to specifically which automobiles or parts, or which countries would be subject to punitive tariffs. However, even limited tariffs on automobile and parts imports will have a harmful effect on the American auto care industry, which is one of the most important sectors of the economy.

In 2017, the auto care industry provided over 7.1 million jobs across the country, paying about $443.58 billion in wages and benefits, while generating over $1.4 trillion in economic activity. These jobs are threatened by the proposed tariffs on automobile and auto part imports into the United States.

An assumed 25 percent tariff on automobile and auto part imports would negatively impact auto care industry along with the national economy through a series of effects. An increase in import prices could trigger a reduction in auto parts production and sales. The auto part manufacturing industry could see a reduction of nearly 17,800 jobs, paying $1.4 billion in wages. Through their supplier and induced linkages, a total loss of 74,000 people and $4.8 billion dollars in wages could be lost.

Figure 1
Economic Losses from Proposed 25 Percent Tariff

Total Economic Impact

Total Impact	Jobs	Wages	Output
Direct	(109,757)	$ (7,587,227,600)	$ (22,756,516,200)
Supplier	(77,046)	$ (5,354,932,500)	$ (19,274,541,900)
Induced	(111,060)	$ (5,861,688,500)	$ (18,884,058,500)
Total	(297,863)	$ (18,803,848,600)	$ (60,915,116,600)

Business Taxes	Federal	State	Total
Federal	$ (4,513,393,000)	$ (3,438,228,100)	$ (7,951,621,100)

Cost to Consumers by Segment

Segment	Cost to Consumers	Cost Per Household
Imported Automobiles	$ 58,287,095,643	$ 543.96
Exported Domestic Automobiles	$ -	$ -
Domestic Automobiles	$ 9,317,421,280	$ 86.95
Automobile Repair	$ 2,839,980,509	$ 26.50
Retail Automotive Parts	$ 8,511,669,882	$ 79.43
Total	$ 78,956,167,314	$ 736.85

Increased costs for parts will cause a reduction in repair work demand leading to close to 6,800 jobs being lost in repair shops across the country. These are jobs pay about $372.4 million in wages and contribute about $683.2 million in economic activity to the economy. In addition to shops, industries supported by the auto care repair industry could be lost, leading to a total loss of 13,900 jobs paying $800.6 million in wages.

Consumers who purchase auto care parts at retail locations will lower their demand as prices rise. This leads to a loss of close to 85,200 jobs in auto care wholesale and retail businesses and up to 209,700 jobs lost when supplier and induced impacts are accounted for.

The total impact to the economy from these effects are over 297,800 jobs paying $18.8 billion in wages and benefits lost in the country. The economy would lose up to $60.9 billion in economic activity while Federal, state, and local tax revenues could fall by $7.9 billion. These tariffs will be detrimental to the domestic economy.

In addition to hurting jobs and the economy, tariffs on imported automobiles and auto parts will hit consumers with higher costs of purchasing automobiles, auto parts, and getting repair work on their vehicles.

The following report contains five sections, the first of which outlines the importance of the auto care industry in the country – an industry that accounts for nearly 1.8 percent of American jobs. The second section examines the overall trends in automobile and parts imports, exports and demand. In the third section, the effects of an assumed 25 percent across the board tariff are calculated, this is followed by a calculation of the overall effect on the auto care industry is presented in terms of lost jobs, wages and economic activity. Finally, the report provides an examination of the costs of these tariffs on families and consumers across the country.

The Auto Care Industry is an Important Part of the American Economic Landscape

If the automobile defines America, the auto care industry defines the economy. Ranging from automotive parts and accessories manufacturers; automotive parts distributors, jobbers, and wholesalers; automotive parts retailers, specialty stores and parts sections of general merchandise stores; to repair shops including independent repair shops, franchise repair shops, tire shops, oil and lube shops, auto body shops, and auto glass shops, the industry accounts for about 1 out of every 56 jobs in the country.[1]

The economic impact of the auto care industry in America in 2017 was about $1.47 trillion, with parts manufacturers, product wholesalers and retailers, and repair and maintenance shops directly employing approximately 2,708,017 Americans.[2] These workers earned over $176.26 billion in wages and benefits. When supplier and induced impacts are taken into account, the industry is responsible for 7,185,850 jobs in the United States and $443.58 billion in wages; as well as $188.64 billion in federal, state and local taxes; not including state and local sales taxes imposed on auto care parts, accessories, and service.

