THE CHARACTERISTICS OF EU DOWNSTREAM ALUMINIUM INDUSTRY

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The paper is the synthesis of the study of GRIF, GRUPPO DI RICERCHE INDUSTRIALI E FINANZIARIE "Fabio Gobbo", LUISS University of ROME

"THE EUROPEAN UNION ALUMINIUM INDUSTRY:
EU TRADE POLICIES AND THE COMPETITIVENESS OF THE DOWNTSREAM SECTOR"

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The study is part of a project started on 2014, funded with support from FACE, **The Federation of Aluminium Consumers in Europe**, with the aim of establishing a constructive and transparent exchange of views on the aluminium industry in the E U with a specific focus on trade policies, and to provide industrial policy recommendations to foster the competitiveness of the downstream segments at global level.

THE FIRST LUISS STUDY

A high level meeting took place on the prestigious Concert Noble Hall in rue d'Arlon in Brussels, on January 28th, 2016, organized by the GAC, Gulf Aluminium Council, in cooperation with FACE, presenting the first step of the study, and stressing the strongly negative effects of EU aluminium import tariff on raw metal

LIBERA UNIVERSITÀ INTERNAZIONALE DEGLI STUDI SOCIALI "GUIDO CARLI"

CENTRO DI RICERCA DI ECONOMIA INDUSTRIALE E FINANZA "FABIO GOBBO"

THE IMPACT OF EU POLICIES ON THE COMPETITIVENESS OF THE EU ALUMINIUM INDUSTRY: A FOCUS ON NON-INTEGRATED DOWNSTREAM USERS

ROME, JANUARY 2015

OUR PAPER FROM THE LUISS STUDY

We will present the framework of the European aluminium system in the world context, highlighting the trends of recent years in the raw metal flows and mainly in the downstream. We will focus our attention on the trends of primary balance in the EU and on the trends of first transformations extrusion, rolling, foundry casting. The emerging trends will be related to with the present tariff charges from the EU for the import of raw metal.

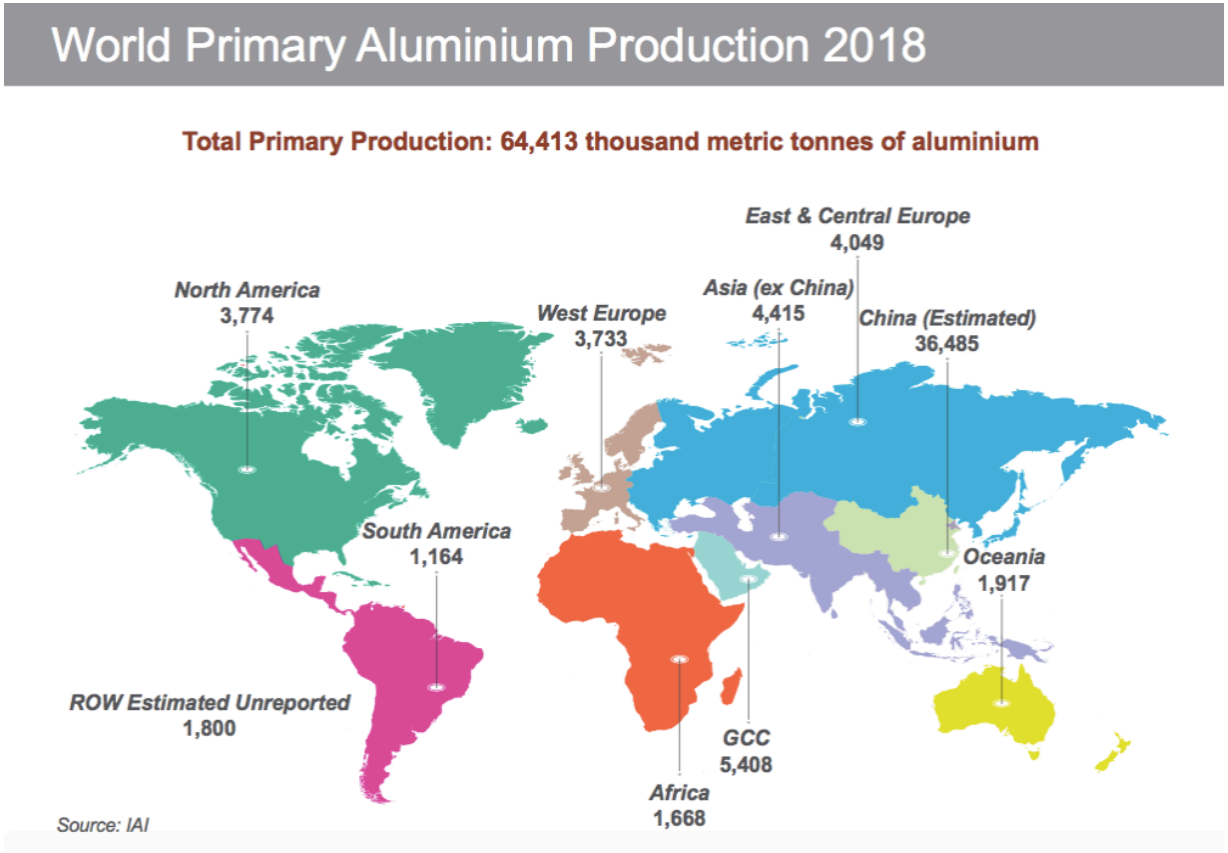
Table 1 : Global production of primary aluminium (t x 1,000)

