THE EUROPEAN UNION ALUMINIUM INDUSTRY

THE IMPACT OF THE EU TRADE MEASURES ON THE COMPETITIVENESS OF DOWNSTREAM ACTIVITIES

GRUPPO DI RICERCHE INDUSTRIALI E FINANZIARIE - GRIF "FABIO GOBBO"

LUISS GUIDO CARLI UNIVERSITY

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Disclaimer

This project has been funded with support from FACE - The Federation of Aluminium Consumers in Europe. GRIF “Fabio Gobbo” was asked by FACE to carry out an independent study with the aim of establishing a constructive and transparent exchange of views on the competitiveness of the aluminium value chain in the European Union with a specific focus on trade policies on unwrought aluminium and their impact on manufacturers of aluminium semi-finished products. To have consistent information and to ensure the robustness and the comparability of the quantitative analysis for well-informed design of policies, the study only relies on data provided by institutional sources and independent third parties, having market recognition for reliability. While also benefitting from the industry knowledge of FACE stakeholders, any views expressed herein, including interpretation(s) of policies, reflect the current views of the author(s), which do not necessarily correspond to the views of FACE.

The study is available at: https://face-aluminium.com/wp-content/uploads/2019/06/2019-LUISSStudy.pdf

Outline

1. Context and objectives of the study
2. The structure of the EU Aluminium industry
3. The EU trade policy
4. The impact of EU import tariffs on unwrought aluminium
5. Industrial policy recommendations

1. Context and objectives of the study

Context of the study

The aluminium industry is an industry that is essential to the economy of modern countries as it provides a range of highly differentiated products, from those for final consumption to the intermediate inputs that are required for many high-tech industries. Regarded as one of the most sustainable metals, aluminium is increasingly used by companies strongly committed to improving their environmental performance.

The global aluminium industry has undergone fundamental changes in recent years in terms of geographical relocation of production and consumption, degree of concentration and integration, development of new end-use markets, increasing financialisation, and international trade.

China's role has increased substantially in all segments of the aluminium value chain as well as in the consumption of aluminium products, to the detriment of North America and the EU.

The decline in the EU aluminium industry has been particularly severe in the upstream segments of the value chain. This trend has, in turn, progressively affected the competitiveness of downstream companies, which represent the bulk of the EU aluminium industry in terms of turnover, value added and employment.

The structural changes in the aluminium industry have sparked renewed interest in trade policies' role in driving economic development and in influencing the competitiveness of the manufacturing sector as a whole. As a result, the need for a comprehensive revision of trade rules has become increasingly clear, to take into account the greater complexity of international production and to place those measures in a broader industrial policy framework.

Objectives of the study

The purpose of the study is threefold

1. to provide a comprehensive overview of the EU aluminium industry value chain;
2. to quantitatively estimate the economic impact of the EU import tariffs on unwrought aluminium in terms of additional costs imposed on other segments further down the value chain;
3. to strategically assess the role of import tariffs on unwrought aluminium as an industrial policy instrument for promoting the competitiveness of downstream activities and the EU aluminium industry as a whole.

2. The structure of the EU Aluminium industry

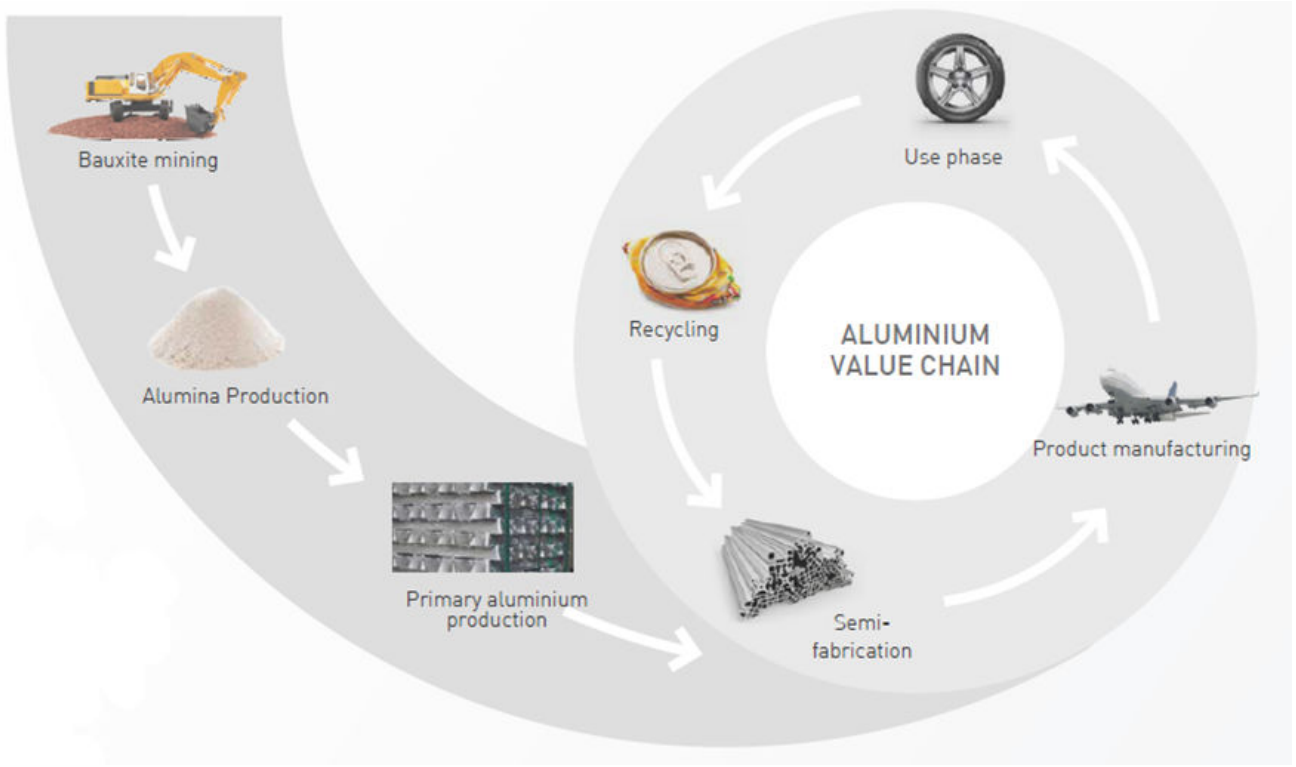
The aluminium industry value chain

The aluminium industry includes a range of activities along the value chain.