Figure 2
Economic Impact of the Auto Care Industry (2017)

($ billion)	Direct	Supplier	Induced	Total
Jobs	2,708,017	1,860,061	2,617,780	7,185,858
Wages	$176.26	$129.26	$138.06	$443.58
Economic Output	$555.97	$464.49	$444.72	$1,465.17
Taxes				$188.64

The 7,404 firms that manufacture automotive parts and automotive accessories (e.g. chrome parts, replacement components, etc.) employ 575,018 people in manufacturing operations, sales, packaging, and direct distribution.[3] These parts are distributed to wholesalers for sale in the United States, and are also exported to countries around the world, both individually, and as components of domestically manufactured automobiles.

The jobbers, distributors, and wholesalers who handle these parts (both those that are produced domestically and abroad) employ 249,263 full-time equivalent individuals

Finally, the auto care industry includes thousands of retailers that directly sell products to the consumer, and automotive service shops that sell and install these products on vehicles. These include a wide range of retailers including auto supply stores, auto and truck equipment and parts retailers, general automotive repair shops, tire repair shops, auto departments in discount department stores, and various other automotive repair shops. There are 1.88 million people employed in the sales of automobile parts and accessories in retail shops and who service automobiles in independent repair shops in the United States.

Other firms are related to the auto care industry as suppliers. These firms produce and sell a broad range of items including metals, chemicals, rubber, packaging materials, machinery, plastics, and other materials needed to produce auto care parts and accessories. In addition, supplier firms provide a broad range of services, including personnel services, financial services, advertising services, consulting services or transportation services. Finally, a number of people are employed in government enterprises responsible for the regulation of

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1 Based on the labor force as of August 2017. See: Table A-1. Employment status of the civilian population by sex and age, Bureau of Labor Statistics at: https://data.bls.gov/pdq/SurveyOutputServlet

2 *Economic Impact of the Auto Care Industry Methodology Summary,* prepared for the Auto Care Association by John Dunham & Associates, October 2017.

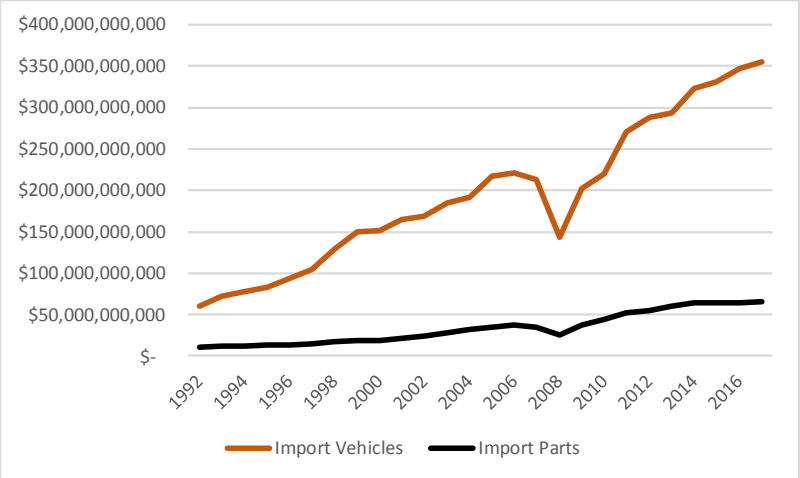
3 The term "firms" equates to facilities. One firm, such as Bridgestone might operate dozens of facilities.

the auto care industry. All told, we estimate that the auto care industry is responsible for 1.86 million supplier jobs. These firms generate about $464.49 billion in economic activity.

