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THE POTENTIAL FOR TRADE
DIVERSION IN STEEL AND
ALUMINIUM

REPORT FOR THE ANTI-DUMPING COMMISSION

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Executive summary

On 8 March 2018, US President Donald Trump signed separate Proclamations imposing a tariff of 25 per cent on a defined set of steel articles and 10 per cent on imports of a defined set of aluminium articles, except from Canada and Mexico.¹ The measures came into effect from 12.01am on 23 March 2018 and are not time limited.

On 22 March, two further Proclamations were signed increasing the number of countries exempt from the tariffs to officially include Australia, as well as Argentina, South Korea, Brazil and member countries of the EU.²

Despite securing an exemption, Australian manufacturers are concerned that steel and aluminium products previously bound for the US may be diverted to other markets, including Australia.

This report provides estimates of the potential for trade diversion in steel and aluminium to the Australian market in response to these US tariff increases under two scenarios. The first scenario uses the Proclamations made by the White House to define the commodities and (non-exempted) countries that are affected by increased tariffs on steel and aluminium. The second scenario assumes that no country is exempted from the tariff increases to steel and aluminium commodities outlined in the Proclamations.

The analysis considers existing trade remedies in place in the US, either general tariffs, Anti-Dumping or Countervailing Duties. The modelling is based on an application of the Cadence Economics General Equilibrium Model, which is a global trade model that has been calibrated specifically to address this issue. This model is similar in design to that used by the US Department of Commerce to assess the impacts of interventions in the steel market.

US steel and aluminium imports

Detailed analysis of US trade data shows that the commodity and country exemptions stated in the Proclamations greatly reduces the amount of steel and aluminium to which the announced tariffs will apply. According to data sourced from U.S. Census Bureau, accessed through USITC Dataweb:

- The US imported, in aggregate, 61 million metric tonnes of all steel and 8.2 million metric tonnes of aluminium.
- In the case of steel, the Proclamations cover just under 34.7 million metric tonnes, which only accounts for around 57 per cent of all steel imports into the US. Once country

¹ The first Proclamation relating to steel is available at <https://www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-steel-united-states/>. The first Proclamation relating to aluminium is available at <https://www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-aluminum-united-states/>.

² The second Proclamation relating to steel is available at <https://www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-steel-united-states-2/>. The second Proclamation relating to aluminium is available at <https://www.whitehouse.gov/presidential-actions/presidential-proclamation-adjusting-imports-aluminum-united-states-2/>.

exemptions are considered, 12.1 million metric tonnes of imports into the US are covered under the Proclamations which is around 20 per cent of total steel imports.

- For aluminium, the Proclamation covers 6.9 million metric tonnes, or 84 per cent of total aluminium imports. Once country exemptions are considered, only 3.2 million metric tonnes of imports into the US are covered under the Proclamations which is around 39 per cent of all imports.

Scenario 1: Exemptions in place for certain countries

The economic modelling shows that the macroeconomic impacts of increasing tariffs on steel and aluminium are relatively minor in the US. Real GDP is projected to fall by 0.008 per cent in 2020. The impact on real aggregate investment is most pronounced, it is projected to fall by around 0.07 per cent. This is because steel and aluminium are relatively important inputs into construction which is a function of investment.

At the sectoral level, the modelling shows that the imposition of tariffs on steel and aluminium in the US have predictable consequences in that domestic production of US steel and aluminium is projected to increase by just over 1 per cent. This increase in production has two key effects. First, domestic prices of steel and aluminium also rise. Second, imports of steel and aluminium fall (although the pattern of imports for both commodities into the US is heavily influenced by the country exemptions).

US steel and aluminium imports

US steel imports are projected to decline by 2 million metric tonnes in 2020, representing a 4 per cent reduction in total steel imports from baseline levels.

- This implies that in the short term around 2 million metric tonnes of steel imports into the US will be displaced as a result of the Proclamations but does not imply this steel will necessarily be 'dumped' into the market

There is a significant compositional shift in imports toward those countries that have obtained an exemption from the steel tariff and away from those producers who aren't exempt.

- For example, imports into the US from Canada, Mexico, Brazil and the EU are projected to increase, along with Australia (albeit to a lesser extent).
- On the other hand, imports from those countries who are not exempt are projected to fall. The reductions in imports from Russia, Turkey, Japan, Taiwan and the Rest of the World are most pronounced.
- Chinese steel imports to the US are projected to fall by a relatively small amount, 4 per cent, as the US does not import large amounts of steel commodities named in the Proclamation from this country (and many of these are subject to existing trade measures).

US aluminium imports are projected to fall by 755 thousand metric tonnes in 2020, representing a 9 per cent reduction in total aluminium imports from baseline levels.

- This implies that in the short term around 755 thousand metric tonnes of aluminium imports into the US will be displaced as a result of the Proclamations but does not imply this aluminium will necessarily be 'dumped' into the market

There is a significant compositional shift in imports toward those countries that have obtained an exemption from the aluminium tariff and away from those producers who aren't exempt.

- For example, imports into the US from Canada, Mexico, Brazil, the EU and South Korea are projected to increase, along with Australia.
- On the other hand, imports from those countries who are not exempt are projected to fall. The reductions in imports from Russia, China, UAE and the Rest of the World are most pronounced.

Australian steel and aluminium imports

As Australian imports of steel and aluminium into the US are exempted, exports of these commodities from Australia to the US are both projected to increase in this scenario by around 20 per cent from baseline levels in 2020.

As a result, there is a projected increase in Australia's real GDP and investment related to the increase in production of steel and aluminium bound for the US market (although the impact is relatively small).

The projected increase in Australia's output of steel and aluminium results in an increase in domestic prices of both commodities. This, combined with a projected reduction in import prices of steel and aluminium to Australia, results in a slight increase in imports of both commodities into Australia.

Australian steel imports are projected to increase by just under 13 thousand metric tonnes in 2020. Off base import levels of around 2 million metric tonnes, this represents an increase of 0.4 per cent. While the overall impacts on Australian steel imports are low, there are some compositional changes highlighted in the report.

- Australian imports of steel from the US are projected to decline which is a direct function of the Proclamations that are aimed at increasing US production of steel for the domestic market.
- Australian imports from, particularly, Canada and the EU are projected to fall as these exempted regions gain a competitive advantage in the US market and divert exports in that direction (and away from, amongst other, Australia).
- Australian imports are projected to increase from China, Taiwan and the Rest of the World as these regions, who have not been granted exemptions, divert exports away from the US market.

Australian aluminium imports are projected to increase by just under 300 metric tonnes in 2020. Off base import levels of around 300 thousand metric tonnes, this represents an increase of 0.1 per

cent. While the overall impacts on Australian aluminium imports are low, there are some compositional changes highlighted in the report.

- Australian imports of aluminium from the US are projected to decline which is a direct function of the Proclamations that are aimed at increasing US production of aluminium for the domestic market.
- Australian imports from, particularly, Canada and the EU are projected to fall as these exempted regions gain a competitive advantage in the US market and divert exports in that direction (and away from, amongst other, Australia).
- Australian imports are projected to increase from China and the Rest of the World as these regions, who have not been granted exemptions, divert exports away from the US market.

Scenario 2: No exemptions in place

Under this scenario, the coverage of US tariffs is extended to formerly exempt countries including: Australia, Canada, Mexico, Argentina, South Korea, Brazil and member countries of the EU. Compared with the previous simulation.

The quantity of steel that is subject to the tariff rises from 12.1 million metric tonnes to around 34.7 million metric tonnes. For aluminium, the quantity rises from 3.2 million metric tonnes to 6.9 million metric tonnes. In addition to the absolute increase in imports subject to tariff, without a subset of exempted countries, this scenario implies an equalisation, to some extent, of the trade barriers to all countries.

Given the increase in the proportion of imports now covered under this scenario, the projected impacts on the US economy are higher than under the scenario with exemptions. Real GDP is projected to fall by around 0.01 per cent and real investment by 0.14 per cent in 2020. There is a more significant increase in US steel and aluminium production (up by between 2 and 3 per cent for both products).

Import prices are projected to fall as the US reduces its demand for steel and aluminium across all supplier countries. This contrasts with the previous scenario where the US diverted its imports of steel and aluminium to a subset of suppliers who, when faced with an increase in demand, increased prices.

US steel and aluminium imports without exemptions

In aggregate, imports of steel into the US are projected to fall by just under 12.7 metric tonnes in 2020 which represents a reduction in imports of around 21 per cent from baseline levels. This is higher than the projected reduction in steel imports with exemptions of just under 2.0 metric tonnes in 2020 under the previous scenario with certain countries exempted. Under this scenario, the level of steel imports from all countries into the US fall (which compares with the projected increases in imports to the US of exempted countries under the previous scenario).

For aluminium, imports are projected to fall by just under 1.2 metric tonnes in 2020, or around 15 per cent from baseline levels. This compares with a reduction in imported aluminium of 755 metric tonnes in 2020 under the previous scenario with certain countries exempted. Under this scenario, the level of aluminium imports from all countries into the US fall (which compares with the projected increases in imports to the US of exempted countries under the previous scenario).

Australian steel and aluminium imports without exemptions

Australian steel and aluminium imports are projected to decline under the scenario without exemptions. This compares with a projected increase in steel and aluminium imports under the scenario where the US grants exemptions. This report shows there is a significant difference in terms of the impacts on Australia depending on whether the US grants exemptions or not under the Proclamations (where those exemptions include Australia).

At the macroeconomic level. The results under the no exemption scenario are still relatively small but are now negative. Real GDP is projected to fall by around 0.007 per cent and real investment by 0.037 per cent in 2020. This compares with projected gains to real GDP of 0.002 per cent and investment of 0.023 per cent under the exemption scenario. This is because, without the benefit of the exemptions, Australian exports of steel and aluminium to the US are projected to fall from baseline levels, leading to a reduction in aggregate output of both commodities.

Accompanying this fall in output is a fall in domestic prices which is necessary in order for production to be absorbed into the domestic market as the export market to the US is now restricted for Australian suppliers. This projected reduction in domestic prices of steel and aluminium, relative to imported prices, results in an overall reduction in imports.

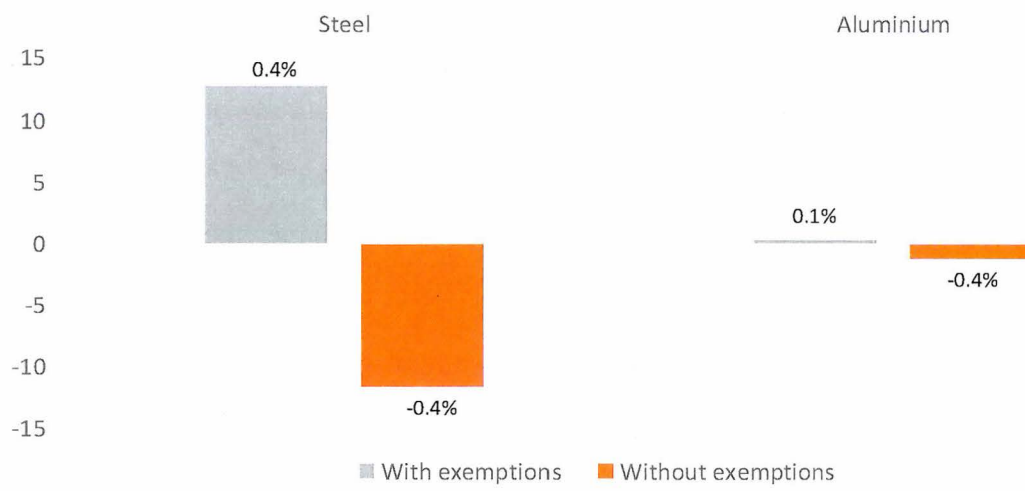
In the case of steel, Australian imports are projected to fall by just under 11.7 thousand metric tonnes in 2020. This compares with the projected increase in Australia steel imports under the Proclamations scenario with exemptions of just under 13 thousand metric tonnes in 2020.

In the case of aluminium, Australian imports are projected to fall by just under 1,200 metric tonnes in 2020. This compares with the projected increase in Australia aluminium imports under the Proclamations scenario with exemptions of 300 metric tonnes in 2020.

Summary

While some uncertainty remains in relation to how the Proclamations made by the White House might apply over time, this analysis considers the impacts at both ends of the spectrum in terms of country coverage: full exemptions to no exemptions. The results show that, regardless of where the country coverage sits in relation to these Proclamations, the results for Australian imports of both steel and aluminium (summarised in Figure 1) are within a narrow band and are, essentially, immaterial.

Figure 1: Projected imports of steel and aluminium into Australia in 2020 under the scenarios considered ('000 of metric tonnes)



1. Introduction

On 8 March 2018, US President Donald Trump signed separate Proclamations imposing a tariff of 25 per cent on all imports of steel and 10 per cent on all imports of aluminium, except from Canada and Mexico which are exempted pending the conclusion of the North American Free Trade Agreement (NAFTA) renegotiation. The measures came into effect from 12.01am on 23 March 2018 and are not time limited.

On 10 March, following a call between Prime Minister Turnbull and President Trump, Australia secured an exemption from the tariffs.

On 22 March, two further Proclamations were signed increasing the number of countries exempt from the tariffs to officially include Australia, as well as Argentina, South Korea, Brazil and member countries of the EU.