They can be divided into 3 main segments:

1. upstream, including all the producers of the raw material from the unwrought mineral and the primary aluminium smelters;
2. downstream, involving a broad group of producers manufacturing high differentiated outputs by rolling, extruding, casting and drawing unwrought aluminium into various forms;
3. aluminium recycling and remelting, comprising producers of aluminium alloys (recyclers/ remelters) from metallic waste and scrap generated either as a by-product of manufacturing or from recycled goods.

Figure 1: The aluminium value chain



Source: European Aluminium

The EU Aluminium industry

The EU aluminium industry encompasses more than a thousand companies involved in the metal processing and in the manufacturing of a wide range of aluminium products, with a direct employment of about 230.000 employees (and around 1 million indirect jobs).

Lacking raw material, the EU aluminium industry is actually characterised by few facilities which produce alumina and by a limited number of companies which use alumina to produce primary aluminium in any form (commodity ingots and value-added products, such as slabs, billets, foundry alloys, and wire rods). Hundreds of small- and medium-sized vertically non-integrated firms are involved in the manufacturing of aluminium semi-finished products, such as extrusions, flat-rolled products, castings, foil, wire and slug.

Figure 2: Total revenues generated by the EU + EFTA aluminium industry

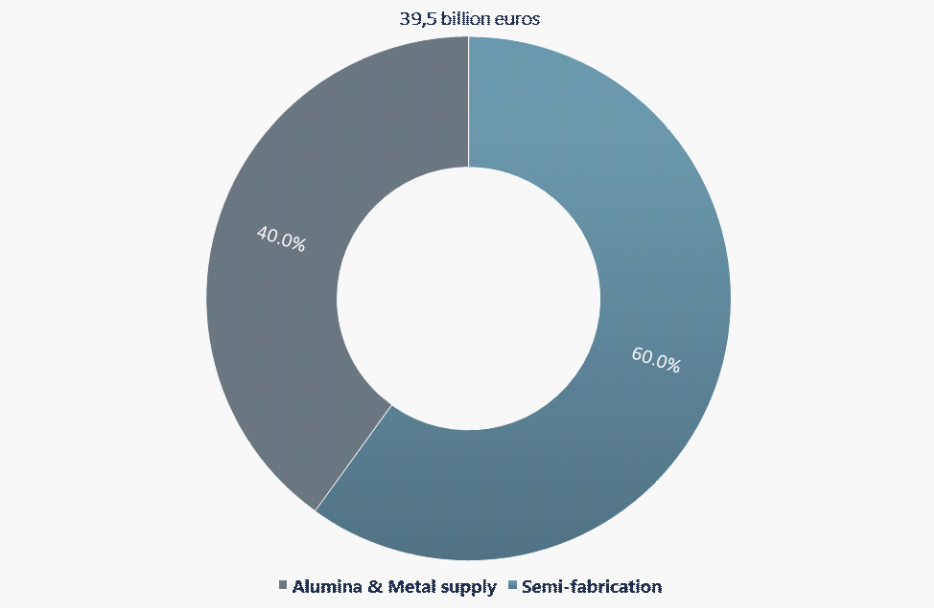
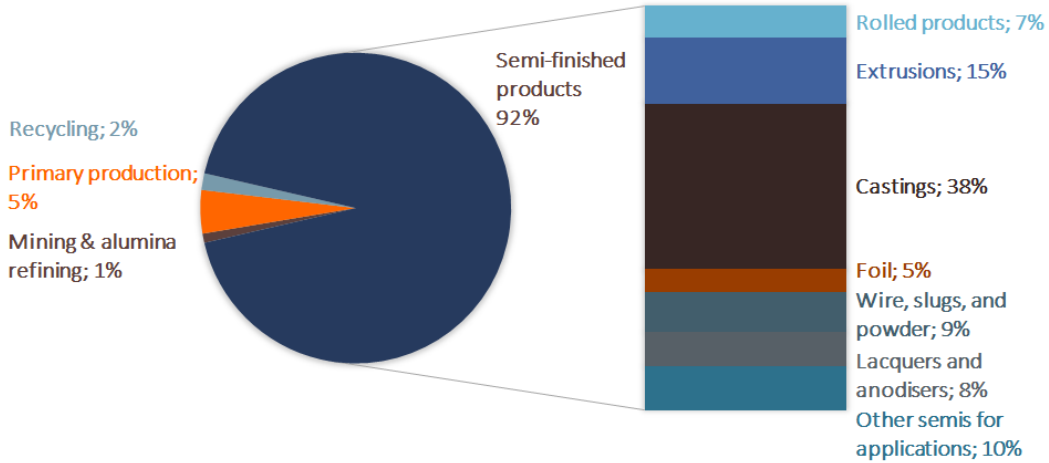


