



UNITED STATES DEPARTMENT OF COMMERCE
The Secretary of Commerce
Washington, D.C. 20230

May 17, 2018

The Honorable Ron Johnson
Chairman, Committee on Homeland Security
and Governmental Affairs
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Thank you for your letter on behalf of the Committee on Homeland Security and Governmental Affairs (Committee) requesting additional information from the Department of Commerce regarding my reports to the President and the President's imposition tariffs on steel and aluminum pursuant to section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) (section 232). I appreciate this opportunity to provide the Committee with additional information on this important topic.

As an initial matter, there have been several developments since my last letter. On April 30, the President signed a proclamation stating that the United States had successfully concluded discussions with South Korea on a satisfactory alternative means to address the threatened impairment of our national security posed by steel article imports from South Korea (including a steel quota). The United States has also agreed in principle with Argentina, Australia, and Brazil on means to address the threatened impairment of our national security posed by steel and aluminum imports from those countries. The United States is continuing discussions with Canada, Mexico, and the European Union (EU). The tariff on imports of aluminum from South Korea went into effect on May 1. The tariffs on steel and aluminum will become effective on June 1 for Canada, Mexico, and the member countries of the EU unless the President determines that the United States has reached a satisfactory alternative means to address the national security threats. The tariffs on all other nations went into effect on March 23. These developments are important indications of the positive activity that is occurring following the President's action on steel and aluminum.

In your letter, you requested additional information on four categories:

The Department's analysis of the effects of the tariffs on downstream industries. As I noted in my April 9 response, the Department did consider the potential effects of steel and aluminum tariffs on downstream industries. It is important to note, however, that Section 232 of the Trade Expansion Act does not require the Department to do so. Rather, Section 232 states that "[f]or the purposes of this section, the Secretary . . . shall, in the light of the requirements of national security and without excluding other relevant factors, give consideration to domestic

production needed for projected national defense requirements, the capacity of domestic industries to meet such requirements, existing and anticipated availabilities of the human resources, products, raw materials, and other supplies and services essential to the national defense, the requirements of growth of such industries and such supplies and services including the investment, exploration, and development necessary to assure such growth, and the importation of goods in terms of their quantities, availabilities, character, and use as those affect such industries and the capacity of the United States to meet national security requirements.” 19 U.S.C. §1862(d). The steel and aluminum reports dated January 11, 2018, and January 17, 2018, respectively, make clear that I discharged my statutory obligations.

The Department analyzed the downstream economic impact of potential steel tariffs using the standard version of the Global Trade Analysis Product (GTAP) Computable General Equilibrium (CGE) model of global trade.¹ CGE models unite economic theory and empirical data to create practical tools for the evaluation of economic policies and their impact on the economy by employing mathematical representations based on economic theory to represent the optimizing behaviors of the different agents (households, firms, and government) in the economy. The mathematical behavioral representations are combined with an accounting system that ensures that the resource constraints confronted by an economy (or economies, in the case of multi-regional models) are accounted for by the model. Since a CGE model contains representations of all elements of an economy, it can trace all the feedback and flow-through effects of a policy change.

The standard GTAP model assumes that economies are characterized by perfect competition and that there are constant returns to scale. Like all CGE models, the GTAP model makes assumptions with respect to the behavior of the macro-economy. These assumptions regarding variables such as the government budget, aggregate employment, and interest rates are referred to as the closure of the model. In our analysis, we employed a full employment closure – that is, the real wage is assumed to be flexible so that there is no change in the total employment level of an economy, although employment in the individual industries can rise or fall depending on whether they are positively or adversely impacted by the policy shock. This closure can be thought of as representing the long-run outcome in which the economy has had sufficient time to fully adjust to the event being modeled.

The standard GTAP model was used in conjunction with pre-release version 10 of the GTAP database. In its completely disaggregated form, the GTAP database contains data on 57 sectors and 141 regions for the year 2014. For our analysis, we aggregated the GTAP database to 13 sectors (*see* enclosure 1) and 23 regions.² In addition to the GTAP database, supplemental

¹ The standard model is documented in Erwin L. Corong, Thomas W. Hertel, Robert McDougall, Marinos E. Tsigas, and Dominique van der Mensbrughe. 2017. “The Standard GTAP Model, Version 7.” *Journal of Global Economic analysis* 2 (1): 1-119

² More information regarding the GTAP database can be found in Aguiar, Angel, Badri Narayanan, and Robert McDougall. 2016. “An Overview of the GTAP 9 Data Base.” *Journal of Global Economic Analysis* 1 (1): 181–208.