While Australian manufacturers have secured an exemption from the tariffs, there are concerns that steel and aluminium products previously bound for the US may be diverted to other markets, including Australia.

Against this background, the Anti-Dumping Commission (ADC) commissioned Cadence Economics to undertake economic modelling of the potential for trade diversion in steel and aluminium. The analysis is based on an application of the Cadence Economics General Equilibrium Model, which is a global trade model detailed in section 2. This modelling framework contains bilateral trade flows of goods and services across 21 defined regions which estimates the potential for trade diversion in steel and aluminium in response to the increase in US tariffs, described in section 3.

2. Modelling framework

The economic impacts of increasing US tariffs on steel and aluminium are estimated using the Cadence Economics General Equilibrium Model (CEGEM). CGE models, such as CEGEM, are rigorous quantitative models built on strong economic fundamentals. From the 1990s, CGE models have been applied to various policy areas, from trade liberalisation to greenhouse gas emission abatement.

CGE models have proven to be the best tool for analysing major policy changes where impacts are felt throughout the whole economy. The key to their success is their capability to model the detailed structure of an economy and the economic behaviours of multiple economic agents such as governments, consumers and producers.

CEGEM is a recursively dynamic CGE model of the world economy. For each one-year time step, CEGEM simulates the inter-relationships between production, consumption, economic growth, flows of international trade and investments, constraints on natural resources and production factors, and greenhouse gas emissions. The core model code of CEGEM is built around the concepts of the GTAP model (Hertel 1997), with government consumption, household consumption and industry production governed by microeconomic theory.

Government consumption of each commodity is derived from a Cobb-Douglas function nested with Armington composites of commodities supplied by domestic and foreign sources. Household demand is modelled through the stylised consumption behaviour of a representative household adjusted by population growth.

Overview of database

The CEGEM database is derived from a number of sources. The central core of the database is a global Social Accounting Matrix (SAM), which captures the flows of economic transactions of households, governments, producers and international transportation operators. The industry structure for each economy is derived from the GTAP v9 database. For Australia, the SAM is supplemented by the use of industry gross-valued data and industry import and export data from the Australian Bureau of Statistics.

The underlying database covers 129 international countries or economic regions, and 58 production sectors. For this analysis, the country detail chosen reflects major trading partners of both the US and Australia. The 21 chosen countries are shown in Table 1.

Table 1: List of international regions modelled

<i>Region</i>	<i>Region</i>
1 - Australia	12 – South Korea
2 – United States of America	13 – Malaysia
3 – Canada	14 – Philippines
4 – Mexico	15 – Russia
5 – Argentina	16 – Taiwan
6 – Brazil	17 – Thailand
7 – European Union	18 – Turkey
8 – China	19 – United Arab Emirates
9 – India	20 – Vietnam
10 - Indonesia	21 – Rest of World
11 – Japan	

Source: Cadence Economics

The production sectors for this study are aggregated into 24 sectors, as shown in Table 2, with each production sector producing a unique commodity. The five primary factors of production are land, labour, natural resources, mining capital and non-mining capital. For each production sector, a combination of primary factors plus intermediate inputs is required for producing each unit of output. The sum of value-added by primary factors plus net taxes on production gives gross domestic product (GDP).

Table 2: List of production sectors modelled

<i>Region</i>	<i>Region</i>
1 – Agriculture	13 – Transport equipment manufacturing
2 – Coal	14 – Electronic and other equipment man
3 – Oil	15 – Electricity generation and distribution
4 – Gas	16 – Water and waste
5 – Other mining	17 – Construction
6 – Food, textiles and wearables	18 – Trade
7 – Petroleum, chemicals and mineral products	19 – Transport
8 – Basic steel	20 – Communications
9 – Other steel	21 – Finance and insurance services
10 – Basic aluminium	22 – Other business services
11 – Other aluminium	23 – Recreation
12 – Fabricated metal products	24 – Other services and government

Source: Cadence Economics

The database used for this analysis has been enhanced to incorporate two different steel and aluminium categories. For Australia, this disaggregation is based on input-output data published by the Australian Bureau of Statistics that contains production, consumption and trade data for the

Australian economy. For other countries, the individual steel and aluminium sectors pro-rated off production and trade data.

These categories reflect the delineation of these commodities into relatively basic products as well as more transformed products. The sectors represented in the model align to the Harmonised Tariff Schedules (HTS) outlined in the Proclamations:

- For 'steel articles' this related to HTS 6-digit level as: 7206.10 through 7216.50, 7216.99 through 7301.10, 7302.10, 7302.40 through 7302.90, and 7304.11 through 7306.90; and
- For 'aluminium articles' this (a) unwrought aluminum (HTS 7601); (b) aluminum bars, rods, and profiles (HTS 7604); (c) aluminum wire (HTS 7605); (d) aluminum plate, sheet, strip, and foil (flat rolled products) (HTS 7606 and 7607); (e) aluminum tubes and pipes and tube and pipe fitting (HTS 7608 and 7609); and (f) aluminum castings and forgings (HTS 7616.99.51.60 and 7616.99.51.70).

A description of the composition of steel and aluminium is shown in Table 3. The HTS codes are organised in Chapters. Basic steel is contained in Chapter 72 which is titled Iron and steel. Other steel is contained in Chapter 73 which is titled Articles of iron and steel. Aluminium is contained in Chapter 76 which is titled Aluminium and articles thereof (which has been separated into Basic aluminium and Other aluminium as shown in Table 3).

Table 3: List of production sectors modelled

<i>CEGEM category</i>	<i>HTS Code</i>	<i>Description</i>
<i>Basic Steel</i>	7206	Iron and nonalloy steel in ingots or other primary forms (excluding iron of heading 7203)
<i>Other steel</i>	7207	Semifinished products of iron or nonalloy steel
	7208	Flat-rolled products of iron or nonalloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated or coated
	7209	Flat-rolled products of iron or nonalloy steel, of a width of 600 mm or more, cold-rolled (cold-reduced), not clad, plated or coated
	7210	Flat-rolled products of iron or nonalloy steel, of a width of 600 mm or more, clad, plated or coated
	7211	Flat-rolled products of iron or nonalloy steel, of a width of less than 600 mm, not clad, plated or coated
	7212	Flat-rolled products of iron or nonalloy steel, of a width of less than 600 mm, clad, plated or coated
	7213	Bars and rods, hot-rolled, in irregularly wound coils, of iron or nonalloy steel
	7214	Other bars and rods of iron or nonalloy steel, not further worked than forged, hot-rolled, hot-drawn or hot-extruded, but including those twisted after rolling
	7215	Other bars and rods of iron or nonalloy steel
	7216	Angles, shapes and sections of iron or nonalloy steel. Excluding: (7216.61.00.00 to 7216.99.00.90) Angles, shapes and sections, not further worked than cold-formed or cold-finished
	7217	Wire of iron or non-alloy steel
	7229	Wire of other alloy steel
	7301.10.00.00	Sheet piling
	7302.1	Rails
	7302.40.00.00	Fish-plates and sole plates
	7302.90.10.00	Sleepers (cross-ties)
	7302.90.90.00	Other
	7304	Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel
	7305	Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross sections, the external diameter of which exceeds 406.4 mm, of iron or steel
	7306	Other tubes, pipes and hollow profiles (for example, open seamed or welded, riveted or similarly closed), of iron or steel
<i>Basic aluminium</i>	7601	Unwrought (Primary) Aluminium
<i>Other aluminium</i>	7604	Aluminium Bars, Rods & Profiles
	7605	Aluminium Wire
	7606	Aluminium Plate, Sheet & Strip
	7607	Aluminium Foil
	7608	Aluminium Tubes and Pipes
	7609	Aluminium Tube or Pipe Fittings (including Couplings, Elbows and Sleeves)
	7616.9951.60 and 7616.99.51.70	Aluminium Castings and Forgings

Classifications accessed from <https://hts.usitc.gov/current>

Treatment of imports in the model

The advantage of a global model such as CEGEM is that it accounts for bilateral trade flows of all commodities between regions. Goods are imperfect substitutes, implemented through the Armington assumption.

The Armington assumption is standard in CGE modelling in that it differentiates internationally traded goods (and services) by country of origin. The Armington elasticity governs the substitutability between goods (and services) by country of origin, the higher the elasticity the more substitutable it is, which also implies the more homogeneous the particular good (or service) is that is being traded. The Armington elasticities used in this analysis are the standard parameters used in the GTAP model and are summarised in Table 4 for steel and aluminium. Documentation of the GTAP database can be found in Aguire, Narayanan and McDougall (2016).³

For each commodity, two elasticities govern the substitution possibilities in response to changes in relative prices. At the top level, as tariffs are applied in the US, producers determine the extent to which domestic production of steel and aluminium will substitute for imported sources generally. This is the 'domestic for import' elasticity in Table 4. In the GTAP model, this elasticity is set at 2.95 for steel and 4.2 for aluminium in the model. This implies, for example, that for a 1 per cent change in imported steel prices as a whole, demand for imports will fall by 2.95 per cent.

Table 4: Key import substitution elasticities from GTAP

<i>Commodity</i>	<i>Domestic for import</i>	<i>Import by source</i>
Steel	2.95	5.9
Aluminium	4.2	8.4

Source: GTAP database

At the next level of the decision making process, US producers can then substitute the country of origin for imports. This is the 'import by source' elasticity in Table 4. In the GTAP model, this substitution elasticity is set at 5.9 for steel and 8.4 for aluminium in the model. This elasticity is set at a higher level than the domestic to import elasticity, reflecting a higher level of homogeneity across imported products. This implies, for example, that for a 1 per cent change in imported steel prices from China, all things equal, demand for imports will fall by 5.9 per cent.

It is relevant to note that the elasticities in the GTAP database are purported to be of a long-run nature whereas the scenarios undertaken in this paper concentrate on short term impacts. However, the elasticity estimates in the GTAP database are also relatively old and given the growth in trade of both steel and aluminium, there are arguments to suggest that these elasticities should be higher. Regardless, results should be viewed with these elasticities in mind.

³ Documentation of the Armington elasticities in the GTAP model can be found here <https://www.gtap.agecon.purdue.edu/resources/download/8247.pdf>

Another factor affecting import substitution in the model are the parameters that govern the effective supply elasticities of individual industry sectors. In CEGEM, while resources such as labour and capital are free to shift between productive sectors, there are constraints that limit this reallocation of resources. These constraints affect the ability of a particular sector to increase or decrease output in response to changes in demand conditions.

In the case of these scenarios, these constraints are important as they reflect what are likely to be real world issues in terms of US steel and aluminium production. In the case of US steel for example, that industry has run itself down in recent times and may experience significant difficulties ramping up production in the short term. Similarly, US aluminium producers may currently be facing capacity constraints that do not allow for major short-term supply increases.

Another factor that might affect supply responses in the modelling are any existing business arrangements, such as supply contracts, that would make redirecting trade difficult in the short term. These are not explicitly accounted for in the modelling, other than through the general supply constraints represented.

Imports of steel and aluminium into the US

To calibrate the bilateral trade data in the model, a database was created from the U.S. Census Bureau, USITC Dataweb (summarised in Tables 5 and 6). For steel articles, under Chapter 72 of the HTC, total imports in the 2017 calendar year were just under 41.5 million metric tonnes (Table 6). Under Chapter 73, total imports were just under 19.4 million metric tonnes (Table 7).

This figure is larger than that reported by the US Department of Commerce (2018a), the investigation into the effects of steel imports on national security. This is because these figures adopted the American Iron and Steel Institute (AISI) classification which is also presented in Tables 5 and 6, and are comparable with the figures reported by the US Department of Commerce.

The data also shows that steel articles under the Proclamations cover a subset of steel imports into the US. For those steel imports under Chapter 72, the Proclamations cover around 64 per cent of imports into the US. For imports under Chapter 73, the coverage is 41 per cent.

Table 5: Imports to the US of steel articles from Chapter 72 of HTC (2017)

Source Region	<i>Total</i> (‘000 metric tonnes)	<i>Under Proclamations</i> (‘000 metric tonnes)	<i>Under AISI</i> (‘000 metric tonnes)
Australia	407,715	275,876	275,872
Canada	8,151,573	4,794,983	4,717,133
Mexico	2,842,694	2,289,973	2,262,423
Argentina	28,834	782	782
Brazil	6,677,856	4,461,434	4,441,515
European Union	5,050,948	3,928,465	3,900,321
China	549,329	476,178	449,620
India	384,032	278,398	268,763
Indonesia	38,937	38,937	38,937
Japan	1,452,697	1,371,777	1,368,999
Korea	1,464,216	1,423,855	1,409,745
Malaysia	119,364	90,705	90,685
Philippines	1,122	1,122	1,122
Russia	5,726,917	2,669,898	2,669,896
Taiwan	878,003	873,085	868,477
Thailand	203,703	201,604	201,604
Turkey	1,794,897	1,764,416	1,751,413
UAE	167,186	167,112	167,112
Vietnam	555,790	555,609	555,573
Rest of World	4,929,543	987,323	981,590
Total	41,425,356	26,651,532	26,421,580

Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb. Tariff schedules from Classifications accessed from <https://hts.usitc.gov/current>

Ignoring those countries that are exempt under the Proclamations, by volume the most affected regions are Russia, Turkey, Japan and Taiwan. Turkey has the highest relative potential impact on its steel imports into the US as the Proclamations cover around 95 per cent of all current imports.