Figure 3: Total employment in the EU aluminium industry by segment



Source: Authors' own elaboration on European Aluminium

The EU production of primary aluminium

Figure 4: Global primary production of aluminium in 2000 (inner ring) and in 2017 (outer ring)

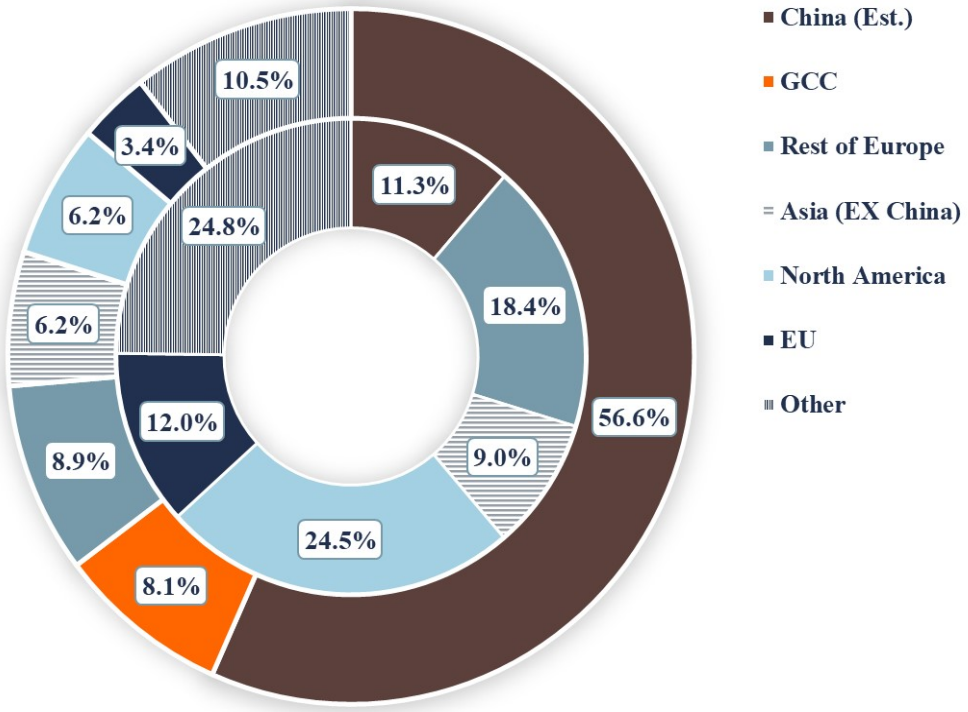


Table 1: EU production of primary aluminium (thousand tonnes)

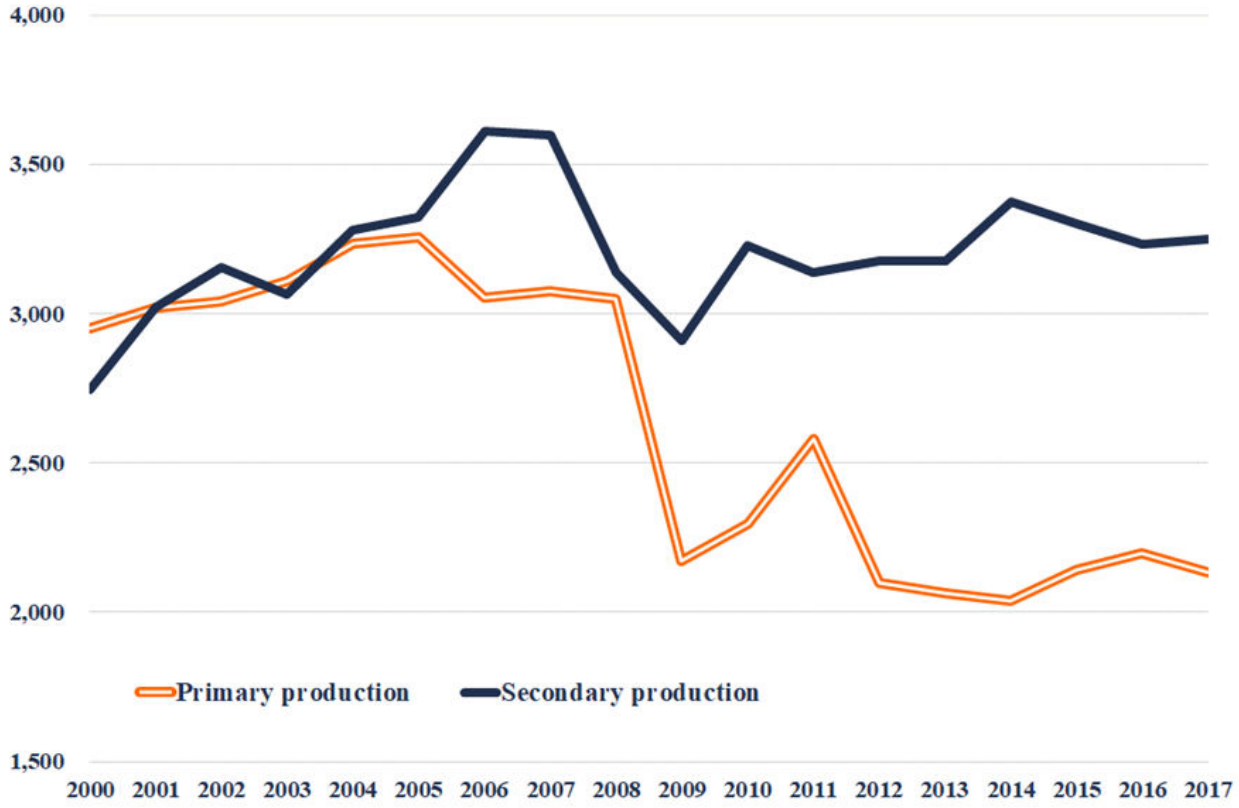
Country	2000	2005	2010	2015	2016	2017	Δ 00-17
Germany	644	643	401	542	548	535	-17%
France	441	442	357	419	425	416	-6%
Spain	365	397	366	349	353	337	-8%
UK	305	366	186	47	46	40	-87%
Netherlands	302	334	214	31	57	36	-88%
Italy	189	193	135	0	0	0	-100%
Romania	179	244	207	207	208	210	17%
Greece	163	165	135	176	182	181	12%
Slovakia	110	159	163	171	174	174	58%
Sweden	100	103	93	116	123	123	23%
Slovenia	75	121	41	84	84	84	11%
Poland	45	55	0	0	0	0	-100%
Hungary	34	36	0	0	0	0	-100%
Total	2,951	3,256	2,298	2,141	2,199	2,135	-28%