U.S. and international (UN) trade data were accessed using the Trade Policy Information System and were utilized to inform the GTAP simulation. The Department's GTAP analysis examined the impact of the three options recommended in the January 11 steel report for reducing imports of steel products in order to remove the threatened impairment of national security by boosting domestic capacity utilization:

- 1) Imposition of a 24 percent tariff on imports of steel products from all countries;
- 2) Imposition of a 53 percent tariff on imports of steel products from a targeted list of 12 countries, with a quota equal to 100 percent of 2017 imports on steel imports from all other countries; and
- 3) Imposition of a quota equal to 63 percent of 2017 imports of steel products from all countries.

The sector of the basic GTAP model that we imposed the tariff or quota on is the ferrous metals sector, which consists of basic production of iron and steel. Earlier calculations showed that, for the U.S. domestic steel industry to reach 80 percent capacity utilization, U.S. production in this sector would need to increase by approximately 10.5 percent. The tariff and quota levels analyzed here were calibrated to reduce imports to a level that would achieve this goal.

Detailed results are presented in enclosure 2. The model results indicate that real GDP, a commonly used measure of welfare, will be mostly unchanged from its baseline level, declining at most by 0.021 percent. Aggregate U.S. imports of all products decline by 0.61-0.84 percent by volume. At the sector level, downstream sectors such as metal products, motor vehicles and parts, and construction that use steel relatively intensively (either directly or indirectly) see their output contract by at most 0.74 percent because of higher steel prices. *See enclosure 2.*

The Department used a partial equilibrium analysis to estimate the impact of an adjustment on aluminum imports, with no modeled effects on domestic demand or price, and an assumption that domestic production would replace all imports removed due to a tariff or quota. In the partial equilibrium analysis, the difference between production at 80 percent capacity utilization and current capacity utilization is set equal to the amount of imports that must be eliminated (as the entirety of the reduction in imports is estimated to be replaced by domestic production). The percentage reduction in imports determines the quota level or, when combined with a price elasticity of demand (change in demand over change in price) of -1.72 for primary (unwrought) aluminum and -1.77 for all aluminum, the equivalent tariff level.

The Department did not assess the impact of potential retaliatory actions as part of the Section 232 investigations, nor could it have done so given the lack of reliable contemporaneous information about which countries would likely retaliate or which industries they would target. Further, to the extent any retaliatory measures are ultimately imposed that are inconsistent with international trade obligations, the United States is prepared to address them under U.S. and international law.

Steel and aluminum requirements for national security. You noted the Department's 2001 Section 232 investigation on imports of iron ore and semi-finished steel, which did not find that imports threatened to impair the national security. As discussed throughout the January 11 steel report, the Secretary did consider the Department's narrower investigation of iron ore and semi-finished steel imports during the course of the steel investigation and found the recommendations in that report to be outdated given the dramatic changes in the steel industry since 2001, including the increased level of global excess capacity threatening domestic production, the increased levels of imports weakening U.S. industry, the reduction in basic oxygen furnace facilities in the United States, the number of idled U.S. facilities despite increased demand for steel in critical industries, and the potential impact of further plant closures on capacity needed in a national emergency. The relevant discussion can be found on pages 3, 5, 13 -17, 26, 29, 36, 42 - 43, 52, and 55 - 56.

As discussed in section V.A in the January 11 steel report and in section VI.A of the January 17 aluminum report, steel and aluminum are important to national security, and under Section 232, national security includes both national defense and critical infrastructure needs. Department of Defense requirements for steel and aluminum are met by steel and aluminum companies that also support the requirements for critical infrastructure and commercial industries. However, peacetime defense demand is too small to support domestic steel and aluminum producers, who therefore must rely on non-defense demand to remain in business. But importantly, U.S. steel and aluminum producers must be able to produce beyond the United States' current demand for defense and critical infrastructure needs. As discussed on pages 49 to 51 of the steel report, demand for critical infrastructure and defense applications will increase exponentially at a time of national emergency. Also as noted in the aluminum report, aluminum producers cannot afford to conduct research and development, make capital investments, nor maintain their production infrastructure needed to make products for national defense and critical infrastructure requirements without a robust commercial business. Appendixes H (Uses of Steel for National Defense) and I (Uses of Steel for Critical Infrastructure) in the steel report provide additional details on national security requirements for steel. Section VI of the aluminum report provides additional details on national security requirements for aluminum.