The Proclamations are set to effect around 760,000 metric tonnes of Chinese steel imports (only 13 per cent of total Chinese imports into the US).

Table 6: Imports to the US of steel articles from Chapter 73 of HTC (2017)

Source Region	Total (‘000 metric tonnes)	Under Proclamations (‘000 metric tonnes)	Under AISI (‘000 metric tonnes)
Australia	12,117	6,003	54
Canada	1,913,879	987,347	937,178
Mexico	2,365,150	877,168	877,090
Argentina	214,172	210,684	210,684
Brazil	237,851	213,374	213,011
European Union	2,075,576	1,099,164	1,096,930
China	5,385,952	286,858	277,245
India	906,375	474,990	474,086
Indonesia	46,394	6,825	6,825
Japan	528,795	356,838	356,800
Korea	2,338,846	1,989,005	1,989,002
Malaysia	140,915	5,540	5,540
Philippines	75,875	61,887	61,887
Russia	197,770	196,805	196,805
Taiwan	1,225,373	257,222	256,651
Thailand	459,456	208,672	208,672
Turkey	286,718	223,220	223,159
UAE	139,739	106,508	106,508
Vietnam	273,435	123,520	123,520
Rest of World	533,015	335,290	335,177
Total	19,357,402	8,026,920	7,956,824

Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb. Tariff schedules from Classifications accessed from <https://hts.usitc.gov/current>

The data also shows that aluminium articles under the Proclamations cover just under 6.9 million metric tonnes out of total imports into the US of just under 8.2 million metric tonnes. This represents around 84 per cent of aluminium imports into the US.

Ignoring those countries that are exempt under the Proclamations, by volume the most affected regions are Russia, the UAE, China and the Rest of the World.

Table 7: Imports to the US of aluminium articles from Chapter 76 of HTC (2017)

Source Region	Total (‘000 metric tonnes)	Under Proclamations (‘000 metric tonnes)
Australia	109,746	101,517
Canada	3,386,933	2,913,655
Mexico	324,174	70,044
Argentina	264,177	264,072
Brazil	61,394	54,032
European Union	333,392	236,376
China	895,467	641,062
India	185,577	171,517
Indonesia	81,043	79,988
Japan	33,804	31,960
Korea	47,332	34,103
Malaysia	10,747	9,765
Philippines	1,338	559
Russia	744,301	743,735
Taiwan	32,257	8,271
Thailand	49,432	11,468
Turkey	24,753	15,790
UAE	642,761	638,493
Vietnam	32,290	26,751
Rest of World	924,056	814,217
Total	8,184,976	6,867,373

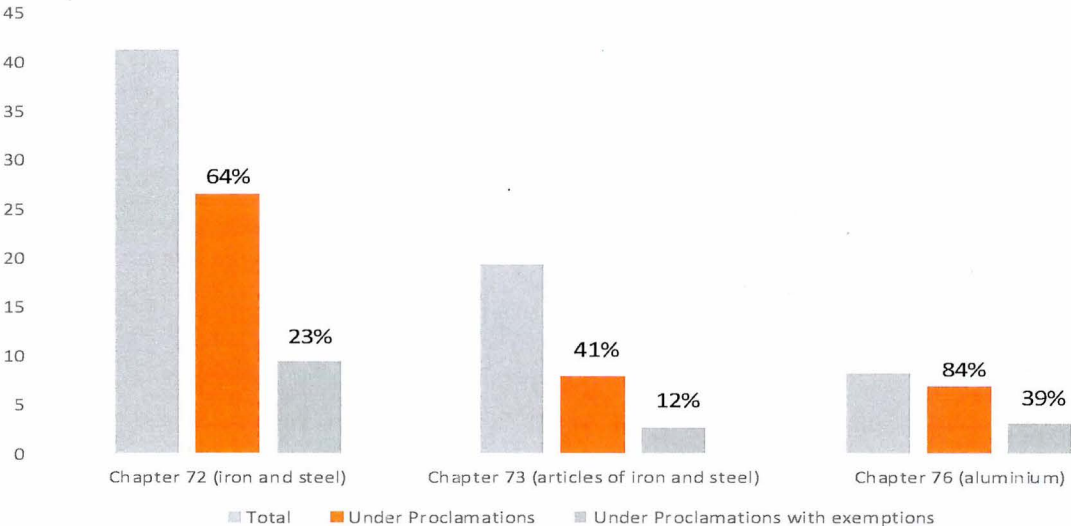
Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb. Tariff schedules from Classifications accessed from <https://hts.usitc.gov/current>

A summary of the US steel and aluminium import data is presented in Figure 1. It shows that by commodity, 64 per cent of iron and steel imports into the US are covered by the Proclamations. However, if country exemptions are included, the coverage of US iron and steel (Chapter 72) imports falls to 23 per cent. For articles of iron and steel (Chapter 72), country exemptions reduce the coverage of imports into the US from 41 per cent to 12 per cent.

In the case of aggregates steel, the Proclamations cover just under 34.7 million metric tonnes, which only accounts for around 57 per cent of all steel imports into the US. Once country exemptions are taken into account, 12.1 million metric tonnes of imports into the US are covered under the Proclamations which is around 20 per cent of total steel imports.

For aluminium (Chapter 76), the Proclamations cover 6.9 million tonnes, or 84 per cent, of imports. When country exemptions are accounted for, the coverage of imports falls to 3.2 million tonnes which represents 39 per cent of imports.

Figure 2: Summary of imports to the US of steel and aluminium articles in 2017 (millions of metric tonnes)



Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb.

Existing barriers to trade in the US

The US currently has a number of trade barriers in place on steel and aluminium imports. These come in the form of either general tariffs of trade remedies (Anti-Dumping provisions or Countervailing Duties).

In terms of general tariffs, a review of the US International Trade Commission’s harmonised tariff schedule showed that imports of steel in the product categories outlined in the Proclamation were tariff free.

For aluminium, tariff rates ranging from 1.0 per cent to 4.3 per cent were applied to some products from some countries. Based on a review of the USITC Dataweb and the Harmonised Tariff Schedule, the *ad valorem* tariff rates on aluminium being imported into the US are presented in Table 5. These tariff rates are based on weighted average import data and show generally low tariff rates applying, particularly for Basic Aluminium products covered by the Proclamations.

Table 8: Ad valorem import tariff rate on US aluminium

Source Region	Basic aluminium	Other aluminium
Australia	0.0%	0.0%
Canada	0.0%	0.0%
Mexico	0.0%	0.0%
Argentina	0.0%	2.6%
Brazil	0.0%	4.1%
European Union	0.0%	3.1%
China	0.9%	3.5%
India	0.0%	3.1%
Indonesia	0.0%	3.2%
Japan	0.0%	3.5%
Korea	0.0%	0.0%
Malaysia	0.0%	4.2%
Philippines	0.0%	4.3%
Russia	0.0%	3.5%
Taiwan	0.0%	3.7%
Thailand	0.0%	3.4%
Turkey	0.0%	4.0%
UAE	0.0%	2.4%
Vietnam	0.0%	3.2%
Rest of World	0.0%	0.8%

Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb. Tariff schedules from Classifications accessed from <https://hts.usitc.gov/current>

In relation to other trade remedies, A detailed review of the WTO database of US anti-dumping provisions and countervailing duties was undertaken (this is detailed in Appendix 2). Overall, steel imports into the US are subject to either anti-dumping provisions or countervailing duties. According to the WTO database, the US has 83 trade remedies in place on steel with 59 of these (71%) relating to anti-dumping provisions with the remainder being countervailing duties.

Of these 83 remedies, 28 relate to Chinese products. Other countries include South Korea, Turkey, Mexico, Japan, Brazil, Russia and Australia. There is one Anti-Dumping provision and one Countervailing Duty on aluminium imports into the US, both on Chinese products.

In terms of accounting for these in the analysis, the first step was to establish which of these trade remedies applies to the relevant steel or aluminium articles covered by the Proclamations.

For steel, the volume of imports subject to either an Anti-Dumping provision of Countervailing duty is presented in Table 9. In total, around 6.5 million metric tonnes of steel imports into the US is subject to either one of these trade remedies, with the bulk of these set against South Korea and Turkey. Some countries also have a relatively high proportion of imports subject to these trade remedies, notably China.

For aluminium, these forms of trade remedies only apply on US imports from China as shown in Table 10.

Table 9: Imports to the US of steel subject to ADP or CD (2017)

Source Region	<i>Free of ADP or CD</i> (<i>'000 metric tonnes</i>)	<i>ADP or CD applied</i> (<i>'000 metric tonnes</i>)	<i>Total</i> (<i>'000 metric tonnes</i>)
Australia	234	47	282
Canada	5,782	-	5,782
Mexico	2,801	366	3,167
Argentina	211	-	211
Brazil	4,263	412	4,675
European Union	5,028	-	5,028
China	273	490	763
India	753	-	753
Indonesia	46	-	46
Japan	1,266	463	1,729
Korea	284	3,128	3,413
Malaysia	96	-	96
Philippines	63	-	63
Russia	2,849	17	2,867
Taiwan	1,130	-	1,130
Thailand	410	-	410
Turkey	765	1,223	1,988
UAE	274	-	274
Vietnam	679	-	679
Rest of World	1,323	-	1,323
Total	28,531	6,148	34,678

Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb. Tariff schedules from Classifications accessed from <https://hts.usitc.gov/current>, WTO measures database

Table 10: Imports to the US of aluminium subject to ADP or CD (2017)

Source Region	<i>Free of ADP or CD</i> (<i>'000 metric tonnes</i>)	<i>ADP or CD applied</i> (<i>'000 metric tonnes</i>)	<i>Total</i> (<i>'000 metric tonnes</i>)
Australia	102	-	102
Canada	2,914	-	2,914
Mexico	70	-	70
Argentina	264	-	264
Brazil	54	-	54
European Union	236	-	236
China	624	17	641
India	172	-	172
Indonesia	80	-	80
Japan	32	-	32
Korea	34	-	34
Malaysia	10	-	10
Philippines	1	-	1
Russia	744	-	744
Taiwan	8	-	8
Thailand	11	-	11
Turkey	16	-	16
UAE	638	-	638
Vietnam	27	-	27
Rest of World	814	-	814
Total	6,851	17	6,867

Source: Cadence Economics, Trade data from U.S. Census Bureau, accessed through USITC Dataweb. Tariff schedules from Classifications accessed from <https://hts.usitc.gov/current>, WTO measures database

Imports of steel and aluminium into Australia

Table 11 summarises trade flows of steel and aluminium into Australia from the countries represented in the model I volume terms in 2017 estimated from trade data produced by the Department of Foreign Affairs and Trade (DFAT) and commercial providers TradeData. It shows that Australia imported just under 3 million metric tonnes of steel in 2017, with the bulk of that falling under the category of Other steel. Aluminium imports were just under 300 thousand metric tonnes in 2017, mostly Other aluminium.

A particular interest in this exercise is the composition of trade by source regions. In this regard, three things are important to note.

First, Australia imports both steel and aluminium from the US, albeit at relatively low shares in terms of total imports. Second, in terms of the regions explicitly identified in the modelling, Australia's main trading partners for both steel and aluminium are the European Union and China (with Taiwan accounting for around 8 per cent of Australia's steel imports). Third, the Rest of the World region accounts for around 35 per cent of steel imports and 24 per cent of aluminium imports and so is another significant region in this analysis (a proportion these imports is because Australia's trade data does contain a significant component of entries that are unassigned to a particular country and, therefore, have been categorised in the Rest of the World region).

Table 11: Existing Australian imports by source in 2017 ('000s metric tonnes)

Source Region	<i>Basic Steel</i>	<i>Other Steel</i>	<i>Basic Aluminium</i>	<i>Other Aluminium</i>
USA	1	106	2	6
Canada	10	29	0	0
Mexico	-	5	0	0
Argentina	0	0	0	0
Brazil	8	2	0	0
European Union	24	426	11	36
China	19	547	27	86
India	1	50	1	2
Indonesia	-	21	1	4
Japan	1	226	4	14
Korea	19	80	7	21
Malaysia	14	61	4	12
Philippines	-	0	0	0
Russia	8	0	0	1
Taiwan	0	249	0	1
Thailand	0	38	1	4
Turkey	1	6	0	0
UAE	-	18	0	1
Vietnam	-	41	1	4
Rest of World	32	926	10	33
Total	139	2,834	70	224

Source: Cadence Economics, trade data from DFAT Trade statistical pivot tables and TradeData.

The scenarios undertaken

The CEGEM model is solved recursively on a year-by-year basis, allowing for comparison of a “policy” scenario that includes the imposition of the tariffs as described against a counterfactual “baseline” or “business-as-usual” scenario that does not include the tariffs, with otherwise harmonised assumptions between the scenarios. In this way we are able to isolate the economic and trade impacts solely attributable to the tariff impositions.

Imposing the tariff schedules on the model requires the calculation of economic “shocks”, which represent the tariff impositions within the modelling framework. In this case, the shocks reflect the announced tariff increases, being a 25 per cent increase for steel articles and 10 per cent for aluminium articles.