In addition to direct industry participants and their suppliers, millions of other people rely on the auto care industry for their employment. This is because the wages spent by those working in the industry support activities throughout communities across the country. People working in restaurants, movie theaters, and retail stores, people building houses, plumbers, and painters, and people working in personal service industries like dry cleaners and accounting firms all rely in part on the re-spending of wages by people working in the auto care industry or for supplier firms. All told, over 2.61 million people earn $138.06 billion in wages as a result of this spending.

The Trump Administration is correct in stating that there has been substantial growth in the value of vehicles and parts being imported into the United States. Based on import data from the US Department of Commerce, automobile (and light truck) imports rose by a compound annual growth rate (CAGR) of 7.4 percent per year, with parts imports rising by 7.7 percent. (See Figure 3).[4] The bulk of the growth occurred during the post-recession period.

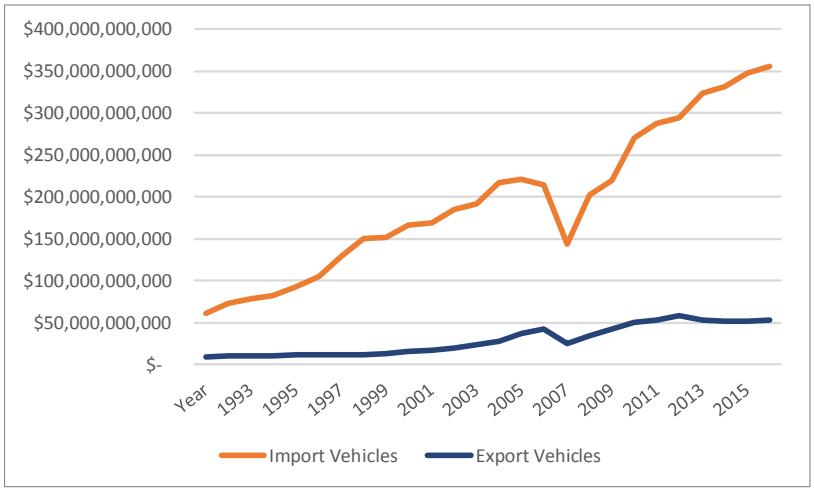
Figure 3
Imports of Automobiles and Automotive Parts into the United States



While imports have risen, so have exports. Based on data from the US Department of Commerce, US vehicle exports rose by 7.6 percent (CAGR) during the same period (although from a much lower base), with parts exports increasing by 5.7 percent. Figure 4 compares imports and exports of motor vehicles, with Figure 5 showing a comparison for parts.

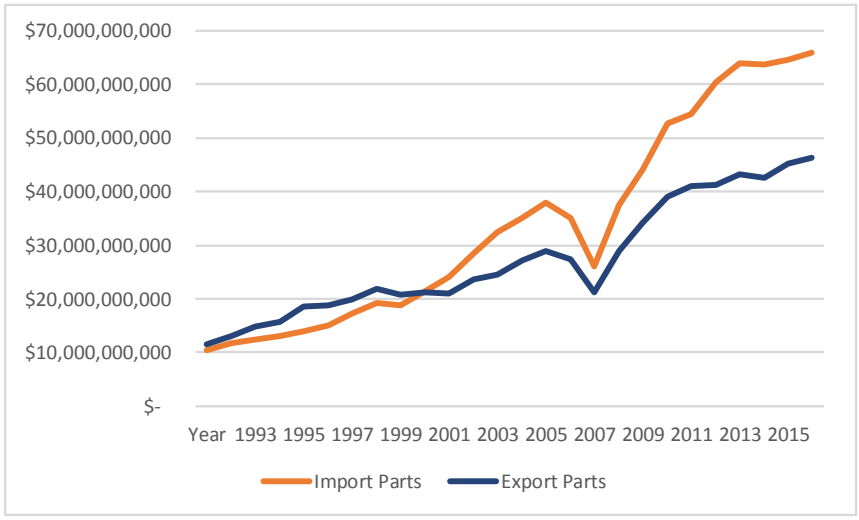
[4] US Department of Commerce, Bureau of the Census, USA Trade Online at: https://usatrade.census.gov/. Dollars in real (2017) dollars, using the CPI-U to adjust the nominal figures.