Region[8]	2000	2005	2010	2015	2016	2017	00-17
Africa	1,178	1,753	1,742	1,687	1,691	1,679	43%
Asia (EX China)	2,221	3,139	2,500	3,001	3,442	3,951	78%
GCC	ND	ND	2,724	5,104	5,197	5,149	89%*
China (Est.)	2,794	7,806	17,331	31,518	32,641	35,905	1185%
North America	6,041	5,382	4,689	4,469	4,027	3,950	-35%
South America	2,167	2,391	2,305	1,325	1,361	1,378	-36%
European Union	2,951	3,256	2,298	2,141	2,199	2,135	-28%
Rest Of Europe	4,539	5,290	5,755	5,433	5,561	5,640	31%
Oceania	2,094	2,252	2,277	1,978	1,971	1,817	-13%
ROW est. Unreported	672	636	732	1,080	1,800	1,800	168%
Total	24,657	31,905	42,353	57,736	59,890	63,404	157%

** The GCC percentage value refers to the period 2010-2017.*
Source: authors' elaboration on World Aluminium and CRU Group

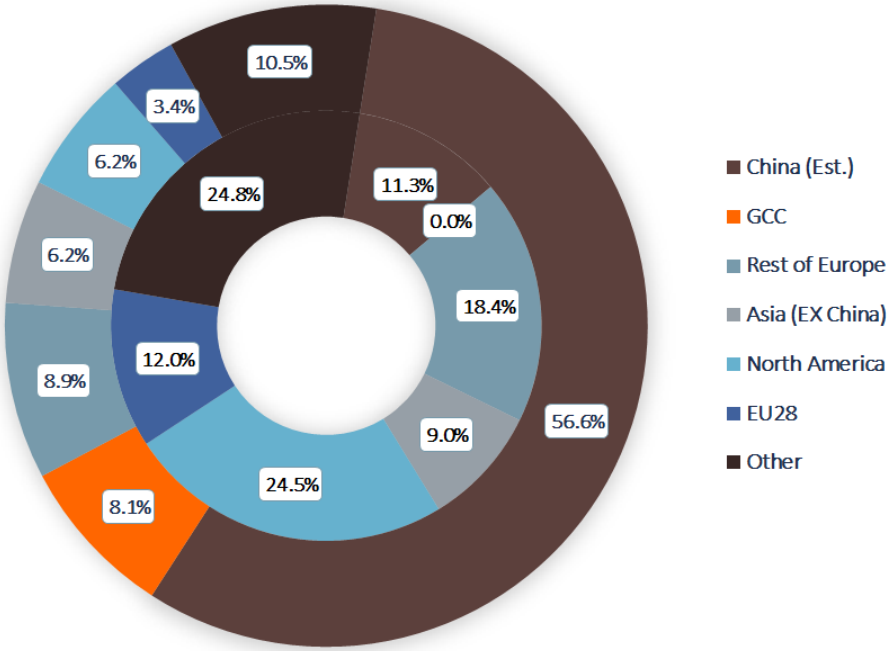
*Source: **authors' elaboration on World Aluminium and CRU Group***