For aluminium, tariff rates ranging from 1.0 per cent to 4.3 per cent were applied to some products from some countries. In the scenarios undertaken, the increase in *ad valorem* tariff rates takes into account the starting rates which are presented in Table 5.

For steel and aluminium subject to either an Anti-Dumping provision or a Countervailing Duty, as these rates are generally high, it has been assumed that the additional tariff impost applies to these products but are likely to have only a marginal impact on the results. In addition, the modelling does not take into account any specific quotas that are in place through any of these trade remedies that might restrict trade into the US.

Trade remedies are also considered in other regions of the model. The GTAP database incorporates a relatively comprehensive treatment of trade barriers across all countries. However, in the context of these scenarios it is assumed that no trade remedies are imposed in response to these Proclamations.

Given the timing of the Proclamations, it is assumed that in year one of the simulation period, 2018, three quarters of the tariff increase is passed through in that year. This is because the measures came into effect from 12.01am on 23 March 2018. The full impost of the tariff increase occurs in subsequent years. The results are reported for 2018 and 2020.

3. Results of the analysis

This section presents the results of the modelling to assess the likely impacts of the US raising tariffs on steel and aluminium in terms of potential trade diversion to Australia. The starting point for the analysis is the likely impacts on the US economy of raising these tariffs. In this context, four key factors are important.

The first factor relates to the coverage of commodities implied by the Proclamations. The US imports, in aggregate, 61 million metric tonnes of all steel and 8.2 million metric tonnes of aluminium. The commodities to which the Proclamations apply are only a subset of steel and aluminium. In the case of steel, the Proclamation covers just under 34.7 million metric tonnes, which only accounts for around 57 per cent of imports into the US. For aluminium, the Proclamation covers 6.9 million metric tonnes, or 84 per cent of imports.

The second factor is that the tariff rates in the Proclamations are set to apply to steel and aluminium in addition to trade barriers applying to them either in the form of general tariffs or Anti-Dumping provisions or Countervailing Duties. These are accounted for explicitly in the modelling.

The third factor is the overall impact that raising tariffs on steel and aluminium has on the US economy. In general, raising tariffs has a detrimental impact on economic growth which, all things equal, would tend to lower the demand for steel and aluminium in the US. In particular, steel and aluminium are key inputs into construction which heavily influenced by investment demand. By imposing tariffs on these products, the US will become a less attractive place to invest, driving down demand for these products.

The fourth factor is the likely substitution effect resulting from the imposition of tariffs on steel and aluminium. By effectively raising the price of imported steel and aluminium from a subset of countries, US producers will substitute away from imports from these countries and toward both domestic sources as well as imports from those countries exempted under the Proclamations. As discussed in the previous section, the extent of this substitution will depend on the Armington elasticities used in the modelling.

Scenario 1: Exemptions in place for certain countries

The macroeconomic effects in the US of raising tariffs on steel and aluminium are relatively minor. For example, real GDP is projected to fall by around 0.001 per cent in 2018, with the projected loss rising to 0.008 per cent in 2020. Real investment is projected to fall by around 0.07 per cent. Domestic production of US steel and aluminium is projected to increase by just over 1 per cent.

As US steel and aluminium producers face increased domestic demand for their product, they increase both output and prices. Import prices also rise for both steel and aluminium, as the US redirects its imports to those countries exempt from tariffs. As these countries, including Australia, increase exports and output to the US, their prices also rise.

Table 12: Projected macroeconomic impacts on the US under the Proclamations with country exemptions (percentage deviation from reference case)

Variable	2018	2020
Real GDP	-0.001%	-0.008%
Real investment	-0.069%	-0.065%
Steel output	1.156%	1.213%
Aluminium output	0.953%	1.008%
Domestic steel price	0.893%	1.006%
Domestic aluminium price	0.638%	0.774%
Steel import price	1.190%	1.324%
Aluminium import price	0.300%	0.383%

Source: Cadence Economics

US steel imports

The results for steel imports into the US are presented in Table 13. Detailed results for the two categories of steel, Basic steel and Other steel, are presented in Appendix 2. At the outset, the results presented in indicate how little Basic steel imports there are to the US as covered by the Proclamation which means the majority of the impacts on steel estimated are for the Other steel category.

In terms of the overall results, the coverage and substitution effects are the dominant factor driving the results of this analysis. In aggregate, imports of steel are projected to fall by just over 2.2 million metric tonnes in 2018 and just under 2.0 million metric tonnes in 2020. This represents a reduction in imports of around 3 to 4 per cent from baseline levels. This implies that in the short term around 2 million metric tonnes of imports into the US will be displaced as a result of the Proclamations but does not imply this steel will necessarily be 'dumped' into the market.

In terms of the composition of imports, there is a significant shift toward those countries who have gained an exemption under the Proclamations. For example, imports from Canada, Mexico, Brazil, the EU and South Korea are projected to increase, along with Australia⁴ (albeit to a lesser extent).

On the other hand, imports from those countries who are not exempt are projected to fall. The reductions in imports from Russia, Turkey, Japan, Taiwan and the Rest of the World are most pronounced. Chinese steel imports to the US are projected to fall by a relatively small amount, 4 per cent, as the US does not import large amounts of steel commodities named in the Proclamation from this country (and many of these are subject to existing trade measures).

⁴ These results do not take into account any specific quotas on steel imports into the US that might exist.

Table 13: Projected change in steel imports to the US under the Proclamations with country exemptions

Source Region	2018 ('000 metric tonnes)	2018 (% change)	2020 ('000 metric tonnes)	2020 (% change)
Australia	71.6	17%	83.3	20%
Canada	1528.5	15%	1763.7	18%
Mexico	801.6	15%	929.6	18%
Argentina	64.8	27%	75.4	31%
Brazil	1269.5	18%	1477.3	21%
European Union	1532.1	21%	1784.7	25%
China	-209.5	-4%	-226.2	-4%
India	-570.3	-44%	-618.4	-48%
Indonesia	-35.3	-41%	-38.0	-45%
Japan	-966.8	-49%	-1045.1	-53%
Korea	86.9	2%	101.3	3%
Malaysia	-74.1	-28%	-79.9	-31%
Philippines	-48.0	-62%	-52.0	-68%
Russia	-2167.0	-37%	-2346.7	-40%
Taiwan	-862.6	-41%	-933.4	-44%
Thailand	-314.9	-47%	-340.1	-51%
Turkey	-581.7	-28%	-629.5	-30%
UAE	-207.3	-68%	-224.6	-73%
Vietnam	-522.1	-63%	-563.5	-68%
Rest of World	-1007.4	-18%	-1090.4	-20%
Total	-2211.8	-4%	-1972.3	-3%

Source: Cadence Economics

US aluminium imports

In aggregate, imports of aluminium are projected to fall by 635 thousand metric tonnes in 2018 and 755 metric tonnes in 2020 as shown in Table 14. This represents a reduction in imports of around 10 per cent from baseline levels. This implies that in the short term around 700 thousand metric tonnes of imports into the US will be displaced as a result of the Proclamations but does not imply this aluminium will necessarily be 'dumped' into the market.

The detailed results for US imports of aluminium are presented in Appendix 2, which show that the impacts on Basic aluminium and Other aluminium are evenly spread (as opposed to steel imports

which largely effects Other steel). For Basic aluminium, the projected reduction in imports to the US is 386 thousand metric tonnes in 2018 and 458 thousand metric tonnes in 2020 (representing an 8 to 9 per cent decline in imports). For Other aluminium, the projected reduction in imports to the US is 249 thousand metric tonnes in 2018 and 298 thousand metric tonnes in 2020 (representing an 11 per cent decline in imports).

In terms of the composition of imports, there is a significant shift toward those countries who have gained an exemption under the Proclamations. For example, imports from Canada, Mexico, Brazil, the EU and South Korea are projected to increase, along with Australia.

In terms of the composition of imports, there is again a significant shift toward those countries who have gained an exemption under the Proclamations. For example, imports from Canada, Argentina, and the EU are projected to increase, along with Australia. On the other hand, imports from those countries who are not exempt are projected to fall. The reductions in imports from Russia, China, UAE and the Rest of the World are most pronounced.

Table 14: Projected change in aluminium imports to the US under the Proclamations with country exemptions

Source Region	2018 ('000 metric tonnes)	2018 (% change)	2020 ('000 metric tonnes)	2020 (% change)
Australia	18.9	17%	23.5	21%
Canada	406.6	12%	503.4	15%
Mexico	10.6	3%	13.1	4%
Argentina	47.3	18%	59.1	22%
Brazil	7.1	12%	8.9	15%
European Union	31.6	9%	39.5	12%
China	-173.5	-19%	-209.2	-23%
India	-65.0	-35%	-78.6	-42%
Indonesia	-23.1	-28%	-27.8	-34%
Japan	-8.8	-26%	-10.6	-31%
Korea	6.4	14%	8.0	17%
Malaysia	-2.6	-25%	-3.2	-30%
Philippines	-0.1	-10%	-0.2	-12%
Russia	-286.7	-39%	-350.2	-47%
Taiwan	-2.3	-7%	-2.7	-8%
Thailand	-3.3	-7%	-4.0	-8%
Turkey	-3.9	-16%	-4.8	-19%
UAE	-261.6	-41%	-317.0	-49%
Vietnam	-7.8	-24%	-9.4	-29%
Rest of World	-324.7	-35%	-393.8	-43%
Total	-635.0	-8%	-755.7	-9%

Source: Cadence Economics

Impacts on Australia

The macroeconomic effects in the US of raising tariffs on steel and aluminium are negligible for Australia as shown in Table 15. For example, the impacts on real GDP is small. There is a slight increase in investment related to the increase in production of steel and aluminium bound for the US market. Due to this increase in demand from the US for Australian steel and aluminium, domestic prices rise to some extent.

On the other hand, import prices into Australia are projected to fall in aggregate. This impact is relatively small for Australia because of countervailing effects. Import prices into Australia from those countries receiving an exemption rise. This is because these countries increase exports to the US which increases prices (this mechanism is discussed above and exhibited in increases in

Australian steel and aluminium prices). On the other hand, those countries that do not receive an exemption face reduced demand for their products and lower prices.

Table 15: Projected macroeconomic impacts on Australia under the Proclamations with country exemptions (percentage deviation from reference case)

Variable	2018	2020
Real GDP	0.000%	0.002%
Real investment	0.008%	0.023%
Steel output	0.262%	0.254%
Aluminium output	0.122%	0.296%
Domestic steel price	0.063%	0.075%
Domestic aluminium price	0.008%	0.014%
Steel import price	-0.050%	-0.050%
Aluminium import price	-0.083%	-0.094%

Source: Cadence Economics

Australian steel imports

The projected increase in Australian steel imports is shown in Table 16. Detailed results for Basic steel and Other steel are presented in Appendix 2. These detailed results follow the pattern of the US import results in that the main impacts are on Other steel.

Overall, Australian steel imports are projected to increase by just over 11 thousand metric tonnes in 2018 and by just under 13 thousand metric tonnes in 2020 (an increase of around 0.4 per cent from baseline levels). As discussed above, the Proclamations imply a significant structural shift in relation to imports into the US, driven largely by exemptions granted to certain countries (including Australia). As such, the projected increase in Australian steel imports is driven by a range of varying factors.

First, Australian imports of steel from the US are projected to decline. This is a direct function of the Proclamations that are aimed at increasing US production of steel at the expense of imports. As US producers are called on to provide steel in their domestic market, exports fall across all regions including Australia. As shown in Table 16, Australian imports from the US are projected to fall by around 5 thousand metric tonnes in 2020, or 5 per cent.

Second, for those regions that have been granted exemptions, they gain a competitive advantage against those regions who were not granted exemptions in the US market. As a result, those countries increase exports to US market at the expense of other markets. This explains the reduction in Australian imports from, particularly, Canada and the EU. Other exempted countries such as Mexico, Argentina, Brazil and South Korea are affected, but due to Australia's minimal exposure to these countries as steel suppliers, the impact on trade is projected to be minimal.

Finally, for those regions who have not been granted exemptions, the loss of access to the US market implies a diversion in exports to other markets who have not changed their trade policies, including Australia (as well as a general reduction in output). This is a result of price reductions in these countries which, given Australia's supplier base, results in an overall fall in the import price of steel and aluminium (Table 15). From an Australian perspective, and is evident in Table 16, this diversion results in projected increases in steel imports from China, Taiwan and the Rest of the World.