Figure 4
Imports and Exports of Motor Vehicles



Part of the reason for the slowing growth in imported vehicle sales is that the US market is being dominated by the sale of light trucks – the bulk of which are domestically produced. (See Figure 6) While foreign produced automobiles accounted for about 16 percent of the US market in 2017, foreign produced trucks accounted for less than 14 percent.[5] Overall, foreign produced automobiles were about 14.6 percent of the US market in 2017.

Figure 5
Imports and Exports of Motor Vehicle Parts



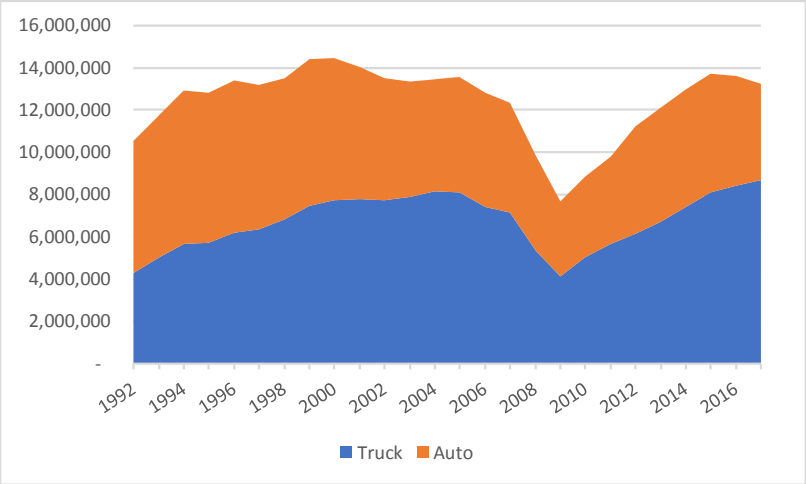
In sum, while imports of foreign produced vehicles have risen, they have not been growing at a much faster level (in percentage terms) than have US exports. In the case of parts, imports have increased at a faster rate than exports; however, this is likely due to the growth in the number of foreign vehicle company manufacturing plants locating in the United States over the study period. These vehicles tend to have a higher foreign part component than do domestic brands (for example the average domestic component of a US assembled BMW X5 is just 37.5 percent, while that of a similar Cadillac XT5 is 75.5 percent.[6] One might even expect that taxes that

[5] Data from *Auto and Truck Seasonal Adjustment*, US Department of Commerce, Bureau of Economic Analysis, June 4, 2018.

[6] DuBois, Frank, *Made in America Auto Index — 2017*, The American University, Kogod School of Business, at: https://www.american.edu/kogod/research/autoindex/

encourage assembly operations to move to the United States (such as tariffs) would lead to even greater growth in foreign automobile parts imports.

Figure 6
Share of US Market – Automobiles and Light Trucks



The imposition of tariffs would also impact domestic automobile production, and parts production and sales, both to domestic and foreign manufacturers, but also to repair shops and consumers, as higher overall prices lead to reductions in demand. The following section of this report outlines how a potential 25 percent tariff would impact these markets.

The Effects of an Assumed 25 Percent Tariff

This analysis examines automobiles and light trucks imported into and exported from the United States,[7] as well as automobile parts.[8] Automobiles and automobile parts imported into the United States are generally subject to tariffs ranging from 0 to 25 percent depending on the particular component and the country from which it is being imported.[9] This analysis assumes that an additional 25 percent tariff would be imposed under the 232 provisions in addition to any existing tariffs. This tax would be imposed when parts are brought into the United States either by the exporter themselves or by a broker or freight forwarder.

Data on imports of vehicles and parts comes from the US Department of Commerce, USA Trade database and is for the calendar year 2017.[10] All data are in dollars including freight; however, the 25 percent tariff is assumed to occur at the point of entry, so it would be 25 percent of the CIF value. Based on the data about 96 percent of the imported vehicles come from just 10 countries, with Mexico and Canada alone accounting for almost 47 percent. Mexico and Canada account for over 45 percent of all parts imports as well.