The global positioning of primary aluminium production changed. China's role has increased substantially to the detriment of North America and the EU.

Since 2008, the EU's production of primary aluminium shrank by 30%. Some producing countries, such as Italy, the UK, and the Netherlands, significantly curtailed or definitively ceased their production.

Aluminium recycling and remelting

Figure 5: EU primary and secondary production of aluminium, 2000-2017 (thousand tonnes)



Since 2004, the EU has produced more secondary than primary aluminium. As of 2017, however, secondary aluminium output has not yet matched pre-crisis levels.

The United States, Japan, and EU are major producers of secondary aluminium, although China is rapidly increasing its recycled aluminium output. Japan has decided to definitively cease producing primary aluminium and to focus on secondary production.

The EU production of semi-finished products

Table 2: Production of semi-finished aluminium products, by countries and product categories, 2012– 17 (thousand tonnes)

Region/Country	2012	2013	2014	2015	2016	2017	Δ 12-17	CAGR
North America	9,489	9,684	10,138	10,398	10,550	10,585	12%	2.2%
USA	*7,968*	*8,101*	*8,427*	*8,615*	*8,723*	*8,698*	*9%*	*1.8%*
Canada	*684*	*693*	*717*	*771*	*778*	*793*	*16%*	*3.0%*
Mexico	*837*	*890*	*994*	*1,012*	*1,049*	*1,095*	*31%*	*5.5%*
EU	9,544	9,557	9,907	10,112	10,425	10,760	13%	2.4%
Germany	*3,144*	*3,200*	*3,352*	*3,418*	*3,478*	*3,526*	*12%*	*2.3%*
Italy	*1,879*	*1,838*	*1,824*	*1,906*	*1,969*	*2,095*	*11%*	*2.2%*
Other Europe	2,533	2,646	2,675	2,658	2,728	2,952	17%	3.1%
Russian Federation	*1,029*	*1,056*	*988*	*916*	*925*	*967*	*-6%*	*-1.2%*
Total Asia	35,000	38,426	41,720	43,623	46,646	51,915	48%	8.2%
China	*24,619*	*27,835*	*30,468*	*32,045*	*34,614*	*39,096*	*59%*	*9.7%*
Japan	*3,379*	*3338*	*3,447*	*3,382*	*3,405*	*3,527*	*4%*	*0.9%*
India	*1,562*	*1,562*	*1,658*	*1,737*	*1,864*	*1,921*	*23%*	*4.2%*
Rest of Asia	*3,625*	*3,805*	*4,033*	*4,209*	*4,321*	*4,445*	*23%*	*4.2%*
Middle East	*1,815*	*1,886*	*2,068*	*2,245*	*2,442*	*2,925*	*61%*	*10.0%*
Australasia	423	421	367	227	223	172	-59%	-16.5%
Africa	693	682	711	728	800	900	30%	5.4%
Central & South America	1,595	1,666	1,608	1,500	1,408	1,462	-8%	-1.7%
Total	58,618	62,431	66,413	68,451	71,828	77,753	33%	5.8%

Product	2012	2013	2014	2015	2016	2017	Δ 12-17	CAGR
Extrusions	22,521	24,387	25,949	26,725	28,112	29,695	32%	5.7%
FRPs	20,417	21,596	22,999	23,716	24,802	26,253	29%	5.2%
Castings	15,679	16,447	17,465	18,010	18,913	21,805	39%	6.8%
Total	58,618	62,431	66,413	68,451	71,828	77,753	33%	5.8%

Global manufacturing of extrusions, FRPs and castings more than doubled in 2000-2017 (with China now representing around 50% of global output)

The EU production of FRPs and castings has increased in 2000-2017, but at a significantly slower pace than at the global level. In 2017, the EU production of extrusions was below 2000 levels, although global production tripled in the same period.

As a result, the EU's share in global manufacturing of semi-finished aluminium products has constantly declined, from 29% in 2000 to 14% in 2017.

Germany, Italy, and France largest producers of semis in the EU (about 62% of the EU's total output in 2017).

Trade flows of unwrought aluminium products

EU imports of unwrought aluminium increased significantly in 2000-2017 (imports in 2017 were 69% higher than in 2000). The trade deficit of unwrought aluminium thus steadily worsened.