Table 16: Projected change in steel imports to Australia under the Proclamations with country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (% change)	2020 (<i>'000 metric tonnes</i>)	2020 (% change)
USA	-4.73	-4.4%	-5.22	-4.9%
Canada	-1.23	-3.4%	-1.41	-3.8%
Mexico	-0.10	-1.8%	-0.11	-2.1%
Argentina	0.00	-0.3%	0.00	-0.3%
Brazil	-0.01	-0.2%	-0.01	-0.2%
European Union	-0.55	-0.1%	-0.51	-0.1%
China	1.40	0.2%	1.60	0.3%
India	0.62	1.3%	0.69	1.4%
Indonesia	0.06	0.3%	0.07	0.3%
Japan	1.00	0.4%	1.16	0.5%
Korea	-0.02	0.0%	-0.02	0.0%
Malaysia	0.21	0.3%	0.25	0.4%
Philippines	0.00	1.3%	0.00	1.4%
Russia	0.00	0.0%	0.00	0.0%
Taiwan	3.34	1.3%	3.70	1.5%
Thailand	0.27	0.7%	0.31	0.8%
Turkey	0.01	0.2%	0.01	0.2%
UAE	0.11	0.6%	0.13	0.7%
Vietnam	0.13	0.3%	0.16	0.4%
Rest of World	10.55	1.1%	11.96	1.3%
Total	11.08	0.4%	12.77	0.4%

Source: Cadence Economics

Australian aluminium imports

The projected increase in Australian aluminium imports is shown in Table 17. Detailed results for Basic aluminium and Other aluminium are presented in Appendix 2. These detailed results show that the impacts are spread more across both the Basic aluminium and Other aluminium sectors, although relatively higher for Other aluminium.

Overall, Australian aluminium imports are projected to increase by just under 240 metric tonnes in 2018 and by 300 metric tonnes in 2020. These figures represent only marginal changes in Australian import volumes (around 0.1 per cent increase from baseline levels) and are a function of the relatively low trade impacts projected for the US in terms of aluminium imports by volume (largely a function of a much smaller tariff impost under the Proclamations).

Again, the Proclamations imply a significant structural shift in relation to imports into the US, driven largely by exemptions granted to certain countries (including Australia). As such, the projected increase in Australian steel imports is driven by the same range of factors.

First, Australian imports of aluminium from the US are projected to decline as a direct function of increased US production of aluminium at the expense of imports. As US producers are called on to provide aluminium in their domestic market, exports fall across all regions including Australia. Australian imports from the US are projected to fall by around 5 to 6 per cent.

Second, for those regions that have been granted exemptions, they gain a competitive advantage against those regions who were not granted exemptions. As a result, those countries increase exports to US market at the expense of other markets. This explains the reduction in Australian imports from Canada and the EU. Other exempted countries such as Mexico, Argentina, Brazil and South Korea are affected, but due to Australia's minimal exposure to these countries as aluminium suppliers, the impact on trade is projected to be minimal.

Finally, for those regions who have not been granted exemptions, the loss of access to the US market implies a diversion in exports to other markets who have not changed their trade policies, including Australia (as well as a general reduction in output). From an Australian perspective, and is evident in Table 16, this diversion results in projected increases in aluminium imports from China and the Rest of the World.

Table 17: Projected change in aluminium imports to Australia under the Proclamations with country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
USA	-0.40	-5.3%	-0.48	-6.3%
Canada	-0.03	-5.1%	-0.04	-6.1%
Mexico	0.00	-3.9%	0.00	-4.7%
Argentina	0.00	-0.9%	0.00	-1.1%
Brazil	0.00	-0.9%	0.00	-1.0%
European Union	-0.23	-0.5%	-0.26	-0.5%
China	0.22	0.2%	0.26	0.2%
India	0.01	0.5%	0.01	0.5%
Indonesia	0.02	0.3%	0.02	0.4%
Japan	0.01	0.1%	0.02	0.1%
Korea	-0.07	-0.3%	-0.08	-0.3%
Malaysia	0.04	0.2%	0.05	0.3%
Philippines	0.00	0.0%	0.00	0.0%
Russia	0.02	2.1%	0.03	2.5%
Taiwan	0.00	0.2%	0.00	0.2%
Thailand	0.02	0.3%	0.02	0.4%
Turkey	0.00	0.3%	0.00	0.4%
UAE	0.01	0.8%	0.01	1.0%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.61	1.4%	0.74	1.7%
Total	0.24	0.1%	0.30	0.1%

Source: Cadence Economics

Scenario 2: No exemptions in place

This section considers the impacts of the Proclamations without exemptions being extended to Australia, Canada, Mexico, Argentina, South Korea, Brazil and member countries of the EU. Compared with the previous simulation, this implies two key changes.

First, the coverage of imports into the US increases. In the case of steel, the quantity of steel that is subject to the tariff rises from 12.1 million metric tonnes to around 34.7 million metric tonnes. For aluminium, the quantity rises from 3.2 million metric tonnes to 6.9 million metric tonnes. Given the increase in the absolute level of imports to which the Proclamations now apply, all things equal, it

would be expected that the impacts on trade volumes into the US, and the associated flow on effects to global trade in steel and aluminium, would be higher.

Second, without a subset of exempted countries, the tariff rates applying in the US will now be more equal across all regions that export to the US. In other words, this scenario implies an equalisation, to some extent⁵, of the trade barriers to all countries which would, all things equal, reduce the disparity in trade impacts highlighted above.

The macroeconomic effects in the US of raising tariffs on steel and aluminium are relatively minor, but larger than under the scenario with exemptions. For example, real GDP is projected to fall by around 0.01 per cent and real investment by 0.14 per cent in 2020.

Domestic production of US steel and aluminium is projected to increase by between 2 and 3 per cent for both products. With this increase in output, domestic prices of steel and aluminium are also projected to rise.

Import prices are projected to fall for both steel and aluminium. This contrasts with the previous scenario where import prices were projected to rise. In the previous scenario, by providing exemptions the US redirected its imports of steel and aluminium to certain countries who, faced with an increase in demand, increased prices. Under this scenario, the US is not favouring any particular country and therefore importing considerably less steel and aluminium (discussed below). Not that all countries supplying steel and aluminium to the US are experiencing a reduction in demand, prices fall.

Table 18: Projected macroeconomic impacts on the US under the Proclamations without country exemptions (percentage deviation from reference case)

Variable	2018	2020
Real GDP	-0.002%	-0.012%
Real investment	-0.145%	-0.140%
Steel output	2.499%	2.901%
Aluminium output	2.058%	2.334%
Domestic steel price	1.979%	2.450%
Domestic aluminium price	1.492%	1.933%
Steel import price	-0.202%	-0.246%
Aluminium import price	-0.219%	-0.279%

Source: Cadence Economics

⁵ This also depends on the existing trade measures across all countries including general tariffs, Anti-Dumping provision and Countervailing Duties that are accounted for in the modelling.

US steel imports

The results for steel imports into the US are presented in Table 19 (with detailed results for the two categories of steel, Basic steel and Other steel, presented in Appendix 3).

In aggregate, imports of steel are projected to fall by just over 10.7 million metric tonnes in 2018 and by just under 12.7 metric tonnes in 2020. This represents a reduction in imports of around 18 to 21 per cent from baseline levels. This compares with a reduction in imported steel of 2.2 million metric tonnes in 2018 and just under 2.0 metric tonnes in 2020 under the previous scenario with certain countries exempted.

As the reduction in steel imports into the US is now projected to be around 5 to 6 times higher than the previous scenario, this indicates the importance of these country exemptions in determining the impacts of the Proclamations on global steel trade. This is because: a) the US is applying tariffs to a larger base of countries; and b) by increasing this base, the US cannot substitute toward certain producers who were formerly providing steel with lower, or no, tariffs.

This is reflected in the results that show all countries reduce their imports of steel to the US. Those countries that experience relatively large reductions in imports to the US such as the UAE, the Philippines and Indonesia, each have a relatively high proportion of their imports to the US subjected to tariffs under the Proclamations.

Conversely, for those countries that experience relatively low reductions in imports to the US, they tend to have a relatively low proportion of their imports to the US covered by the Proclamations and, for Turkey, South Korea and China. This implies that the Proclamations are likely to have little effect on the existing trade measures already in place.

Table 19: Projected change in steel imports to the US under the Proclamations without country exemptions

Source Region	2018 ('000 metric tonnes)	2018 (% change)	2020 ('000 metric tonnes)	2020 (% change)
Australia	-89.7	-21%	-106.6	-25%
Canada	-2011.9	-20%	-2421.2	-24%
Mexico	-1035.2	-20%	-1235.6	-24%
Argentina	-81.6	-34%	-96.8	-40%
Brazil	-1606.1	-23%	-1910.9	-28%
European Union	-1933.4	-27%	-2292.9	-32%
China	-106.0	-2%	-125.5	-2%
India	-288.3	-22%	-342.3	-27%
Indonesia	-17.8	-21%	-21.1	-25%
Japan	-489.9	-25%	-580.1	-29%
Korea	-109.9	-3%	-130.3	-3%
Malaysia	-37.5	-14%	-44.4	-17%
Philippines	-24.3	-32%	-28.8	-37%
Russia	-1092.8	-18%	-1297.0	-22%
Taiwan	-437.5	-21%	-518.7	-25%
Thailand	-159.3	-24%	-188.8	-28%
Turkey	-294.5	-14%	-349.1	-17%
UAE	-104.7	-34%	-124.2	-40%
Vietnam	-263.1	-32%	-311.7	-38%
Rest of World	-508.1	-9%	-602.8	-11%
Total	-10691.7	-18%	-12728.9	-21%

Source: Cadence Economics

US aluminium imports

The results for aluminium imports into the US are presented in Table 19 (with detailed results for the two categories of steel, Basic aluminium and Other aluminium, presented in Appendix 3).

In aggregate, imports of aluminium are projected to fall by just under 1 million metric tonnes in 2018 and just over 1.2 million metric tonnes in 2020. This represents a reduction in imports of around 12 to 15 per cent from baseline levels in 2020. This compares with a reduction in imported aluminium of 635 thousand metric tonnes in 2018 and 755 thousand metric tonnes in 2020 under the previous scenario with certain countries exempted.

The reduction in aluminium imports into the US is now projected to be around 1.5 times higher than the previous scenario, this indicates the importance of these country exemptions in

determining the impacts of the Proclamations on global aluminium trade. This is because: a) the US is applying tariffs to a larger base of countries; and b) by increasing this base, the US cannot substitute toward certain producers who were formerly providing aluminium with lower, or no, tariffs.

This is reflected in the results that show all countries reduce their imports of aluminium to the US. Those countries that experience relatively large reductions in imports to the US such as Canada, Russia, the UAE, and the Rest of the World.

Table 20: Projected change in aluminium imports to the US under the Proclamations without country exemptions

Source Region	2018 ('000 metric tonnes)	2018 (% change)	2020 ('000 metric tonnes)	2020 (% change)
Australia	-16.3	-15%	-20.9	-19%
Canada	-389.9	-12%	-504.6	-15%
Mexico	-10.5	-3%	-13.5	-4%
Argentina	-42.3	-16%	-53.9	-20%
Brazil	-6.3	-10%	-8.1	-13%
European Union	-28.4	-9%	-36.2	-11%
China	-68.6	-8%	-87.2	-10%
India	-25.6	-14%	-32.6	-18%
Indonesia	-9.1	-11%	-11.6	-14%
Japan	-3.5	-10%	-4.4	-13%
Korea	-5.7	-12%	-7.3	-15%
Malaysia	-1.0	-10%	-1.3	-12%
Philippines	-0.1	-4%	-0.1	-5%
Russia	-112.4	-15%	-143.9	-19%
Taiwan	-0.9	-3%	-1.1	-4%
Thailand	-1.3	-3%	-1.7	-3%
Turkey	-1.6	-6%	-2.0	-8%
UAE	-103.8	-16%	-132.3	-21%
Vietnam	-3.1	-9%	-3.9	-12%
Rest of World	-128.2	-14%	-163.5	-18%
Total	-958.6	-12%	-1230.1	-15%

Source: Cadence Economics

Impacts on Australia

The macroeconomic effects in the US of raising tariffs on steel and aluminium without exemptions are, again, relatively minor on Australia. For example, real GDP is projected to fall by around 0.007

per cent and real investment by 0.037 per cent in 2020. That said, these projected reductions in real GDP and investment contrast to small projected gains under the previous scenario where Australia benefitted from an exemption from US tariffs on steel and aluminium. Without those exemptions, Australian steel and aluminium output are both projected to fall slightly.

Under the no exemption scenario, Australia's reduction in steel and aluminium output is a consequence of US tariffs depressing output and prices in these markets globally. As a consequence, Australian prices for steel and aluminium also decline in order for production to be absorbed in the domestic market. This results in a substitution away from imported steel and aluminium that is discussed in detailed below.

Table 21: Projected macroeconomic impacts on Australia under the Proclamations without country exemptions (percentage deviation from reference case)

Variable	2018	2020
Real GDP	-0.001%	-0.007%
Real investment	-0.011%	-0.037%
Steel output	-0.311%	-0.305%
Aluminium output	-0.018%	-0.052%
Domestic steel price	-0.084%	-0.099%
Domestic aluminium price	-0.024%	-0.029%
Steel import price	-0.000%	-0.002%
Aluminium import price	-0.025%	-0.031%

Source: Cadence Economics

Australian steel imports

The projected change in Australian steel imports by source country under the Proclamations without country exemptions is shown in Table 22. Detailed results for Basic steel and Other steel are presented in Appendix 3.

Overall, Australian steel imports are projected to fall by just under 10 thousand metric tonnes in 2018 and by just under 11.5 thousand metric tonnes in 2020. This result compares markedly with the projected increase in Australia steel imports under the Proclamations scenario with exemptions. Under this scenario, Australian steel imports were projected to increase by just over 11 thousand metric tonnes in 2018 and by just under 13 thousand metric tonnes in 2020.

