

# Policy Brief

## An Accident Waiting to Happen?

The Estimated Impacts of Tariffs on  
Motor Vehicles and Parts

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This *Policy Brief* examines the potential *net* impacts on U.S. jobs across all industries and the economy generally of 25 percent tariffs imposed on U.S. imports from all countries of automobiles, SUVs, light trucks, other vehicles and parts.

### Summary

On May 23, the U.S. Department of Commerce announced that it would begin an investigation under Section 232 of the Trade Expansion Act of 1962 about whether imports of automobiles, including sport utility vehicles (SUVs), vans and light trucks, and auto parts, “threaten to impact the national security” of the United States.<sup>1</sup> It said evidence suggests that increased imports over “decades” have weakened the “internal economy” by reducing auto sector jobs, and in particular skilled research and development jobs in that and related industries. If the investigation finds a national security threat from imported vehicles and parts, Commerce is likely to recommend tariffs, quotas, or some combination thereof to limit imports.

While we await the outcome of the assessment phase of this process, hanging over the exercise – already – is the threat of



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import restraints. President Trump has long advocated the imposition of tariffs on U.S. automobile imports.<sup>2</sup> Indeed, it has been reported that the President is considering tariffs of as much as 25 percent on U.S. vehicle and parts imports.<sup>3</sup>

To assist U.S. policy makers in understanding the potential impacts of this policy prescription, we provide an assessment of the likely economic effects of the imposition of 25 percent tariffs on U.S. imports of motor vehicles, SUVs, light trucks and other vehicles and parts on *net* U.S. jobs and the U.S. economy generally in the short term, i.e., roughly over one to three years, assuming duties are in place for only that period of time. (A more permanent set of duties implies a greater overall impact over a longer period of time.)

We find that the tariffs would have a very small positive impact on high-skilled workers in the motor vehicle and parts sectors, but very large negative impacts on workers – both high- and lower-skilled – in other sectors of the economy. Overall, U.S. economic output would decline. We find:

- The tariffs would result in a *net loss* of 157,000 U.S. jobs. A *net loss* of 250,000 jobs in the rest of the economy would more than offset an increase in U.S. motor vehicle and parts sector employment of 92,000 jobs.
- About three jobs would be lost for every job gained in the motor vehicle and parts sector.
- GDP would decline by 0.1 percent as higher costs, net job losses, and declines in producer and consumer spending power work their ways through the economy.
- Tariffs would add about \$6,400 to the price of an imported \$30,000 car.

## Results

We examined the impacts of 25 percent tariffs applied to U.S. imports of motor vehicles and parts classified in Chapter 87 of the Harmonized Tariff System of the United States.<sup>4</sup> We focus on the potential impacts in the short term: the first one to three years the tariffs are in effect. During this time, producers have limited ability to ramp up U.S. production to replace imports and limited ability to change sourcing patterns away from well-established cross-border supply chains, according to industry experts. (A more permanent set of tariffs implies longer-term effects not reported here.) Finally, we do not take into account any potential retaliation against U.S. exports. We use a model, described in the Appendix, that captures important ways in which the many parts of the economy interact with each other.

Table 1 shows that the tariffs are estimated to cause a net decline in the output of the U.S. economy of 0.1 percent in the time frame considered here. The decline results from higher costs that ripple through the economy, making U.S. exports less competitive, and new car purchases more expensive, for example.

**Table 1. U.S. Macroeconomic Effects of 25% Tariffs on Motor Vehicles and Parts**

Change in GDP (billions of dollars)	-\$18.1
Change in GDP (percent)	-0.1%
Change in motor vehicle imports (percent)	-29.7%
Change in all imports (percent)	-2.7%
Change in all exports (percent)	-1.9%
Change in price of imported autos (percent)	+21.3%
Estimated price increase of \$30,000 imported car	\$6,384

Source: Authors' estimates.

*Tariffs would reduce GDP by \$18 billion and overall U.S. exports by nearly 2 percent annually*

2015 Passat 1.8T SE w/ Sunroof & Nav.	
Exterior: Platinum Gray Metallic Exterior Interior: Titan Black Interior	
PARTS CONTENT INFORMATION	
FOR VEHICLES IN THIS CARLINE:	FOR THIS VEHICLE:
U.S./CANADIAN	FINAL ASSEMBLY POINT:
PARTS CONTENT: 37%	CHATTANOOGA TN, U.S.A.
MAJOR SOURCES OF FOREIGN	COUNTRY OF ORIGIN:
PARTS CONTENT:	ENGINE: MEXICO
MEXICO: 27%	TRANSMISSION: JAPAN
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION OR OTHER NON-PARTS COSTS.	
Total Price:	\$29,210.00
Fuel, license, title fees, taxes and dealer-installed accessories are not included.	

*Tariffs increase prices of both imported vehicles and U.S.-made vehicles with foreign components*

*Overall, 157,300 net jobs would be lost, including 45,450 manufacturing jobs in non-automotive sectors*

*About three jobs would be lost elsewhere in the economy for every U.S. motor vehicle job gained*

*Higher skilled jobs represent 19 percent of the total gains for motor vehicles and parts*



Table 2 summarizes the estimated net job impacts. Overall, 157,291 net jobs would be lost, including 45,450 jobs in non-motor vehicle manufacturing sectors. Most job losses would come from services sectors that feel the impacts of the tariffs as the U.S. economy slows. Many of those services jobs are tied to production in manufacturing sectors that are negatively impacted by higher costs for motor vehicles and parts – trade and distribution, construction, and high-skilled business and professional services. Within the motor vehicle and parts increase, just 17,676 of them – or 19 percent – are the higher-skilled jobs the Administration cited in launching the review.