Figure 6: EU imports and exports of unwrought aluminium, in thousand tonnes, 2000-2017

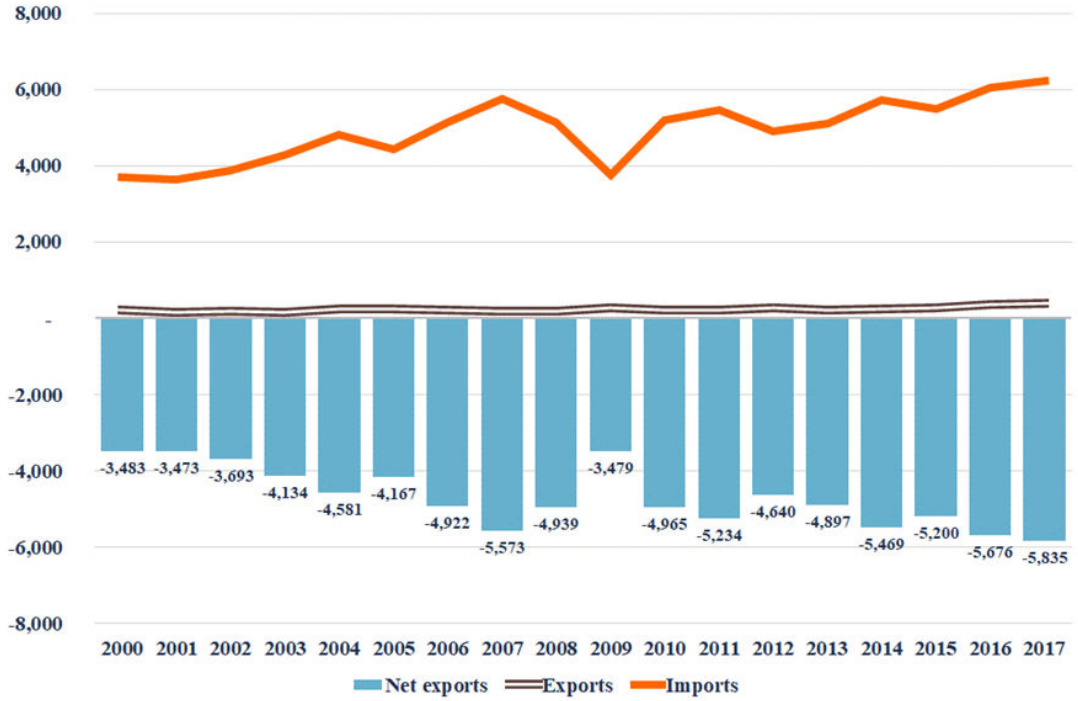
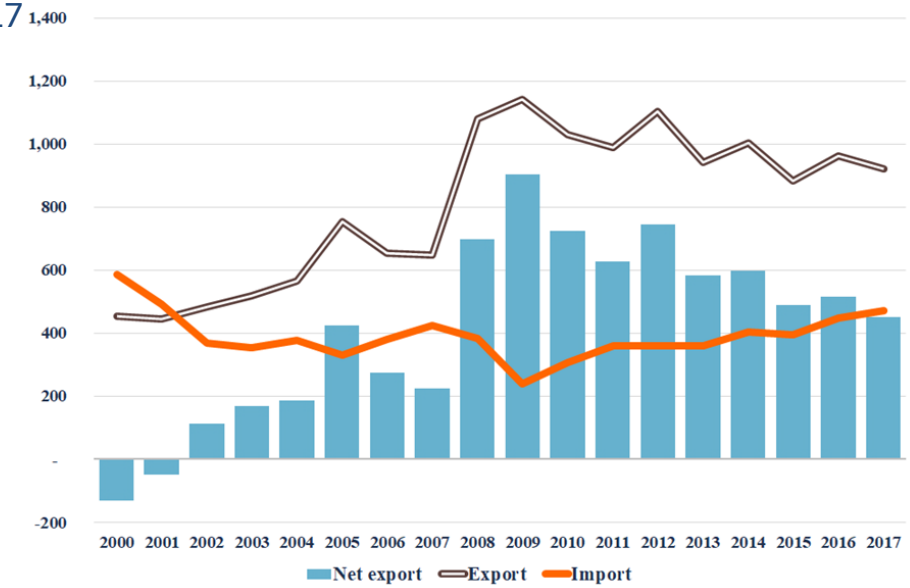


Figure 7: EU net exports of aluminium waste and scrap, in thousands of tonnes, 2000-2017