Figure 1: Global production of primary aluminium in 2018



Source: IAI

Figure 2: Global production of primary aluminium in 2000 (inner ring) and in 2017 (outer ring)



Source: authors' elaboration on World Aluminium and CRU Group

Region/Country	2012	2013	2014	2015	2016	2017	Δ 2012-2017	CAGR
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%
North America	9,489	9,684	10,138	10,398	10,550	10,585	12%	2.2%
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%
EU	9,544	9,557	9,907	10,112	10,425	10,760	13%	2.4%
Russia	1,029	1,056	988	916	925	967	-6%	-1.2%
Other Europe	2,533	2,646	2,675	2,658	2,728	2,952	17%	3.1%
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%
Total Asia	35,000	38,426	41,720	43,623	46,646	51,915	48%	8.2%
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 2012-2017	CAGR
Extrusions	22,521	24,387	25,949	26,725	28,112	29,695	32%	5.7%
Flat-Rolled Products	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%

Source: CRU Group

Table 3:

Global aluminium semis production (t x 1,000)

Source: authors' elaboration on CRU

Table 4: Total EU production of primary aluminium (t x 1,000)

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%

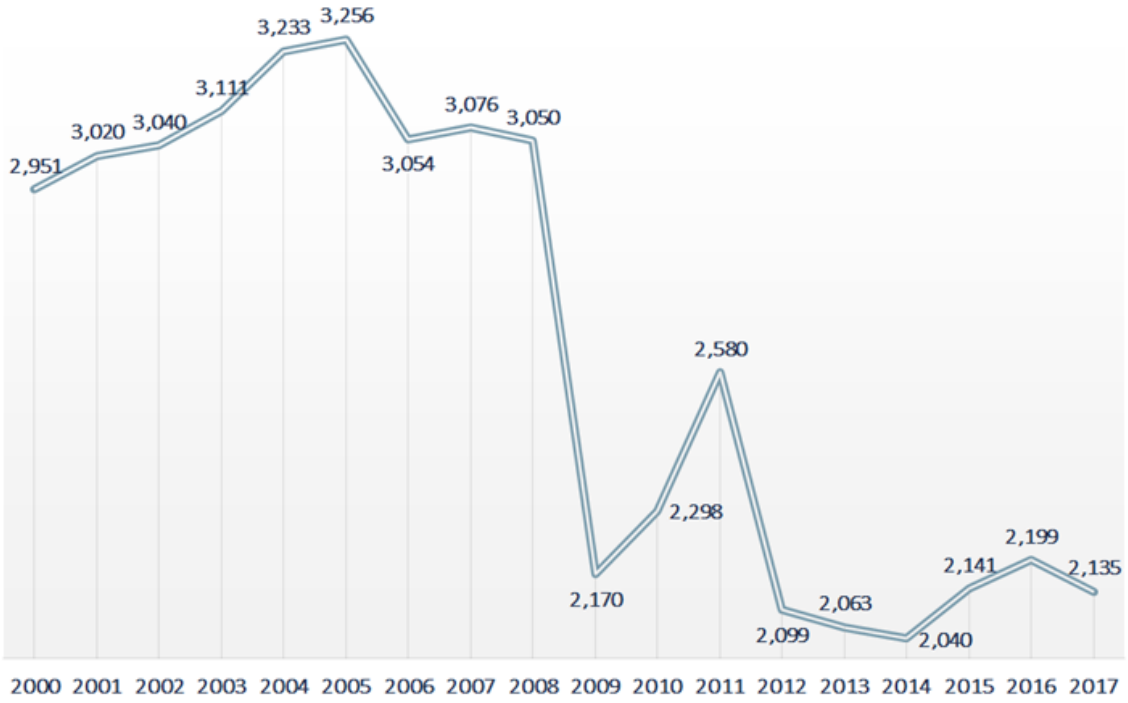
Source: CRU Group

The big deficit of primary aluminium in EU

With a production of primary aluminium which has strongly declined in recent years (-30 percent since 2008), the EU aluminium industrial chain value, with a dependency on primary metal about 73%, strongly depends on reliable and competitive foreign production of metal (purchases of unwrought aluminium are not less than 50% of total production costs for downstream transformers)

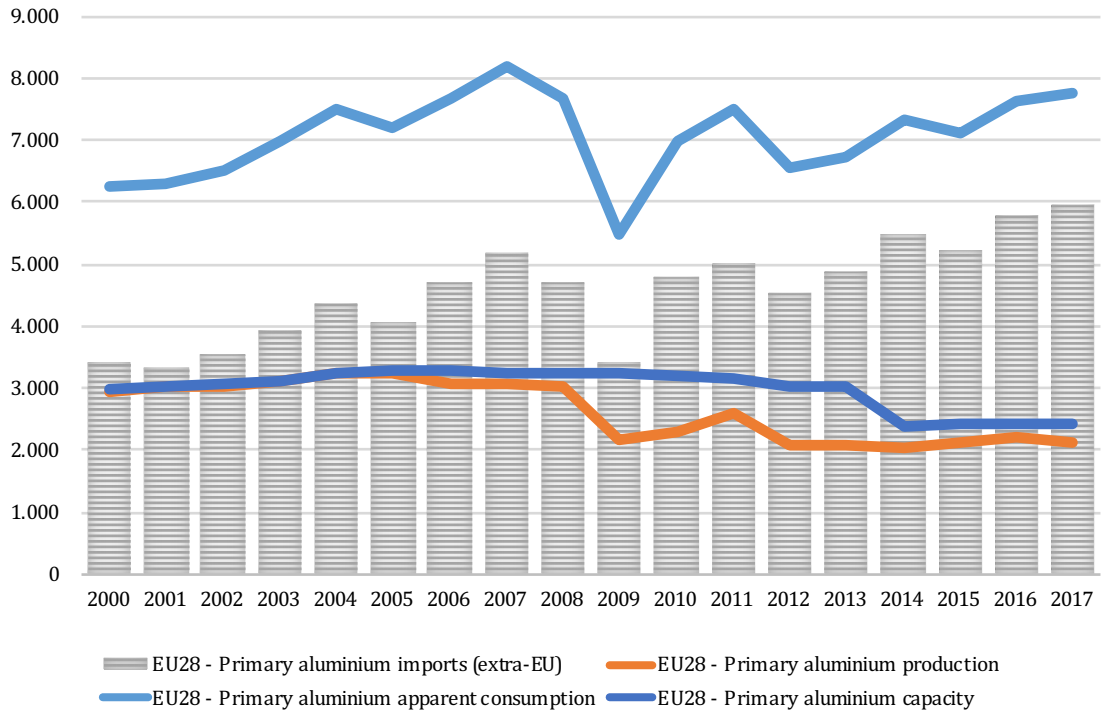
Source: CRU Group

Figure 4: Production of primary aluminium in the EU (x 1,000)



Source: authors elaboration on CRU Group data

Figure 3: Primary aluminium balance in EU



*Source: **authors' elaboration on CRU Group data***

Table 5: Primary aluminium imports in EU by countries (t x 1,000)