Figure 7
Top Exporting Countries for Automobiles and Automobile Parts

Country	Vehicle Imports	Percent	Country	Parts Imports	Percent
Mexico	$ 46,926,796,125	24.5%	Mexico	$ 24,440,201,543	32.4%
Canada	$ 42,516,973,165	22.2%	China	$ 12,830,686,474	17.0%
Japan	$ 39,781,128,900	20.7%	Canada	$ 9,761,823,647	12.9%
Germany	$ 20,181,725,500	10.5%	Japan	$ 9,253,438,222	12.3%
Korea, South	$ 15,731,937,656	8.2%	Germany	$ 5,181,541,210	6.9%
United Kingdom	$ 8,582,595,217	4.5%	Korea, South	$ 4,016,559,497	5.3%
Italy	$ 4,770,980,031	2.5%	Taiwan	$ 2,515,554,914	3.3%
Sweden	$ 2,023,795,651	1.1%	India	$ 1,058,280,351	1.4%
Slovakia	$ 1,996,456,298	1.0%	Italy	$ 871,078,023	1.2%
China	$ 1,455,678,215	0.8%	Thailand	$ 818,415,585	1.1%
World Total	$ 191,748,525,445	100.0%	World Total	$ 75,470,307,388	100.0%

A 25 percent tariff applied to all vehicle imports would be equal to just over $47.9 billion, while that on imported parts would be almost $18.9 billion, assuming a full pass-through of the cost and no additional marginal markups on parts to manufacturers. In other words, domestic auto manufacturers would simply pay the additional tariff, with no added wholesaler markups. In the case of consumers, standard wholesale and retail margins would be added to the cost of the tariff.[11]

This is likely an under-estimate of the total cost of a tariff. Economic theory suggests that when tariffs impose a price floor, that all trading partners price their products at least at that level. Since the domestic price of the imported product rises by at least the amount of the tariff, domestic producers competing with these imports can also raise their domestic prices as the price of imports rises. In this case, it is generally expected that

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7 Under HS Codes from 87032, 87033, 87034, 87036, 87037, 87038, 87039.

8 Under HS Codes 8706 through 8716.

9 *Harmonized Tariff Schedule of the United States (2018) Revision 5*, Chapter 87, Vehicles Other Than Railway Or Tramway Rolling Stock, and Parts And Accessories Thereof, United States International Trade Commission, at: https://www.usitc.gov/tata/hts/bychapter/index.htm

10 US Department of Commerce, Bureau of the Census, USA Trade Online at: https://usatrade.census.gov/.

11 Based on an average wholesale margin for vehicle manufacturing of 4.07% and a retail margin of 15.68%, and a wholesale margin for automobile parts of 6.17% and a retail margin of 49.53%. Markups from: *Margins After Redefinitions: 2007 Detail*, Industry Economic Accounts Directorate, Bureau of Economic Analysis (BEA), U.S. Department of Commerce.

manufacturers exporting to the US from other countries will raise the prices of their products to levels set just under the tariff-imposed price floor.[12] In addition, domestic manufacturers could raise prices in line with their share of the overall market.

Even with this consideration, the cost of imported vehicles to consumers would increase by about $58.3 billion dollars. Since cars are what economists call a *normal good* higher prices would lead in a reduction of consumption. As with all normal goods, when prices go up demand falls. Economists use the term elasticity to determine how changes in prices impact demand for products. A literature review found no generally available published articles analyzing the elasticity for automobile parts; however, there were a number of published reports on the price elasticity of automobile sales. This elasticity was used as a proxy for the analysis of the impact of the potential tariffs on the auto care industry. According to most sources, automobile sales are somewhat inelastic, in that demand does not fall as quickly as price rises. Examples range from roughly -0.8 to -0.87.[13] Applying the arithmetic average or -0.84 to the calculated price changes, suggests that the volume of imported automobiles would decrease by 25.4 percent.