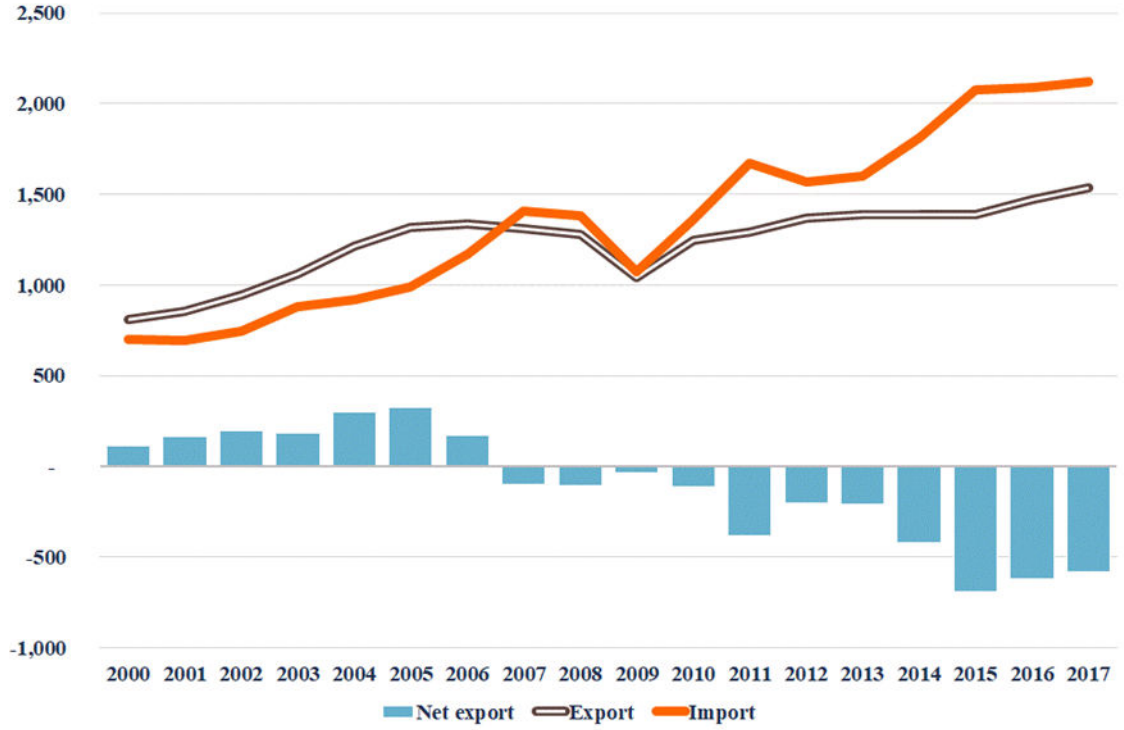


A trade surplus characterised the aluminium waste and scrap sector since 2002.

This represent an outflow of raw materials to Asian countries, such as China and India), although of low quality and very expensive to sort and process.

Trade flows of semi-finished products

Figure 8: EU net exports of semi-finished products, in thousands of tonnes, 2000-2017



The EU trade balance in semi-finished products has deteriorated in 2000-2017.

Structurally being a net exporter, the EU experienced an increasing trade deficit (FRPs account for about 70% of the EU imports of semis).

The EU's reliance on imported aluminium extrusions grown rapidly in recent years. In 2017, the EU net imports of aluminium extrusions were more than five times higher than in 2000.

The EU currently a net importer of castings (including aluminium road wheels as one of the main product categories).

Much of the growth of EU imports due to the increase of Chinese exports to the EU (in 2017, extrusions imported from China about 36 times higher than in 2000, FRPs increased by 20 times, castings by 46 times).

3. The EU trade policy

EU trade policies to support the aluminium industry

No coherent industrial policies exists in the EU. The task of supporting the aluminum industry in the EU has been mainly left to trade policy.

A complex system of import tariffs currently applies to unwrought and wrought aluminium products

- The import tariffs on unwrought aluminium mainly justified by the need to prevent EU smelters from reducing their production or even shutting down their facilities
- To avoid distorting competitive conditions for industries further down the value chain, import tariffs have been set also for aluminium semi-finished products and aluminium finished good

Table 3: MFN import tariffs for unwrought aluminium

Product category	HS Code	Code description	MFN Applied tariff (%)	EU law (Regulation No.)
Unwrought aluminium	76.01.100000	Aluminium, not alloyed	3	R0705010
	76.01.202090	Aluminium alloys, Slabs and billets, Other*	4	R1623900
	76.01.208000	Aluminium alloys (other)	6	R9720860

* MFN Applied tariff for Aluminium alloys, Slabs and billets containing lithium (*HS Code* 76.01.202010) is 0 % (EU Regulation No. R1623900)

Source: Authors based on European Commission, Market Access Database and WTO Tariff Download Facility

4. The impact of EU import tariffs on unwrought aluminium

Assessing EU trade measures on primary aluminium

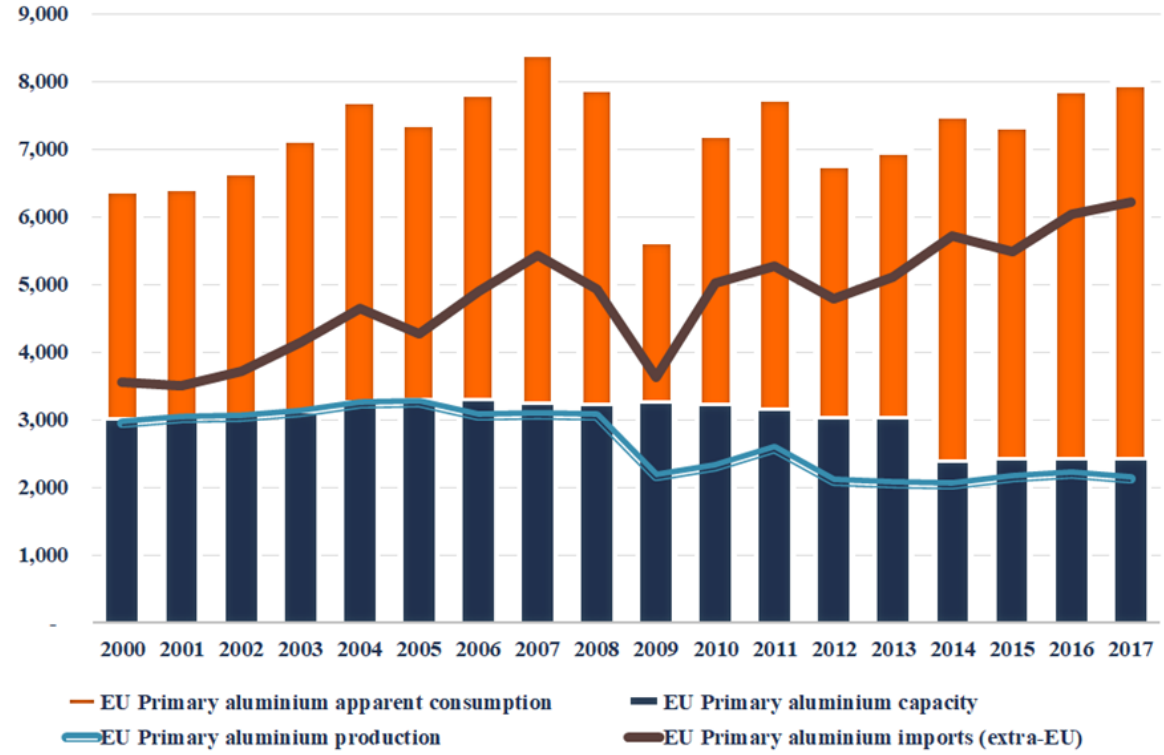
The EU import tariffs on unwrought aluminium have been ineffective to sustain primary aluminium production

The EU production of primary aluminium decreased significantly because of major curtailments and shutdowns of smelters (and disinvestment is almost certain to continue). More than 11,300 jobs were lost in the upstream segment, including in the alumina and metal supply sectors, in the period 2002-2015.