Retrospective economic analyses of prior tariffs to assess the downstream effects on industries and consumer prices. The Department of Commerce has not conducted such analyses. However, as I noted in my April 9 letter, the U.S. International Trade Commission (ITC) has conducted such an analysis on the impact of the 2002 steel tariff.³ We did review this ITC report during the course of our investigations.

The Department's metrics for success. The aluminum and steel proclamations signed by the President on March 8 state that the objective of each action is to help our domestic aluminum and steel industries to revive idled facilities, open closed mills and smelters, preserve

³ See Steel: Evaluation of the Effectiveness of Import Relief, U.S. International Trade Commission Publication 3797 (Sep. 2005) (available at <https://www.usitc.gov/publications/safeguards/pub3797.pdf>).

necessary skills by hiring new workers, and maintain or increase production, which will reduce our Nation's need to rely on foreign producers for aluminum and steel and ensure that domestic producers can continue to supply all the aluminum and steel necessary for critical industries and national defense. The proclamations direct me to monitor imports of aluminum and steel, and from time to time, review the status of such imports with respect to the national security, in consultation with other senior Executive Branch officials. The proclamations also direct me to inform the President of any circumstances that might indicate the need for further action under Section 232. In addition, the proclamations direct me to inform the President of any circumstance that might indicate that the increase in duty rates provided in the proclamations is no longer needed.

It will take months or even a year for U.S. steel and aluminum producers to fully restart idled capacity and regain long-term financial health. However, industry has started to announce plans to restart idled capacity. U.S. Steel is restarting a 1.5 million metric ton steel blast furnace in Granite City, Illinois. Republic Steel is restarting an idled steel electric arc furnace in Lorain, Ohio. Liberty Steel is reopening its wire rod coil steel facility in Georgetown, South Carolina. Magnitude 7 Metals is restarting 236,000 metric tons of aluminum production in Marston, Missouri, and Century Aluminum is investing \$100 million to restart and modernize its high purity aluminum smelter in Hawesville, Kentucky.

Despite these near-term success stories, it is likely that the import adjustments will need to be in place for some time to enable steel and aluminum producers to achieve sustainable economic viability. The Department of Commerce, working with other agencies, will continue to monitor the impact of the tariffs and the health and competitiveness of U.S. industry, and the Department will conduct a comprehensive analysis of the impact of the 232 tariffs after they have been in effect long enough to make the results of that analysis useful.

Thank you again for your attention to these important issues. If you have any further concerns or questions, please have your staff contact Michael Platt, Jr., Assistant Secretary for Legislative and Intergovernmental Affairs, at (202) 482-3663.

Sincerely,



Wilbur Ross

Enclosures
Sector List for 232 Steel Analysis
Detailed Simulation Results

Enclosure 1 – Sector List for 232 Steel Analysis

232 Model Sectors	GTAP Sector Numbers	GTAP Sector Descriptions
Grains & Crops	1-8	Vegetables, fruits, nuts; Sugar cane, sugar beet; Plant-based fibers; Crops (not elsewhere considered), Oil seeds
Extraction & Natural Resources	13-18	Forestry; Fishing, Coal, Oil, Gas, Minerals (not elsewhere considered)
Animal Products	9-12, 19, 20	Bovine cattle, sheep and goats, horses; Animal products (not elsewhere considered); Raw milk Wool, silk-worm cocoons; Bovine meat products; Meat products (not elsewhere considered)
Processed Foods	21-26	Vegetable oils and fats; Dairy products; Processed rice; Sugar; Food products (not elsewhere considered); Beverages and tobacco products
Textiles & Apparel	27-28	Textiles; Wearing apparel
Light Manufacturing	29-31, 42	Leather products; Wood products, Paper products, publishing
Heavy Manufacturing	32-34, 36, 40-41	Petroleum, coal products; Chemical, rubber, plastic products; Mineral products (not elsewhere considered); Electronic equipment; Machinery and equipment (not elsewhere considered)
Iron & steel	35	Ferrous metals
Fabricated Metal products	37	Metal products
Motor vehicles and parts	38	Motor vehicles and parts
Other transportation equipment	39	Transport equipment (not elsewhere considered)
Construction	46	Construction
Utilities	43, 44, 45, 46	Electricity; Gas manufacture, distribution; Water; Construction
Transportation & Communication	47, 48, 49, 50, 51	Trade; Transport (not elsewhere considered); Water transport; Air transport; Communication
Other Services	52-57	Financial services; Insurance; Business services (not elsewhere considered); Recreational and other services; Public Administration, Defense, Education, Health; Dwellings