As discussed above, in the previous scenario, the Proclamations imply a significant structural shift in relation to imports into the US, driven largely by exemptions granted to certain countries (including Australia). Without these exemptions there is a significant impact on the pattern of trade flows and, as such, the projected decrease in Australian steel imports is driven by a range of varying factors.

First, Australian imports of steel from the US are projected to decline. This effect is common to both the Proclamations scenarios with and without exemptions as US production of steel is increased at the expense of imports. The projected reduction in US steel imports to Australia is considerably higher when no exemptions apply because the US is displacing considerably more imported steel with domestic production and, thus, exporting less. Indeed, this projected decline in US imports into Australia constitutes the majority of the overall decline in imports.

Table 22: Projected change in steel imports to Australia under the Proclamations without country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
USA	-11.06	-10.3%	-13.39	-12.5%
Canada	1.07	2.9%	1.32	3.6%
Mexico	0.07	1.4%	0.09	1.6%
Argentina	0.00	0.3%	0.00	0.3%
Brazil	0.01	0.2%	0.01	0.2%
European Union	-0.09	0.0%	-0.02	0.0%
China	-0.32	-0.1%	-0.37	-0.1%
India	0.07	0.1%	0.09	0.2%
Indonesia	-0.03	-0.1%	-0.03	-0.1%
Japan	-0.55	-0.2%	-0.61	-0.3%
Korea	-0.02	0.0%	-0.02	0.0%
Malaysia	-0.11	-0.2%	-0.14	-0.2%
Philippines	0.00	0.1%	0.00	0.1%
Russia	0.00	0.0%	0.00	0.0%
Taiwan	0.04	0.0%	0.03	0.0%
Thailand	-0.05	-0.1%	-0.06	-0.1%
Turkey	-0.01	-0.1%	-0.01	-0.1%
UAE	-0.04	-0.2%	-0.04	-0.2%
Vietnam	-0.11	-0.3%	-0.12	-0.3%
Rest of World	1.23	0.1%	1.61	0.2%
Total	-9.89	-0.3%	-11.65	-0.4%

Source: Cadence Economics

Second, Australian output of steel is now projected to decline. Without tariff exemptions in the US, Australia’s production falls which, in turn, lowers the domestic price of steel in order for production

to be absorbed in the domestic market. This results in a substitution away from imported steel generally across the Australian economy.

Australian aluminium imports

The projected change in Australian aluminium imports by source country under the Proclamations without country exemptions is shown in Table 23. Detailed results for Basic aluminium and Other aluminium are presented in Appendix 3.

Overall, Australian aluminium imports are projected to fall by 960 metric tonnes in 2018 and by just under 1,200 metric tonnes in 2020. This result compares with the projected increase in Australia aluminium imports under the Proclamations scenario with exemptions. Under this scenario, Australian aluminium imports were projected to increase by just under 240 metric tonnes in 2018 and by 300 metric tonnes in 2020.

As discussed above, in the previous scenario, the Proclamations imply a significant structural shift in relation to imports into the US, driven largely by exemptions granted to certain countries (including Australia). Without these exemptions there is a significant impact on the pattern of trade flows and, as such, the projected decrease in Australian aluminium imports is driven by a range of varying factors.

First, Australian imports of aluminium from the US are projected to decline. This effect is common to both the Proclamations scenarios with and without exemptions as US production of aluminium is increased at the expense of imports. The projected reduction in US aluminium imports to Australia is considerably higher when no exemptions apply because the US is displacing considerably more imported steel with domestic production and, thus, exporting less. Indeed, this projected decline in US imports into Australia constitutes the majority of the overall decline in imports.

Second, Australian output of aluminium is now projected to decline. Without tariff exemptions in the US, Australia's production falls which, in turn, lowers the domestic price of steel in order for production to be absorbed in the domestic market. This results in a substitution away from imported steel generally across the Australian economy.

Table 23: Projected change in aluminium imports to Australia under the Proclamations without country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
USA	-0.88	-11.6%	-1.12	-14.6%
Canada	0.02	3.1%	0.03	3.9%
Mexico	0.00	1.5%	0.00	1.8%
Argentina	0.00	0.4%	0.00	0.5%
Brazil	0.00	0.5%	0.00	0.6%
European Union	-0.03	-0.1%	-0.04	-0.1%
China	-0.10	-0.1%	-0.12	-0.1%
India	0.00	0.1%	0.00	0.1%
Indonesia	0.00	0.0%	0.00	0.0%
Japan	-0.04	-0.2%	-0.04	-0.2%
Korea	-0.07	-0.2%	-0.09	-0.3%
Malaysia	-0.01	-0.1%	-0.01	-0.1%
Philippines	0.00	-0.1%	0.00	-0.1%
Russia	0.01	0.7%	0.01	0.9%
Taiwan	0.00	-0.2%	0.00	-0.2%
Thailand	0.00	0.0%	0.00	0.0%
Turkey	0.00	0.0%	0.00	0.0%
UAE	0.00	0.1%	0.00	0.1%
Vietnam	0.00	0.0%	0.00	-0.1%
Rest of World	0.15	0.3%	0.19	0.4%
Total	-0.96	-0.3%	-1.20	-0.4%

Source: Cadence Economics

References

Aguire, A, Narayanan, B and McDougall, R (2016). An Overview of GTAP 6, Journal of Global Economic Analysis, Vol. 1, pp 181-208.

Hanoch, G (1971). CRESH Production Functions, Econometrica, 39(5), 695-712.

Hertel, T (1997). Global Trade Analysis: Modeling and Applications. Cambridge University Press, Cambridge.

US Department of Commerce (2018a), The effect of imports of aluminium on the national security, Investigation available at https://www.commerce.gov/sites/commerce.gov/files/the_effect_of_imports_of_aluminum_on_the_national_security_-_with_redactions_-_20180117.pdf

US Department of Commerce (2018b), The effect of imports of steel on the national security, Investigation available at https://www.commerce.gov/sites/commerce.gov/files/the_effect_of_imports_of_steel_on_the_national_security_-_with_redactions_-_20180111.pdf

Appendix 1: Trade remedies on US imports

Source Region	Nature	Description	HS Code
Steel Articles			
China	CV	Carbon and alloy steel cut-to-length plate	7206, 720840, 720851, 720852, 720853, 720890, 7210, 721070, 721090, 7211, 721113, 721114, 721119, 721190, 7212
Korea, Republic of	CV	Carbon and alloy steel cut-to-length plate	7206, 720840, 720851, 720852, 720853, 7211, 721113, 721114, 721119, 721190, 7212, 721240, 721250, 721410, 721430
Brazil	ADP	Carbon and Certain Alloy Steel Wire Rod	7213913010, 7213913090, 7213914510, 7213914590, 7213916010, 7213916090, 7213990031, 7213990038, 7213990090, 7227200010, 7227200020, 7227200090, 7227200095, 7227906051, 7227906053, 7227906058, 7227906059
China	ADP	Carbon and Certain Alloy Steel Wire Rod	721391, 721399, 722720, 722790
China	CV	Carbon and certain alloy steel wire rod	721391, 721399, 722720, 722790
Mexico	ADP	Carbon and Certain Alloy Steel Wire Rod	721391, 721399, 722720, 722790
Japan	ADP	Certain Carbon & Alloy Seamless Line & Pressure Pipe over 4.5 inches	730410, 730419, 730431, 730439, 730451, 730459
Japan	ADP	Certain Carbon & Alloy Seamless Line & Pressure Pipe under 4.5 inches	730410, 730419, 730431, 730439, 730451, 730459
Brazil	ADP	Certain carbon and alloy steel cut-to-length plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721119, 721190, 721240, 721250, 721410, 721430, 721491, 722511, 722519, 722540, 722599, 722619, 722620, 722691, 722699
China	ADP	Certain carbon and alloy steel cut-to-length plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721119, 721190, 721240, 721250, 721410, 721430, 721491, 722511, 722519, 722540, 722599, 722619, 722620, 722691, 722699
Japan	ADP	Certain carbon and alloy steel cut-to-length plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721119, 721190, 721240, 721250, 721410, 721430, 721491, 722511, 722519, 722540, 722599, 722619, 722620, 722691, 722699
Korea, Republic of	ADP	Certain carbon and alloy steel cut-to-length plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721119, 721190, 721240, 721250, 721410, 721430, 721491, 722511, 722519, 722540, 722599, 722619, 722620, 722691, 722699

Source Region	Nature	Description	HS Code
Turkey	ADP	Certain carbon and alloy steel cut-to-length plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721119, 721190, 721240, 721250, 721410, 721430, 721491, 722511, 722519, 722540, 722599, 722619, 722620, 722691, 722699
China	ADP	Certain Circular Welded Carbon Quality Steel Line Pipe	730619
Turkey	ADP	Certain Circular Welded Carbon Steel Pipe and Tube	730630
Korea, Republic of	ADP	Certain Cut-to-Length Carbon Quality Steel Plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721190, 721240, 721250, 722540, 722550, 722599, 722691, 722699
Korea, Republic of	CV	Certain Cut-to-Length Carbon Quality Steel Plate	7208403030, 7208403060, 7208510030, 7208510045, 7208510060, 7208520000, 7208530000, 7208900000, 7210703000, 7210909000, 7211130000, 7211140030, 7211140045, 7211900000, 7212401000, 7212405000, 7212500000, 7225403050, 7225407000, 7225506000, 7225990090, 7226915000, 7226917000, 7226918000, 7226990000
China	ADP	Certain Cut-to-Length Carbon Steel Plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721190, 721240, 721250
Russian Federation	ADP	Certain Cut-to-Length Carbon Steel Plate	720840, 720851, 720852, 720853, 720890, 721070, 721090, 721113, 721114, 721190, 721240, 721250
China	ADP	Certain Hot-Rolled Carbon Steel Flat Products	7208101500, 7208103000, 7208106000, 7208253000, 7208256000, 7208260030, 7208260060, 7208270030, 7208270060, 7208360030, 7208360060, 7208370030, 7208370060, 7208380015, 7208380030, 7208380090, 7208390015, 7208390030, 7208390090, 7208406030, 7208406060, 7208530000, 7208540000, 7208900000, 7210703000, 7210909000, 7211140030, 7211140090, 7211191500, 7211192000, 7211193000, 7211194500, 7211196000, 7211197530, 7211197560, 7211197590, 7212401000, 7212405000, 7212500000, 7225110000, 7225190000, 7225303050, 7225307000, 7225407000, 7225990090, 7226111000, 7226119030, 7226119060, 7226191000, 7226199000, 7226915000, 7226917000, 7226918000, 7226990000
Korea, Republic of	ADP	Certain Oil Country Tubular Goods	730429, 730439, 730459, 730520, 730531, 730629, 730630, 730650

Source Region	Nature	Description	HS Code
Turkey	ADP	Certain Oil Country Tubular Goods	730429, 730439, 730459, 730520, 730531, 730629, 730630, 730650
China	CV	Certain Seamless Carbon and Alloy Steel Standard, Line and Pressure Pipe	730419, 730431, 730439, 730451, 730459
China	ADP	Certain Seamless Carbon and Alloy Steel Standard, Line, and Pressure Pipe	730419, 730431, 730439, 730451, 730459
China	CV	Circular Welded Austenitic Stainless Pressure Pipe	730640
China	ADP	Circular Welded Austenitic Stainless Pressure Pipe	730640
China	CV	Circular Welded Carbon Quality Steel Line Pipe	730619
China	ADP	Circular Welded Carbon Quality Steel Pipe	730619, 730630, 730650
China	CV	Circular Welded Carbon Quality Steel Pipe	7306191010, 7306191050, 7306195110, 7306195150, 7306301000, 7306305025, 7306305032, 7306305040, 7306305055, 7306305085, 7306305090, 7306501000, 7306505050, 7306505070
Japan	ADP	Clad Steel Plate	7210901000
Brazil	CV	Cold rolled flat steel products	720915, 720916, 720917, 720918, 72092, 720925, 720926, 720927, 720928, 720990, 7210, 7211, 7212, 7215, 7217, 7225
China	CV	Cold rolled flat steel products	720915, 720916, 720917, 720918, 720925, 720926, 720927, 720928, 720990, 7210, 7211, 7212, 7215, 7217, 7225, 7226
Korea, Republic of	CV	Cold rolled flat steel products	720915, 720916, 720917, 720918, 720925, 720926, 720927, 720928, 720990, 7210, 7211, 7212, 7215, 7217, 7225, 7226
Brazil	ADP	Cold-rolled steel flat products	720915, 720916, 720917, 720918, 720925, 720926, 720927, 720928, 720990, 721070, 721090, 721123, 721129, 721190, 721240, 721250, 721510, 721550, 721590, 721710, 721790, 722519, 722550, 722599, 722619, 722692, 722699, 722850, 722860, 722990
China	ADP	Cold-rolled steel flat products	720915, 720916, 720917, 720918, 720925, 720926, 720927, 720928, 720990, 721070, 721090, 721123, 721129, 721190, 721240, 721250, 721510, 721550, 721590, 721710, 721790, 722519, 722550, 722599, 722619, 722692, 722699, 722850, 722860, 722990
Japan	ADP	Cold-rolled steel flat products	720915, 720916, 720917, 720918, 720925, 720926, 720927, 720928, 720990, 721070, 721090, 721123, 721129, 721190, 721240, 721250, 721510, 721550, 721590, 721710, 721790, 722519, 722550, 722599, 722619, 722692, 722699, 722850, 722860, 722990