In 2017, the EU primary aluminium production is about 27% of the apparent consumption. The total installed smelting capacity in the EU equals to 30% of the EU's apparent consumption in the same year.

The increasing demand for primary aluminium has been met by rising imports (dependence on imports has thus steadily increased)

Figure 10: Apparent consumption, installed capacity, production, and imports of primary aluminium in the EU28 ('000 tonnes)



Source: Authors on CRU Group and Eurostat ComExt database

Assessing EU trade measures on downstream producers

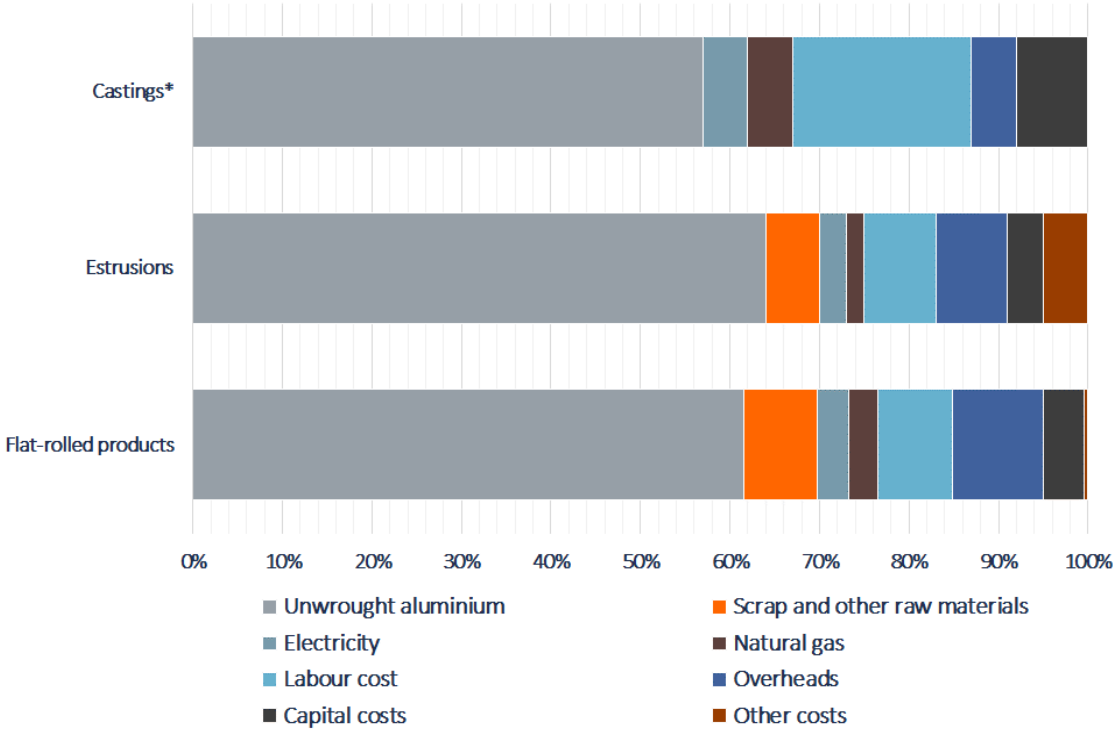
The price increase induced by import tariffs imposes extra costs on companies operating in segments further down the value chain, especially downstream transformers not able to pass through the increase in price

The increasing demand for semi-finished aluminium products (CAGR: 3%) growingly met by rising imports in 2000-2017, as EU production increased at a slower pace than on the global level

The EU's trade balance constantly worsened in all segments of semi-finished products in 2000-2017

Specialised SMEs inevitably suffered more than vertically integrated companies and those characterized by long-standing customer relationships with end-user industries