Country	2000	2005	2010	2015	2016	2017	Δ 00-17
Russia	1,166	821	755	1,228	1,399	1,402	20%
Norway	1,070	1,492	1,455	1,209	1,303	1,322	24%
Iceland	199	260	772	304	688	816	310%
UAE	108	108	206	564	612	612	467%
Mozambique	12	568	659	488	519	511	4158%
India	0	0	3	52	45	220	-
Bahrain	9	15	115	59	76	132	1367%
Egypt	45	76	80	91	109	116	158%
South Africa	24	31	26	69	54	110	358%
Bosnia and Herzegovina	73	132	122	72	104	94	29%
Others	835	695	757	1,086	855	632	-24%
Total	**3,541**	**4,199**	**4,951**	**5,222**	**5,764**	**5,968**	**69%**

*Source: **authors' elaboration on World Aluminium and CRU Group***

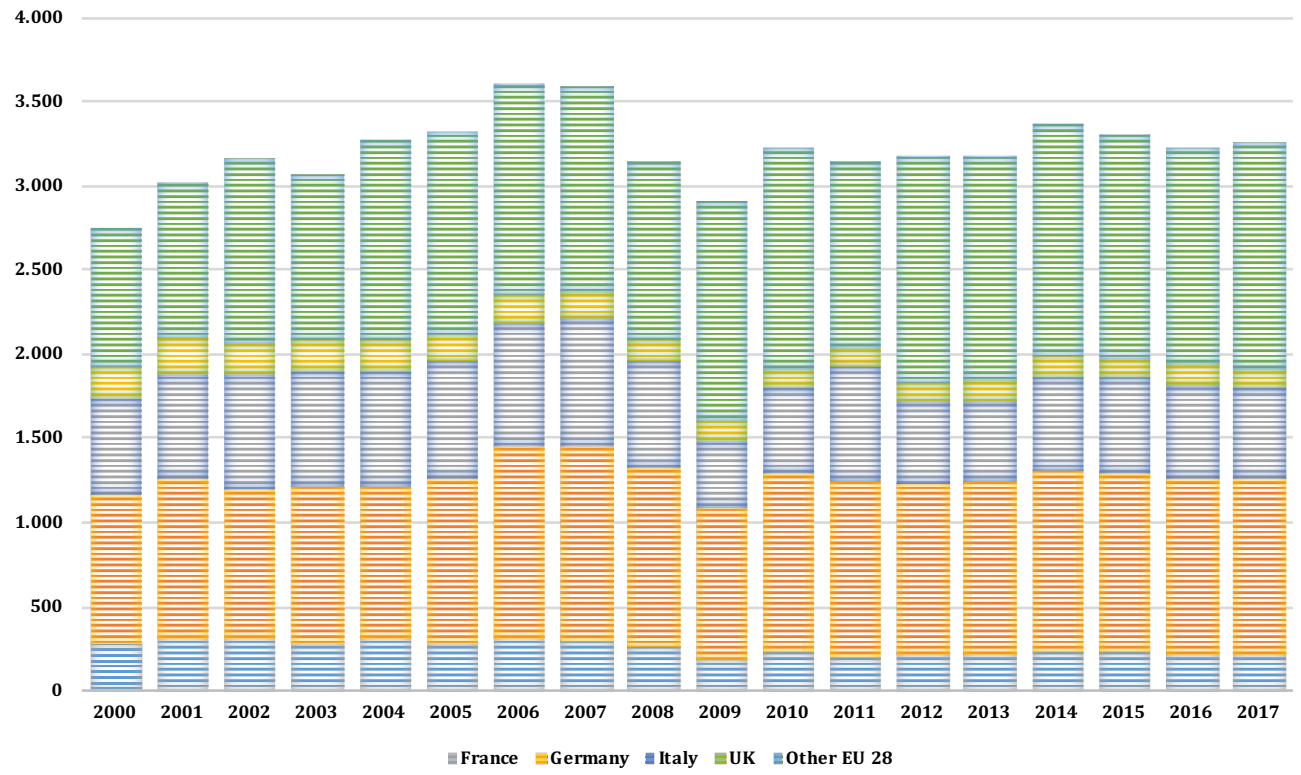
Table 6: EU Production of semi-finished aluminium products, by countries and product categories (t x 1,000)