Source Region	Nature	Description	HS Code
Korea, Republic of	ADP	Cold-rolled steel flat products	720915, 720916, 720917, 720918, 720925, 720926, 720927, 720928, 720990, 721070, 721090, 721123, 721129, 721190, 721240, 721250, 721510, 721550, 721590, 721710, 721790, 722519, 722550, 722599, 722619, 722692, 722699, 722850, 722860, 722990
China	CV	Corrosion resistant steel products	721030, 721041, 721049, 721061, 721069, 721070, 721090, 721220, 721230, 721240, 721250, 721260, 721720, 72173, 722591, 722592, 722599, 722699
Korea, Republic of	CV	Corrosion resistant steel products	721030, 721041, 721049, 721061, 721069, 721070, 721090, 721220, 721230, 721240, 721250, 721260, 721720, 72173, 722591, 722592, 722599, 722699
China	ADP	Corrosion-resistant steel products	721030, 721041, 721049, 721061, 721069, 721070, 721090, 721220, 721230, 721240, 721250, 721260, 721590, 721720, 721730, 721790, 722591, 722592, 722599, 722699, 722860, 722990
Korea, Republic of	ADP	Corrosion-resistant steel products	721030, 721041, 721049, 721061, 721069, 721070, 721090, 721220, 721230, 721240, 721250, 721260, 721590, 721720, 721730, 721790, 722591, 722592, 722599, 722699, 722860, 722990
Japan	ADP	Diffusion-Annealed, Nickel-Plated Flat-Rolled Steel Products	721070, 721090, 721240, 721250, 721990, 722090, 722599, 722699
Korea, Republic of	ADP	Heavy walled rectangular welded carbon steel pipes and tubes	730661
Mexico	ADP	Heavy walled rectangular welded carbon steel pipes and tubes	730661
Turkey	CV	Heavy walled rectangular welded carbon steel pipes and tubes	730661
Turkey	ADP	Heavy walled rectangular welded carbon steel pipes and tubes	730661
Brazil	CV	Hot rolled flat steel products	7201, 720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 7210, 7211
Korea, Republic of	CV	Hot rolled flat steel products	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 7229
Australia	ADP	Hot-rolled steel flat products	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 721070, 721090, 721114, 721119, 721190, 721240, 721250, 721491, 721499, 721590, 722511, 722519, 722530,

Source Region	Nature	Description	HS Code
			722540, 722599, 722611, 722619, 722691, 722699, 722860
Brazil	ADP	Hot-rolled steel flat products	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 721070, 721090, 721114, 721119, 721190, 721240, 721250, 721491, 721499, 721590, 722511, 722519, 722530, 722540, 722599, 722611, 722619, 722691, 722699, 722860
Japan	ADP	Hot-rolled steel flat products	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 721070, 721090, 721114, 721119, 721190, 721240, 721250, 721491, 721499, 721590, 722511, 722519, 722530, 722540, 722599, 722611, 722619, 722691, 722699, 722860
Korea, Republic of	ADP	Hot-rolled steel flat products	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 721070, 721090, 721114, 721119, 721190, 721240, 721250, 721491, 721499, 721590, 722511, 722519, 722530, 722540, 722599, 722611, 722619, 722691, 722699, 722860
Turkey	ADP	Hot-rolled steel flat products	720810, 720825, 720826, 720827, 720836, 720837, 720838, 720839, 720840, 720853, 720854, 720890, 721070, 721090, 721114, 721119, 721190, 721240, 721250, 721491, 721499, 721590, 722511, 722519, 722530, 722540, 722599, 722611, 722619, 722691, 722699, 722860
China	ADP	Light-Walled Rectangular Pipe and Tube	7306615000, 7306617060
China	CV	Light-Walled Rectangular Pipe and Tube	7306615000, 7306617060
Korea, Republic of	ADP	Light-Walled Rectangular Pipe and Tube	7306615000, 7306617060
Mexico	ADP	Light-Walled Rectangular Pipe and Tube	730661
Turkey	ADP	Light-Walled Rectangular Pipe and Tube	730661
Aluminium Articles			
China	ADP	Aluminum Extrusions	760421, 760429, 760820, 761010, 761090, 761519, 761520, 761699, 830210, 830230, 830241, 830242, 830249, 830250, 830260, 830630, 841899, 841990, 847989, 847990, 851390, 940310, 940320, 940390, 950611, 950651, 950659, 950670, 950691, 950699, 950730, 950790

Source Region	<i>Nature</i>	<i>Description</i>	<i>HS Code</i>
China	CV	Aluminium Extrusions	760421, 760429, 760820, 761010, 761090, 761519, 761520, 761699

Appendix 2: Detailed results under the Proclamations with exemptions

US steel imports with country exemptions

Table A2-1: Projected change in Basic steel imports to the US under the Proclamations with country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (<i>% change</i>)	2020 (<i>'000 metric tonnes</i>)	2020 (<i>% change</i>)
Australia	0.0	0%	0.0	0%
Canada	0.3	0%	0.4	0%
Mexico	0.0	0%	0.0	0%
Argentina	0.0	0%	0.0	0%
Brazil	0.0	0%	0.0	0%
European Union	0.2	0%	0.2	0%
China	0.0	0%	0.0	0%
India	0.0	0%	0.0	0%
Indonesia	0.0	n/a	0.0	n/a
Japan	-0.1	0%	-0.1	0%
Korea	0.0	0%	0.0	0%
Malaysia	0.0	0%	0.0	0%
Philippines	0.0	n/a	0.0	n/a
Russia	0.0	0%	0.0	0%
Taiwan	0.0	0%	0.0	0%
Thailand	0.0	0%	0.0	0%
Turkey	0.0	0%	0.0	0%
UAE	0.0	n/a	0.0	n/a
Vietnam	0.0	0%	0.0	0%
Rest of World	0.0	0%	0.0	0%
Total	0.4	0%	0.5	0%

Source: Cadence Economics

Table A2-2: Projected change in Other steel imports to the US under the Proclamations with country exemptions

Source Region	2018 ('000 metric tonnes)	2018 (% change)	2020 ('000 metric tonnes)	2020 (% change)
Australia	71.6	25%	83.3	29%
Canada	1,528.2	23%	1,763.3	26%
Mexico	801.5	17%	929.6	20%
Argentina	64.8	30%	75.4	35%
Brazil	1,269.5	27%	1,477.3	31%
European Union	1,532.0	25%	1,784.5	30%
China	-209.5	-4%	-226.2	-4%
India	-570.3	-48%	-618.4	-52%
Indonesia	-35.3	-41%	-38.0	-45%
Japan	-966.7	-51%	-1,045.1	-55%
Korea	86.9	2%	101.3	3%
Malaysia	-74.1	-32%	-79.9	-35%
Philippines	-48.0	-62%	-52.0	-68%
Russia	-2,167.0	-76%	-2,346.7	-82%
Taiwan	-862.6	-41%	-933.4	-44%
Thailand	-314.9	-48%	-340.1	-51%
Turkey	-581.7	-28%	-629.5	-31%
UAE	-207.3	-68%	-224.6	-73%
Vietnam	-522.1	-63%	-563.5	-68%
Rest of World	-1,007.4	-66%	-1,090.4	-72%
Total	-2,212.2	-5%	-1,972.8	-4%

Source: Cadence Economics

US aluminium imports with country exemptions

Table A2-3: Projected change in Basic aluminium imports to the US under the Proclamations with country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
Australia	18.4	17%	23.0	22%
Canada	343.2	12%	424.9	15%
Mexico	2.9	2%	3.6	2%
Argentina	45.4	18%	56.7	23%
Brazil	3.6	14%	4.5	18%
European Union	5.0	8%	6.3	11%
China	-1.7	-22%	-2.1	-27%
India	-50.5	-42%	-61.1	-50%
Indonesia	-0.1	-42%	-0.1	-51%
Japan	0.0	-6%	-0.1	-7%
Korea	2.3	15%	2.9	19%
Malaysia	-0.6	-42%	-0.7	-51%
Philippines	0.0	0%	0.0	0%
Russia	-273.8	-39%	-334.5	-48%
Taiwan	-0.1	-4%	-0.2	-5%
Thailand	-0.3	-8%	-0.4	-10%
Turkey	0.0	0%	0.0	0%
UAE	-260.8	-41%	-316.0	-49%
Vietnam	-0.2	-39%	-0.2	-47%
Rest of World	-218.3	-36%	-264.7	-43%
Total	-385.7	-7%	-458.2	-8%

Source: Cadence Economics

Table A2-4: Projected change in Other aluminium imports to the US under the Proclamations with country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (% change)	2020 (<i>'000 metric tonnes</i>)	2020 (% change)
Australia	0.4	14%	0.6	18%
Canada	63.4	11%	78.5	14%
Mexico	7.7	6%	9.6	7%
Argentina	2.0	13%	2.5	17%
Brazil	3.5	10%	4.4	12%
European Union	26.6	10%	33.3	12%
China	-171.8	-19%	-207.1	-23%
India	-14.4	-22%	-17.5	-27%
Indonesia	-23.0	-28%	-27.7	-34%
Japan	-8.7	-27%	-10.5	-32%
Korea	4.1	13%	5.2	16%
Malaysia	-2.1	-22%	-2.5	-27%
Philippines	-0.1	-10%	-0.2	-12%
Russia	-12.9	-25%	-15.8	-31%
Taiwan	-2.1	-7%	-2.6	-9%
Thailand	-3.0	-7%	-3.6	-8%
Turkey	-3.9	-21%	-4.8	-25%
UAE	-0.8	-23%	-1.0	-28%
Vietnam	-7.6	-24%	-9.2	-29%
Rest of World	-106.5	-34%	-129.1	-41%
Total	-249.3	-10%	-297.5	-11%

Source: Cadence Economics

Australian steel imports with country exemptions

Table A2-5: Projected change in Basic steel imports to Australia under the US Proclamations with country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (<i>% change</i>)	2020 (<i>'000 metric tonnes</i>)	2020 (<i>% change</i>)
USA	-0.01	-1.3%	-0.01	-1.4%
Canada	0.00	0.0%	0.00	0.0%
Mexico	0.00	0.0%	0.00	0.0%
Arg�entina	0.00	0.0%	0.00	0.0%
Brazil	0.00	0.0%	0.00	0.0%
European Union	-0.01	0.0%	-0.01	0.0%
China	0.00	0.0%	0.00	0.0%
India	0.00	0.0%	0.00	0.0%
Indonesia	0.00	0.0%	0.00	0.0%
Japan	0.00	0.0%	0.00	0.0%
Korea	-0.01	-0.1%	-0.01	-0.1%
Malaysia	0.00	0.0%	0.00	0.0%
Philippines	0.00	0.0%	0.00	0.0%
Russia	0.00	0.0%	0.00	0.0%
Taiwan	0.00	0.0%	0.00	0.0%
Thailand	0.00	0.0%	0.00	0.0%
Turkey	0.00	0.0%	0.00	0.0%
UAE	0.00	0.0%	0.00	0.0%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.03	0.1%	0.03	0.1%
Total	0.00	0.0%	0.00	0.0%

Source: Cadence Economics

Table A2-6: Projected change in Other steel imports to Australia under the US Proclamations with country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
USA	-4.71	-4.4%	-5.21	-4.9%
Canada	-1.23	-4.2%	-1.41	-4.8%
Mexico	-0.10	-1.8%	-0.11	-2.1%
Argentina	0.00	-0.4%	0.00	-0.5%
Brazil	-0.01	-0.8%	-0.01	-0.8%
European Union	-0.54	-0.1%	-0.50	-0.1%
China	1.40	0.3%	1.60	0.3%
India	0.62	1.3%	0.69	1.4%
Indonesia	0.06	0.3%	0.07	0.3%
Japan	1.00	0.4%	1.16	0.5%
Korea	-0.01	0.0%	-0.01	0.0%
Malaysia	0.21	0.4%	0.25	0.4%
Philippines	0.00	1.3%	0.00	1.4%
Russia	0.00	1.4%	0.00	1.6%
Taiwan	3.34	1.3%	3.70	1.5%
Thailand	0.27	0.7%	0.31	0.8%
Turkey	0.01	0.2%	0.01	0.2%
UAE	0.11	0.6%	0.13	0.7%
Vietnam	0.13	0.3%	0.16	0.4%
Rest of World	10.52	1.1%	11.92	1.3%
Total	11.08	0.4%	12.76	0.5%