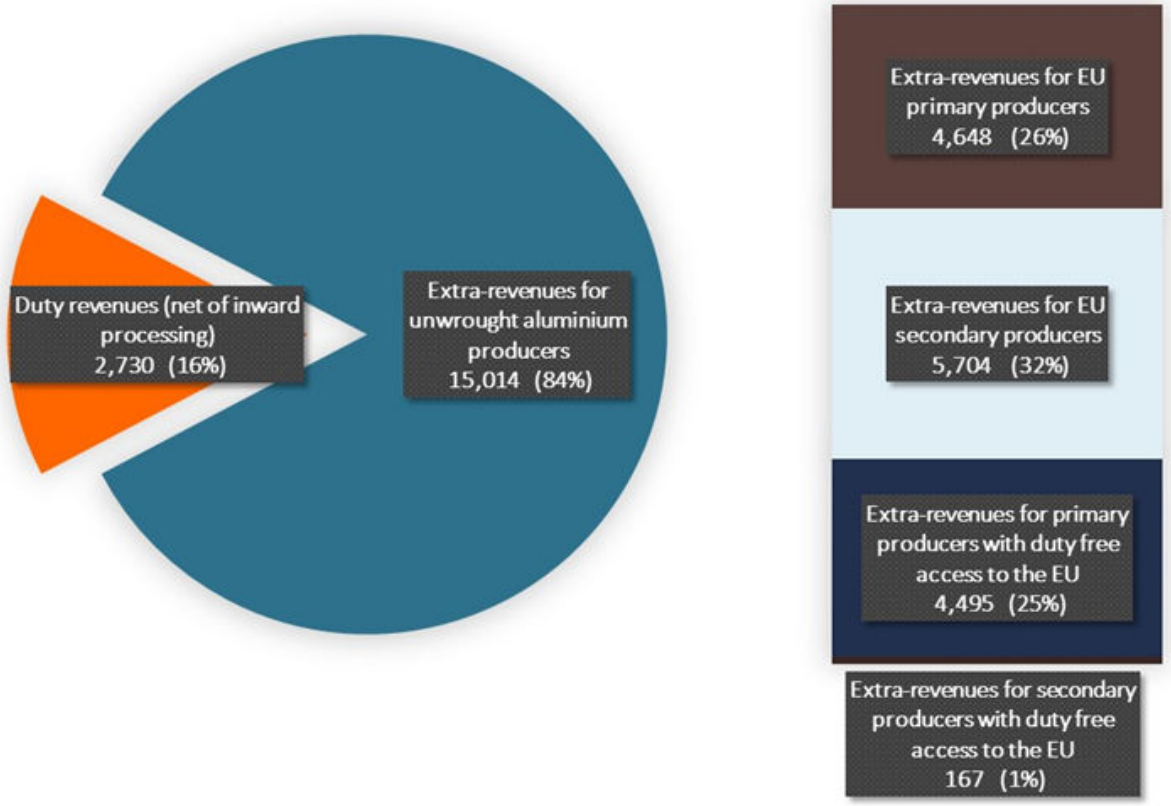
Figure 11: The cost structure of typical downstream producers



** Figures refer to the typical cost structure of car wheels manufacturers. However, the cost structure of single casters may vary substantially. The weight of unwrought aluminium costs, in percentage of the total cost, ranges from 50% to 65%.*
Source: Authors on GRIF (2015)

Estimating the overall impact on downstream transformers

Figure 9: Upper Bound Scenario. Breakdown of the extra revenues for EU and extra-EU primary and secondary aluminium producers stemming from EU import tariffs on unwrought aluminium (2000-2017, € million – real 2018)



Source: Authors on CRU Group and Eurostat ComExt database

The cumulative extra cost of the tariff for unwrought aluminium for EU downstream producers can be estimated up to 17.8 billion euros over the period 2000-2017 (net of inward processing)

The price increase induced by import tariffs represents a net transfer of financial resources to upstream activities

As a result, EU import tariffs on unwrought aluminium resulted in additional revenues for EU primary and secondary producers, as well as additional incomes of primary producers with duty-free access to EU internal market

5. Industrial policy recommendations

Industrial policies for the aluminium industry

The competitive advantage of the EU aluminium value chain lies in the technological leadership of the downstream activities

- The downstream producers can rely on unique know-how and significant learning economies, they have able to innovate and to improve the quality as well as the environmental performance of their products
- The downstream is the segment that produce development at the local level, and also represents the main source of employment
- About 70% of the annual turnover and nearly 92% of the total employment of the EU aluminium industry are currently generated in the downstream segment of the value chain

From a broader industrial policy perspective, it is thus essential to provide all the right support to maintain this leadership and possibly reinforce the economic and industrial competitiveness of firms producing semi-finished products and using aluminium products

Industrial policies for the upstream

Abolishment of import tariffs on unwrought aluminium

- A customs duty on unwrought aluminium should not be regarded as the right policy instrument, as it artificially raises downstream costs without offering any appreciable results in supporting upstream production

[If regarded as strategic for the EU economy] government intervention to avoid being totally dependent on imports

- The maintenance of primary aluminium production can be justified only through recognising its strategic value for the entire EU economy

Appropriate support schemes other than customs duties for the promotion of secondary aluminium

- e.g. by promoting innovative sorting and separation technologies, consistent product design, etc. and by creating incentives for the secondary raw materials produced in the EU to be increasingly recycled and reused domestically

Industrial policies for the downstream

Policy measures are needed other than simply reducing the costs these firms incur while procuring the inputs and intermediates

Incentives to invest in maintaining the technological leadership and environmental performances of downstream transformers

- The removal of import tariffs on unwrought aluminium would generate additional financial resources (estimated between 530 million and 1 billion euros per year) for EU downstream transformers' investments
- Incentives should be primarily directed at expanding their innovative, research and technological capacities, developing high-performance solutions for end-user industries, improving their sustainability in a circular economy perspective

Promote the collaborations and the relationships with end-user industries

- Contraction of production or relocation offshore of relevant end-user industries (particularly automotive, transport, machinery and construction) pose a threat to the EU downstream industry especially to those players focused on one single customer industry and on a limited number of customers within that industry

Authors and contributors

Professor Ernesto Cassetta, University of Udine, GRIF “Fabio Gobbo”, ecassetta@luiss.it

Professor Umberto Monarca, University of Foggia, GRIF “Fabio Gobbo” , umonarca@luiss.it

Professor Cesare Pozzi, LUISS University, GRIF “Fabio Gobbo” – Project team leader, cpozzi@luiss.it

Professor Davide Quaglione, D’Annunzio University of Chieti-Pescara, GRIF “Fabio Gobbo”, dquaglione@luiss.it

Professor Alessandro Sarra, D’Annunzio University of Chieti-Pescara, GRIF “Fabio Gobbo”, asarra@luiss.it

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