Enclosure 2 – Detailed Simulation Results

Estimated Change Under Each Scenario, by Select Sector

Estimated using results from the GTAP 10 model and 2014 output data from the Bureau of Labor Statistics (BLS)

	<i>24% Tariff on All Iron & Steel Imports</i>	<i>53% Tariff on Iron & Steel Imports from Selected Countries¹; 100% Quota on All Others</i>	<i>63% quota on All Iron & Steel Imports from All Countries</i>
Change in U.S. Imports (%)			
Total	-0.61	-0.69	-0.84
Iron & Steel	-37.41	-32.71	-37
Fabricated Metal Products	2.37	2.04	2.02
Other Transportation Equipment	0.06	-0.17	-0.17
Automotive Vehicles & Parts	0.16	-0.09	-0.07
Change in U.S. Exports (%)			
Total	-0.46	-0.14	-0.04
Iron & Steel	-5.4	-4.17	-4.97
Fabricated Metal Products	-4.24	-3.63	-3.63
Other Transportation Equipment	-0.56	-0.19	0.01
Automotive Vehicles & Parts	-0.71	-0.48	-0.39
Change in U.S. Employment (%)			
Iron & Steel	10.47	10.49	10.52
Heavy Manufacturing	-0.24	-0.13	-0.09
Fabricated Metal Products	-0.74	-0.63	-0.62
Other Transportation Equipment	-0.39	-0.21	-0.14
Automotive Vehicles & Parts	-0.49	-0.4	-0.4
Construction	-0.22	-0.27	-0.28
Other Services	0.01	-0.01	-0.02
Utilities	0.14	0.14	0.13
Textiles & Apparel	-0.02	0.06	0.11
Transport & Communication Services	0.002	-0.004	-0.006
Grains & Crops	-0.01	0.06	0.11
Change in U.S. GDP (%)			
Real U.S. GDP	-0.013	-0.021	-0.003
Change in Real U.S. Output (%)			
Iron & Steel	10.47	10.49	10.51
Heavy Manufacturing	-0.24	-0.13	-0.09
Fabricated Metal Products	-0.74	-0.63	-0.62
Other Transportation Equipment	-0.39	-0.21	-0.14
Automotive Vehicles & Parts	-0.49	-0.4	-0.4
Construction	-0.22	-0.27	-0.28
Utilities	0.13	0.13	0.13
Textiles & Apparel	-0.02	0.06	0.1
Transport & Communication Services	-0.00002	-0.006	-0.009
Grains & Crops	-0.01	0.05	0.08

¹A tariff is applied to US imports of iron & steel from: Brazil, Korea, Russia, Turkey, India, Vietnam, China, Thailand, South Africa, Egypt, Malaysia, and Costa Rica.

Notes:

1. This sector list only reflects certain industries and does not represent the entire economy or manufacturing sector.

a) "Other Services" includes financial services; insurance; business services; recreation and other services, public administration, defense, health, and education; and real estate

b) "Heavy Manufacturing" includes machinery; electronic products; petroleum & coal products; non-metallic mineral products; non-ferrous metal products; and chemical, rubber, and plastic products manufacturing

2. The level change employment & production estimates are based on 2014 figures reported by the Bureau of Labor Statistics.

3. The employment numbers above are illustrative based on 2014 employment levels. The GTAP model, used to estimate the percentage changes above, assumes full employment. The change in employment for the entire US economy in this scenario is zero, with the changes above reflecting a redistribution of labor amongst industries.

Source: Percentage change estimates are calculated using the Global Trade Analysis Project (GTAP) model. Employment and production estimates are based on 2014 figures from the Bureau of Labor Statistics.