**Table 2**  
**Net Number of U.S. Jobs Impacted by**  
**25% Tariffs on Motor Vehicles and Parts**  
(Number)

<b>Primary agriculture*</b>	<b>-4,991</b>
<b>Primary energy</b>	<b>-1,924</b>
<b>Manufacturing</b>	<b>+46,975</b>
Processed food	-1,832
Beverages and tobacco	94
Petroleum and coal products	-108
Chemicals, rubber, plastics	-3,282
Iron and steel	+522
Non-ferrous metals	+23
Fabricated metals	+5,722
Motor vehicles and parts	+92,426
Other transportation	-6,038
Electronic equipment	-5,120
Other machinery	-8,208
Textiles	+408
Clothing	-311
Footwear, leather, footwear	-136
Wood, paper	-4,780
Other goods*	-29,322
<b>Services</b>	<b>-197,291</b>
Construction	-120,825
Air transport	-540
Water transport	-129
Other transport	-3,107
Trade and distribution	-23,379
Communications	-4,714
Financial services	-9,532
Insurance	-2,446
Business and professional services	-68,699
Personal and recreational services	+2,150
Other services	+33,868
<b>TOTAL</b>	<b>-157,291</b>

\* Includes forestry products, minerals, and other manufactures.

Source: Authors' estimates.

## Conclusion

Motor vehicle and parts tariffs of 25 percent would have serious net negative impacts on the U.S. economy overall. They would adversely impact many workers in manufacturing sectors, and hundreds of thousands of workers in services sectors that depend on the health of manufacturing. The tariffs would boost automobile prices, both domestic and imported.

If supporting jobs and strengthening the economy are the motivations for invoking national security reasons for imposing protection, such tariffs would have the opposite impact from that intended.

## Methodology

We base our analysis on the Global Trade Analysis Project (GTAP) database. The GTAP database covers international trade and economy-wide inter-industry relationships and national income accounts, as well as tariffs, some nontariff barriers and other taxes. This includes value-chain related linkages across industries and borders. These data are included in a computer-based model of production and trade known as a “computable general equilibrium” (CGE) model.

**This is the same model used by the Commerce Department to support its proposed tariff remedies in the steel Section 232 investigation.**

While our model incorporates the GTAPv10 database, we have updated the data from the 2014 benchmark year to better reflect the U.S. economy in 2016. The base year for our analysis of the imposition of motor vehicle and parts tariffs is 2016.

In addition to economy-wide impacts, we focused especially on the impacts of imposing the tariffs on the U.S. workforce. For the analysis conducted here, we treat the U.S. economy as at nearly full employment, meaning changes in demand for labor (positive or negative) involve a mix of wage and employment effects. (Technically we work with a labor supply elasticity of 0.5). To reflect the timeframe involved, we limit the ability of firms to substitute between domestic and foreign suppliers (technically known as a nested demand structure for substitution between imports and domestic supply), and we

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also limit the short-run mobility of installed capital between sectors.

We also examined the employment impacts on workers in different occupation/skill categories in the United States. We have also mapped our updated GTAP database to U.S. occupational employment data.

It is important to emphasize that our employment impact estimates are net. They take into account potential increases as well as decreases in employment as demand increases in some cases for U.S. products, and declines in others. These changes arise not only from the direct impacts of the re-imposition of tariffs, but also the indirect impacts of changes in supply and demand for goods and services generally across the economy.

We applied a 25 percent tariff to U.S. imports of the motor vehicles and parts included in Chapter 87 of the Harmonized Tariff System. We focus on the short-term impacts (the first one to three years), in the expectation that the tariffs would be in effect “only” that long. As noted above, we have also structured the model to reflect the reports of industry experts that U.S. production cannot be increased to fully offset the impact of the tariffs in this period of time (U.S. motor vehicle and parts production is already at or nearly at full capacity), while there is a relatively limited possibility to shift from foreign (e.g. Canadian) suppliers to domestic suppliers along existing supply chains.

## Endnotes

<sup>1</sup> “U.S. Department of Commerce Initiates Section 232 Investigation of Auto Imports,” U.S. Department of Commerce, May 23, 2018, <https://www.commerce.gov/news/press-releases/2018/05/us-department-commerce-initiates-section-232-investigation-auto-imports>.

<sup>2</sup> In a meeting between the President and motor vehicle manufacturers on May 11, the President reportedly suggested a 20 percent tariff on vehicle imports should be assessed. See for example, Adrienne Roberts and Chester Dawson, “Trump Targets Foreign Auto Makers for Not Building Enough in U.S.,” *The Wall Street Journal*, May 11, 2018, [https://www.wsj.com/articles/auto-makers-meet-with-donald-trump-on-emissions-nafta-1526063070?mod=article\\_inline&mod=article\\_inline](https://www.wsj.com/articles/auto-makers-meet-with-donald-trump-on-emissions-nafta-1526063070?mod=article_inline&mod=article_inline).

<sup>3</sup> See for example William Mauldin, Timothy Puko and Kate O’Keefe, “Trump Administration Looks Into New Tariffs on Imported Vehicles,” *The Wall Street Journal*, May 23, 2018, <https://www.wsj.com/articles/trump-administration-weighs-new-tariffs-on-imported-vehicles-1527106235?mod=mktw>.

<sup>4</sup> We have not seen yet the scope of products that will be subject to the Section 232 investigation. For the purposes of this report, we focus on all goods covered by Chapter 87 of the HTS. This may include some vehicles (e.g., tractors) that will not be subject to the investigation; it does not cover some auto parts (e.g., seats or wire harnesses) that are classified in other chapters of the HTS.