Imported automobiles are not entirely constructed using foreign parts and labor. In fact, there is a considerable domestic component to every imported car. According to research done by academics at the American University, the average domestic component (parts) of imported vehicles is about 8.2 percent.[14] So for every lost dollar in foreign produced automobile sales, American parts producers lose 8.2-cents in parts sales. The lost volume in imported automobiles results in a loss of $2.2 billion to domestic part producers.

The tariff on imported parts will also impact domestic automobile producers. American made automobiles also contain a significant amount of foreign produced parts – particularly in the case of so-called transplant manufacturing operations, where foreign producers like Toyota or BMW assemble cars at American plants. About 23.7 percent of the cost of American produced cars, on average, is due to the use of imported parts. Just like vehicles themselves, these parts would be subject to the 25 percent import tariff. This would increase the input costs for American vehicle producers by $7.7 billion (again assuming no additional wholesale markups). After margins are applied the retail cost of American assembled vehicles would rise by $9.3 billion, and using the same elasticity as before, sales would decrease by 3.3 percent. This reduction in domestically assembled automobiles would reduce domestic parts demand by $3.3 billion.

US vehicle exports would also decline leading to a reduction in both motor vehicle production as well as domestic parts sales. About 23.7 percent of the cost of cars exported from the US is due to imported parts which would be subject to the 25 percent tariff. This would increase the cost of these parts by $4.7 billion, and assuming the same elasticity of demand for exports and imports export sales of domestic cars would fall by 2.7 percent, resulting in a loss of $1.7 billion in domestic parts sales.

In sum, the increase in import tariffs on foreign manufactured vehicles and parts would lead to a reduction in domestic automobile parts sales of $7.1 billion. But the unintended consequences of the tariff do not stop there.

Higher automobile part prices impact other parts of the auto care industry, specifically repairs and retailing. About 11.3 percent of the cost of automobile repairs on average (at both independent and dealer-owned shops) is the result of parts.[15] Assuming a constant percentage of domestic to foreign parts as are used in new car

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12 This is general economic theory. Tariffs would have no impact on domestic firms were they not able to raise prices.

13 McCarthy, Patrick, *Market Price and Income Elasticities of New Vehicle Demands*, The Review of Economics and Statistics, August 1996; Levinsohn, James, *Empirics of Taxes on Differentiated Products: The Case of Tariffs in the U.S. Automobile Industry*, in Baldwin, Robert, Editor, Trade Policy Issues and Empirical Analysis, 1988.

14 DuBois, Frank, *Made in America Auto Index — 2017*, The American University, Kogod School of Business, at: https://www.american.edu/kogod/research/autoindex/. Figures discounted to account for labor costs.

15 Based on production matrices for automobiles from IMPLAN, Inc. using the 2016 US tables.

production, about 56 percent of the parts used (in terms of cost) are domestic.[16] This means that about 44 percent are foreign parts which would be subject to the 25 percent tariff. Americans spend about $170.7 billion on automobile repairs each year. Accounting for the parts percentage, a 25 percent tariff would raise overall repair costs by about $2.8 billion or 17 percent.

As with cars, automobile repairs are a normal good, and demand will fall as prices rise, but since automobile repairs are generally more necessary than a new car, the elasticity is lower (economists would say more inelastic). Based on the seminal analysis of product and services elasticities conducted by Hendrik Houthakker, the elasticity of demand for automobile repairs is roughly -0.36 percent, meaning that the increased cost of foreign auto parts would reduce repair shop sales by 0.6 percent.[17] This would result in even lower demand for US produced automobile parts, with lower demand from repair shops resulting in $68.2 million in reduced sales.

Finally, higher costs for imported automobile parts will reduce demand from individuals completing their own repairs on their cars. Based on data from IMPLAN, there are roughly $100 billion in automobile parts sold in the country at retail each year.[18] Assuming the same percentage of domestic to foreign parts and a 25 percent tariff, the retail price of auto parts would increase by about 20.2 percent and demand would fall by 8.53 percent overall, leading to reductions in domestic retailing jobs as well as a loss of $5.4 billion in sales for domestic parts manufacturers.