Region/ Country	2000	2007	2012	2013	2014	2015	2016	2017	Δ 2000-2017	CAGR
France	983	988	981	955	982	1,005	1,044	1,052	7%	0.4%
Germany	2,632	3,432	3,240	3,284	3,463	3,497	3,544	3,590	36%	1.8%
Italy	1,628	1,884	1,740	1,724	1,750	1,738	1,774	1,847	13%	0.7%
Spain	632	875	708	710	735	761	810	822	30%	1.6%
UK	638	484	294	321	331	320	332	362	-43%	-3.3%
Other countries	2,888	4,150	3,117	3,144	3,297	3,277	3,380	3,552	23%	1.2%
TOTAL	9,124	11,483	9,671	9,722	10,113	10,203	10,479	10,794	18.3%	1.0%

Product	2000	2007	2012	2013	2014	2015	2016	2017	Δ 2000-2017	CAGR
Extrusions	2,797	3,850	2,749	2,684	2,791	2,666	2,712	2,767	-1%	-0.1%
Flat-Rolled Products	3,796	4,440	4,044	4,136	4,228	4,264	4,406	4,503	19%	1.0%

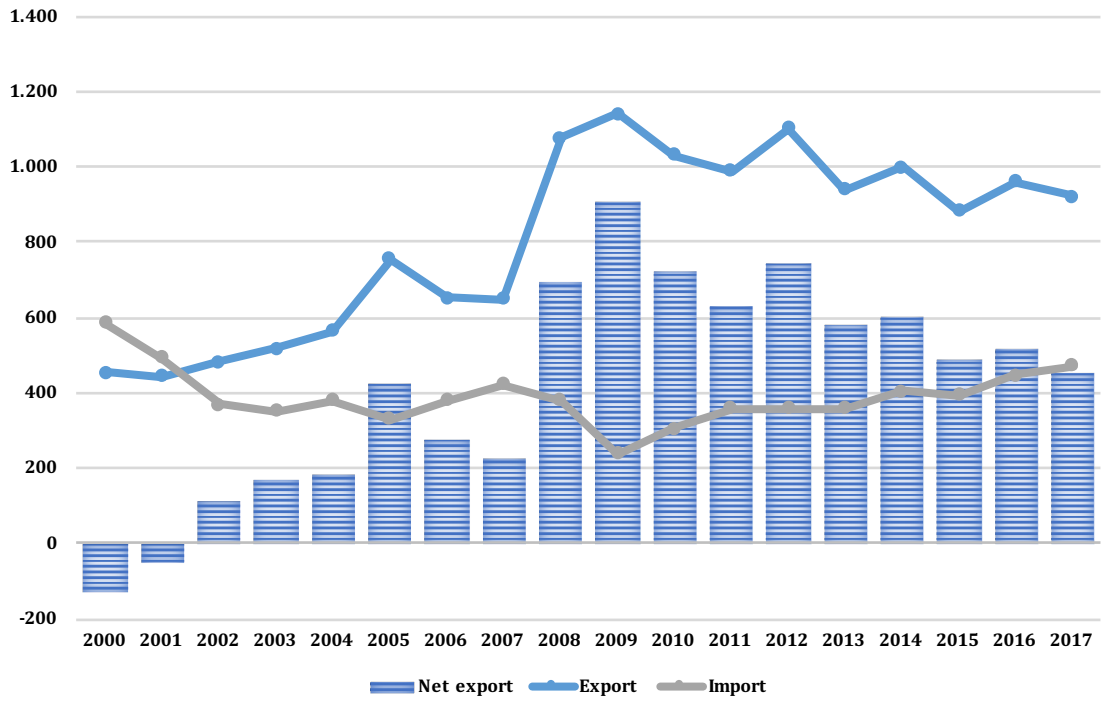
*Source: **elaboration on CRU Group data***

Figure 4: Estimated secondary aluminium production for EU countries (t x 1,000)