Source: Cadence Economics

Australian aluminium imports with country exemptions

Table A2-7: Projected change in Basic aluminium imports to Australia under the US Proclamations with country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
USA	-0.10	-0.9%	-0.11	-1.1%
Canada	-0.01	-0.9%	-0.01	-1.0%
Mexico	0.00	-0.7%	0.00	-0.8%
Argentina	0.00	-0.2%	0.00	-0.2%
Brazil	0.00	-0.2%	0.00	-0.3%
European Union	-0.07	-0.1%	-0.08	-0.1%
China	0.07	0.0%	0.08	0.1%
India	0.00	0.1%	0.00	0.1%
Indonesia	0.01	0.1%	0.01	0.1%
Japan	0.00	0.0%	0.01	0.0%
Korea	-0.02	0.0%	-0.02	0.0%
Malaysia	0.01	0.1%	0.02	0.1%
Philippines	0.00	0.0%	0.00	0.0%
Russia	0.01	0.5%	0.01	0.6%
Taiwan	0.00	0.0%	0.00	0.1%
Thailand	0.01	0.1%	0.01	0.1%
Turkey	0.00	0.1%	0.00	0.1%
UAE	0.00	0.2%	0.00	0.2%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.16	0.3%	0.19	0.3%
Total	0.08	0.0%	0.10	0.0%

Source: Cadence Economics

Table A2-8: Projected change in Other aluminium imports to Australia under the US Proclamations with country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (% change)	2020 (<i>'000 metric tonnes</i>)	2020 (% change)
USA	-0.31	-4.4%	-0.36	-5.2%
Canada	-0.02	-4.2%	-0.03	-5.1%
Mexico	0.00	-3.2%	0.00	-3.9%
Argentina	0.00	-0.7%	0.00	-0.9%
Brazil	0.00	-0.6%	0.00	-0.7%
European Union	-0.16	-0.4%	-0.18	-0.4%
China	0.15	0.1%	0.18	0.2%
India	0.01	0.4%	0.01	0.4%
Indonesia	0.01	0.3%	0.01	0.3%
Japan	0.01	0.1%	0.01	0.1%
Korea	-0.05	-0.2%	-0.06	-0.2%
Malaysia	0.03	0.2%	0.03	0.2%
Philippines	0.00	0.0%	0.00	0.0%
Russia	0.01	1.6%	0.02	1.9%
Taiwan	0.00	0.1%	0.00	0.2%
Thailand	0.01	0.2%	0.01	0.3%
Turkey	0.00	0.2%	0.00	0.3%
UAE	0.01	0.7%	0.01	0.8%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.46	1.1%	0.55	1.4%
Total	0.16	0.1%	0.21	0.1%

Source: Cadence Economics

Appendix 3: Detailed results under the Proclamations without exemptions

US steel imports without country exemptions

Table 3-1: Projected change in Basic steel imports to the US under the Proclamations without country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
Australia	0.0	0%	0.0	0%
Canada	-0.4	0%	-0.5	0%
Mexico	0.0	0%	-0.1	0%
Argentina	0.0	0%	0.0	0%
Brazil	0.0	0%	0.0	0%
European Union	-0.2	0%	-0.2	0%
China	0.0	0%	0.0	0%
India	0.0	0%	0.0	0%
Indonesia	0.0	n/a	0.0	n/a
Japan	0.0	0%	-0.1	0%
Korea	0.0	0%	0.0	0%
Malaysia	0.0	0%	0.0	0%
Philippines	0.0	n/a	0.0	n/a
Russia	0.0	0%	0.0	0%
Taiwan	0.0	0%	0.0	0%
Thailand	0.0	0%	0.0	0%
Turkey	0.0	0%	0.0	0%
UAE	0.0	n/a	0.0	n/a
Vietnam	0.0	0%	0.0	0%
Rest of World	0.0	0%	0.0	0%
Total	-0.7	0%	-0.9	0%

Source: Cadence Economics

Table A3-2: Projected change in Other steel imports to the US under the Proclamations without country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (% change)	2020 (<i>'000 metric tonnes</i>)	2020 (% change)
Australia	-89.7	-31%	-106.6	-37%
Canada	-2,011.5	-30%	-2,420.7	-36%
Mexico	-1,035.1	-22%	-1,235.5	-26%
Argentina	-81.6	-38%	-96.8	-45%
Brazil	-1,606.1	-34%	-1,910.9	-41%
European Union	-1,933.2	-32%	-2,292.6	-38%
China	-106.0	-2%	-125.5	-2%
India	-288.3	-24%	-342.3	-29%
Indonesia	-17.8	-21%	-21.1	-25%
Japan	-489.8	-26%	-580.1	-31%
Korea	-109.9	-3%	-130.3	-3%
Malaysia	-37.5	-16%	-44.4	-19%
Philippines	-24.3	-32%	-28.8	-37%
Russia	-1,092.8	-38%	-1,297.0	-45%
Taiwan	-437.5	-21%	-518.7	-25%
Thailand	-159.3	-24%	-188.8	-29%
Turkey	-294.5	-14%	-349.1	-17%
UAE	-104.7	-34%	-124.2	-40%
Vietnam	-263.1	-32%	-311.7	-38%
Rest of World	-508.1	-33%	-602.8	-40%
Total	-10,691.0	-23%	-12,728.1	-28%

Source: Cadence Economics

US aluminium imports without country exemptions

Table A3-3: Projected change in Basic aluminium imports to the US under the Proclamations without country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (<i>% change</i>)	2020 (<i>'000 metric tonnes</i>)	2020 (<i>% change</i>)
Australia	-15.9	-15%	-20.4	-19%
Canada	-329.1	-12%	-426.0	-15%
Mexico	-2.8	-2%	-3.7	-2%
Argentina	-40.5	-16%	-51.6	-21%
Brazil	-3.2	-12%	-4.1	-16%
European Union	-4.5	-8%	-5.7	-10%
China	-0.7	-9%	-0.9	-11%
India	-19.9	-16%	-25.3	-21%
Indonesia	0.0	-17%	0.0	-21%
Japan	0.0	-2%	0.0	-3%
Korea	-2.1	-14%	-2.6	-17%
Malaysia	-0.2	-17%	-0.3	-21%
Philippines	0.0	0%	0.0	0%
Russia	-107.4	-15%	-137.5	-20%
Taiwan	-0.1	-2%	-0.1	-2%
Thailand	-0.1	-3%	-0.2	-4%
Turkey	0.0	0%	0.0	0%
UAE	-103.5	-16%	-131.9	-21%
Vietnam	-0.1	-15%	-0.1	-19%
Rest of World	-86.2	-14%	-109.9	-18%
Total	-716.3	-13%	-920.2	-17%

Source: Cadence Economics

Table A3-4: Projected change in Other aluminium imports to the US under the Proclamations without country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
Australia	-0.4	-12%	-0.5	-16%
Canada	-60.8	-11%	-78.7	-14%
Mexico	-7.7	-6%	-9.8	-7%
Argentina	-1.8	-12%	-2.3	-15%
Brazil	-3.1	-9%	-4.0	-11%
European Union	-23.9	-9%	-30.5	-11%
China	-67.9	-8%	-86.4	-10%
India	-5.7	-9%	-7.2	-11%
Indonesia	-9.1	-11%	-11.5	-14%
Japan	-3.5	-11%	-4.4	-13%
Korea	-3.7	-11%	-4.7	-14%
Malaysia	-0.8	-9%	-1.0	-11%
Philippines	-0.1	-4%	-0.1	-5%
Russia	-5.1	-10%	-6.5	-13%
Taiwan	-0.9	-3%	-1.1	-4%
Thailand	-1.2	-3%	-1.5	-3%
Turkey	-1.6	-8%	-2.0	-10%
UAE	-0.3	-9%	-0.4	-12%
Vietnam	-3.0	-9%	-3.8	-12%
Rest of World	-42.0	-13%	-53.6	-17%
Total	-242.3	-9%	-309.9	-12%

Source: Cadence Economics

Australian steel imports without country exemptions

Table A3-5: Projected change in Basic steel imports to Australia under the US Proclamations without country exemptions

Source Region	2018 (<i>'000 metric tonnes</i>)	2018 (<i>% change</i>)	2020 (<i>'000 metric tonnes</i>)	2020 (<i>% change</i>)
USA	-0.03	-3.0%	-0.03	-3.6%
Canada	0.00	0.0%	0.00	0.0%
Mexico	0.00	0.0%	0.00	0.0%
Argentina	0.00	0.0%	0.00	0.0%
Brazil	0.00	0.0%	0.00	0.0%
European Union	0.00	0.0%	0.00	0.0%
China	0.00	0.0%	0.00	0.0%
India	0.00	0.0%	0.00	0.0%
Indonesia	0.00	0.0%	0.00	0.0%
Japan	0.00	0.0%	0.00	0.0%
Korea	-0.01	-0.1%	-0.01	-0.1%
Malaysia	0.00	0.0%	0.00	0.0%
Philippines	0.00	0.0%	0.00	0.0%
Russia	0.00	0.0%	0.00	0.0%
Taiwan	0.00	0.0%	0.00	0.0%
Thailand	0.00	0.0%	0.00	0.0%
Turkey	0.00	0.0%	0.00	0.0%
UAE	0.00	0.0%	0.00	0.0%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.00	0.0%	0.00	0.0%
Total	-0.04	0.0%	-0.04	0.0%

Source: Cadence Economics

Table A3-6: Projected change in Other steel imports to Australia under the US Proclamations without country exemptions

Source Region	2018 (‘000 metric tonnes)	2018 (% change)	2020 (‘000 metric tonnes)	2020 (% change)
USA	-11.04	-10.4%	-13.36	-12.5%
Canada	1.07	3.7%	1.32	4.5%
Mexico	0.07	1.4%	0.09	1.6%
Argentina	0.00	0.4%	0.00	0.5%
Brazil	0.01	0.7%	0.01	0.9%
European Union	-0.09	0.0%	-0.02	0.0%
China	-0.32	-0.1%	-0.37	-0.1%
India	0.07	0.1%	0.09	0.2%
Indonesia	-0.03	-0.1%	-0.03	-0.1%
Japan	-0.55	-0.2%	-0.61	-0.3%
Korea	-0.01	0.0%	-0.01	0.0%
Malaysia	-0.11	-0.2%	-0.14	-0.2%
Philippines	0.00	0.1%	0.00	0.1%
Russia	0.00	0.3%	0.00	0.3%
Taiwan	0.04	0.0%	0.03	0.0%
Thailand	-0.05	-0.1%	-0.06	-0.1%
Turkey	-0.01	-0.1%	-0.01	-0.2%
UAE	-0.04	-0.2%	-0.04	-0.2%
Vietnam	-0.11	-0.3%	-0.12	-0.3%
Rest of World	1.23	0.1%	1.60	0.2%
Total	-9.86	-0.3%	-11.61	-0.4%

Source: Cadence Economics

Australian aluminium imports without country exemptions

Table A3-7: Projected change in Basic aluminium imports to Australia under the US Proclamations without country exemptions

Source Region	2018 (metric tonnes)	2018 (% change)	2020 (metric tonnes)	2020 (% change)
USA	-0.21	-2.0%	-0.27	-2.5%
Canada	0.00	0.5%	0.01	0.7%
Mexico	0.00	0.2%	0.00	0.3%
Argentina	0.00	0.1%	0.00	0.1%
Brazil	0.00	0.1%	0.00	0.2%
European Union	-0.01	0.0%	-0.01	0.0%
China	-0.03	0.0%	-0.04	0.0%
India	0.00	0.0%	0.00	0.0%
Indonesia	0.00	0.0%	0.00	0.0%
Japan	-0.01	0.0%	-0.01	-0.1%
Korea	-0.02	0.0%	-0.02	-0.1%
Malaysia	0.00	0.0%	0.00	0.0%
Philippines	0.00	0.0%	0.00	0.0%
Russia	0.00	0.2%	0.00	0.2%
Taiwan	0.00	0.0%	0.00	0.0%
Thailand	0.00	0.0%	0.00	0.0%
Turkey	0.00	0.0%	0.00	0.0%
UAE	0.00	0.0%	0.00	0.0%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.04	0.1%	0.05	0.1%
Total	-0.24	-0.1%	-0.30	-0.1%

Source: Cadence Economics

Table A3-7: Projected change in Other aluminium imports to Australia under the US Proclamations without country exemptions

Source Region	2018 (metric tonnes)	2018 (% change)	2020 (metric tonnes)	2020 (% change)
USA	-0.67	-9.6%	-0.85	-12.1%
Canada	0.01	2.5%	0.02	3.3%
Mexico	0.00	1.2%	0.00	1.5%
Argentina	0.00	0.3%	0.00	0.4%
Brazil	0.00	0.4%	0.00	0.5%
European Union	-0.02	-0.1%	-0.03	-0.1%
China	-0.07	-0.1%	-0.08	-0.1%
India	0.00	0.1%	0.00	0.1%
Indonesia	0.00	0.0%	0.00	0.0%
Japan	-0.03	-0.2%	-0.03	-0.2%
Korea	-0.05	-0.2%	-0.07	-0.3%
Malaysia	-0.01	-0.1%	-0.01	-0.1%
Philippines	0.00	-0.1%	0.00	-0.1%
Russia	0.01	0.6%	0.01	0.7%
Taiwan	0.00	-0.1%	0.00	-0.2%
Thailand	0.00	0.0%	0.00	0.0%
Turkey	0.00	0.0%	0.00	0.0%
UAE	0.00	0.1%	0.00	0.1%
Vietnam	0.00	0.0%	0.00	0.0%
Rest of World	0.11	0.3%	0.14	0.4%
Total	-0.72	-0.3%	-0.90	-0.3%

Source: Cadence Economics