All told the effects on the auto care industry through reduced parts production, repairs and lost retail sales would be equal to $16.7 billion, with domestic parts manufacturer's sales down $12.6 billion or 3.1 percent. Figure 8 outlines these costs by segment.

Figure 8
Direct Economic Losses from Proposed 25 Percent Tariff

Segment	Economic Loss	Domestic Parts Loss
Imported Automobiles	$ 48,669,724,862	$ 2,201,126,140
Exported Domestic Automobiles	$ 3,953,323,712	$ 1,663,101,690
Domestic Automobiles	$ 7,780,046,768	$ 3,272,944,456
Automobile Repair	$ 1,022,392,983	$ 68,059,169
Retail Automotive Parts	$ 8,511,669,882	$ 5,440,364,804
Total	$ 69,937,158,208	$ 12,645,596,258

As the analysis shows, a tariff designed to protect the domestic automobile and automobile parts industries will actually lead to a reduction of $12.6 billion in parts sales and an overall loss of $69.9 billion in sales for the auto care industry as a whole.

16 DuBois, Frank, *Made in America Auto Index — 2017*, The American University, Kogod School of Business, at: https://www.american.edu/kogod/research/autoindex//. Figures discounted to account for labor costs.

17 Houthakker, H. S., and Lester D. Taylor, Consumer Demand in the United States, 1929–1970, Analyses and Projections, Cambridge, Harvard University Press, 1966.

18 This includes wholesale and retail margins.

The Economic Impact of an Assumed 25 Percent Tariff

The reduction in auto parts production and sales, as well as reduced demand for repair services and retail automobile parts will all impact the auto care industry, and will result in lost jobs, wages and overall economic activity in the United States.[19] The auto parts manufacturing industry will see a reduction of nearly 17,800 jobs paying $1.4 billion in wages.

Once supplier and induced impacts are taken into account, the manufacturing part of the auto care industry will see a reduction of over 74,200 jobs, and the American economy will be almost $20.5 billion smaller.

In addition to these economic losses in the private sector, the Federal government will receive nearly $1.3 billion less in tax revenues from income taxes, profits taxes, social security taxes, and other revenue sources.[20]

Figure 9
Economic Impact of Reduced Domestic Auto Parts Manufacturers

Manufacturing Impact	Jobs	Wages	Output
Direct	(17,775)	$ (1,430,365,400)	$ (8,878,337,500)
Supplier	(27,794)	$ (1,908,558,400)	$ (6,834,385,300)
Induced	(28,640)	$ (1,453,322,800)	$ (4,748,077,100)
Total	(74,209)	$ (4,792,246,600)	$ (20,460,799,900)

	Federal	State	Total
Business Taxes	$ (1,251,234,900)	$ (834,601,900)	$ (2,085,836,800)

The nation's automobile repair shops will see a reduction of almost 6,800 jobs following the imposition of the 25 percent tariffs on imported automobiles and parts. This will result in $372.4 million in reduced wages to those workers. Once supplier and expenditure induced industries are taken into account, almost 13,940 fewer jobs and $2.1 billion less in economic activity in the repair sector would result from the tariffs. In addition, the Federal government would see $182.8 million less in tax revenues from this sector.

Figure 10
Economic Impact of Reduced Automobile Repairs

Repair Impact	Jobs	Wages	Output
Direct	(6,794)	$ (372,393,600)	$ (683,205,900)
Supplier	(2,471)	$ (174,642,100)	$ (628,414,400)
Induced	(4,671)	$ (253,594,400)	$ (807,795,700)
Total	(13,936)	$ (800,630,100)	$ (2,119,416,000)

	Federal	State	Total
Business Taxes	$ (182,802,200)	$ (154,727,100)	$ (337,529,300)

[19] All figures are based on *Economic Impact of the Auto Care Industry Methodology Summary,* prepared for the Auto care Association by John Dunham & Associates, October 2017. The volume changes estimated using the model described in this report are used to shock the static 2017 impact figures, resulting in the estimated losses.

[20] Note that this model was constructed prior to the passage of the recent tax reform bill. Tax reduction figures are based on tax rates and the tax structure as of 2016.

Interestingly, the largest effects on the industry will be experienced by auto parts dealers, wholesalers and importers located throughout the country. Even though these firms will pass higher costs through to consumers, the resulting reduction in sales volumes will lead to nearly 85,200 fewer direct jobs, paying almost $5.8 billion in wages. The total loses in this sector would be over 209,700 jobs and $38.3 billion in economic activity. The Federal government will also see a reduction of $3.1 billion in tax revenues.

Figure 11
Economic Impact of Reduced Automobile Parts Retailing, Wholesaling and Importing

Wholesale Retail impact	Jobs	Wages	Output
Direct	(85,188)	$ (5,784,468,600)	$ (13,194,972,800)
Supplier	(46,781)	$ (3,271,732,000)	$ (11,811,742,200)
Induced	(77,749)	$ (4,154,771,200)	$ (13,328,185,700)
Total	(209,718)	$ (13,210,971,800)	$ (38,334,900,700)

	Federal	State	Total
Business Taxes	$ (3,079,355,900)	$ (2,448,899,200)	$ (5,528,255,100)

Combining all of the impacts together suggests that the potential 25 percent tariffs on vehicle and parts imports will have a sizable impact on the US economy. All told, nearly 300,000 fewer jobs would be generated by the auto care industry, resulting in $60.9 billion in reduced economic activity. Tax revenues for federal, state and local governments would fall by nearly $8.0 billion, not including changes to sales taxes that would result from lower automobile and parts sales.

Figure 12
Total Economic Impact of Assumed 25 Percent Tariffs on the Auto Care Industry

Total Impact	Jobs	Wages	Output
Direct	(109,757)	$ (7,587,227,600)	$ (22,756,516,200)
Supplier	(77,046)	$ (5,354,932,500)	$ (19,274,541,900)
Induced	(111,060)	$ (5,861,688,500)	$ (18,884,058,500)
Total	(297,863)	$ (18,803,848,600)	$ (60,915,116,600)

Business Taxes	Federal	State	Total
Federal	$ (4,513,393,000)	$ (3,438,228,100)	$ (7,951,621,100)

The Cost of the Assumed 25 Percent Tariff to American Consumers

These economic impacts are not the only unintended consequences of high tariffs on vehicles and automotive parts. In the end all taxes, including those resulting from tariffs, are paid by consumers. Combined, the tariffs will cost consumers nearly $79 billion per year, with most of this due to higher costs for imported cars and light trucks. Dividing this by the number of households with cars, the tariffs would lead to an additional cost of $737 per family.[21] This of course is an average, with most of the costs being borne by those families purchasing new vehicles. Figure 13 below outlines the costs to consumers.

Figure 13
Cost to Consumers by Segment

Segment	Cost to Consumers	Cost Per Household
Imported Automobiles	$ 58,287,095,643	$ 543.96
Exported Domestic Automobiles	$ -	$ -
Domestic Automobiles	$ 9,317,421,280	$ 86.95
Automobile Repair	$ 2,839,980,509	$ 26.50
Retail Automotive Parts	$ 8,511,669,882	$ 79.43
Total	$ 78,956,167,314	$ 736.85

[21] Approximately 107.15 million households in the United States own at least one vehicle. Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

Conclusion

The auto care industry is an important part of the US economy, generating nearly 7.2 million full-time-equivalent jobs, and nearly $1.5 trillion in economic activity.

This industry depends to a large extent on international trade, with Canada and Mexico accounting for nearly half of all imported vehicles and parts. The imposition of a 25 percent tariff on all automotive imports would not only harm these important allies, it will have devastating effects on the American economy.

These tariffs could lead to the loss of almost 300,000 jobs in the American auto care industry, and cost consumers nearly $79 billion.