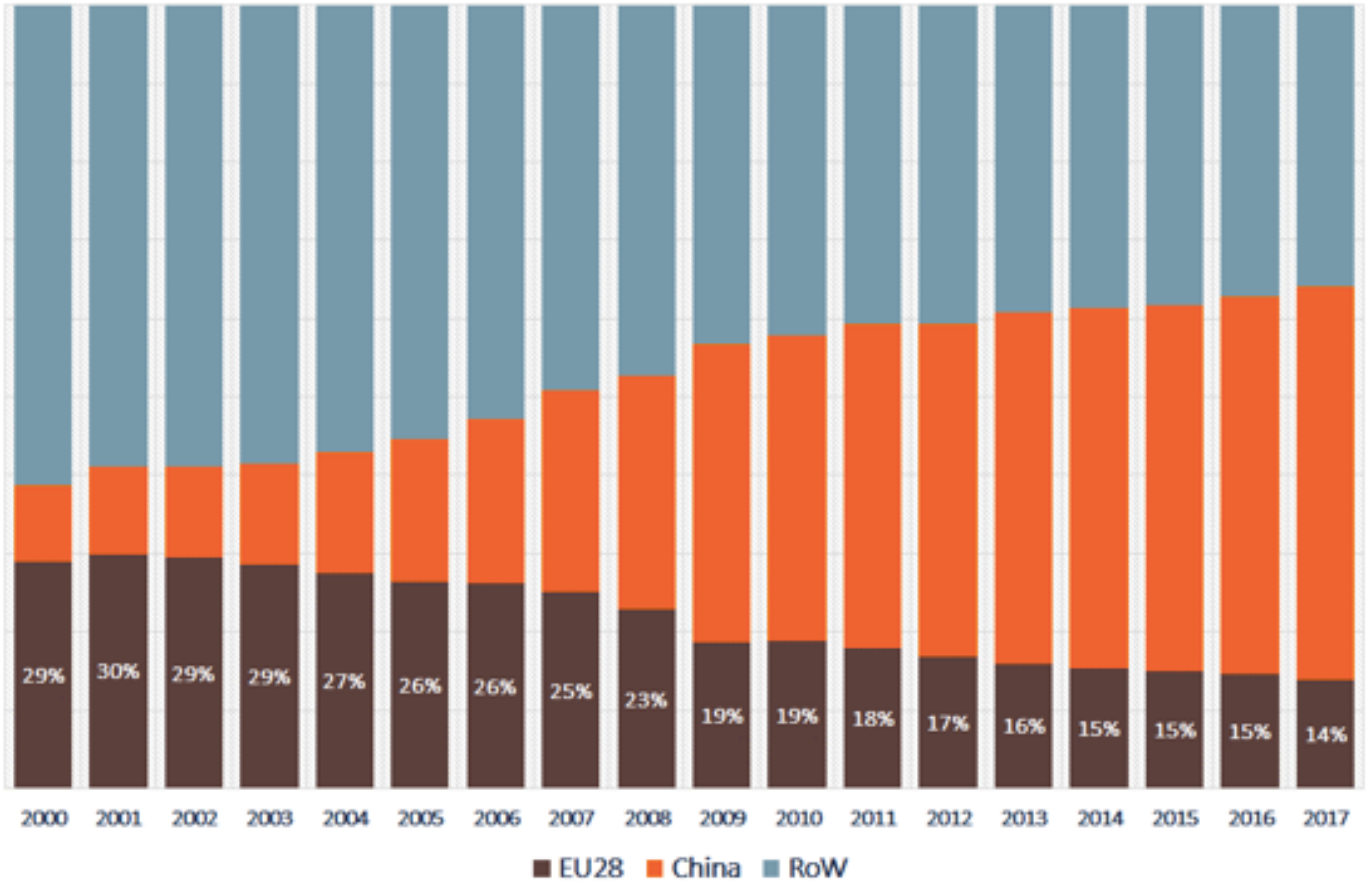
Source: CRU Group

Figure 5: Estimated secondary aluminium balance in EU (t x 1,000)



Source: elaborazioni su dati Eurostat ComExt database

Figure 6: EU share of the global production of semi-finished aluminium products (%)



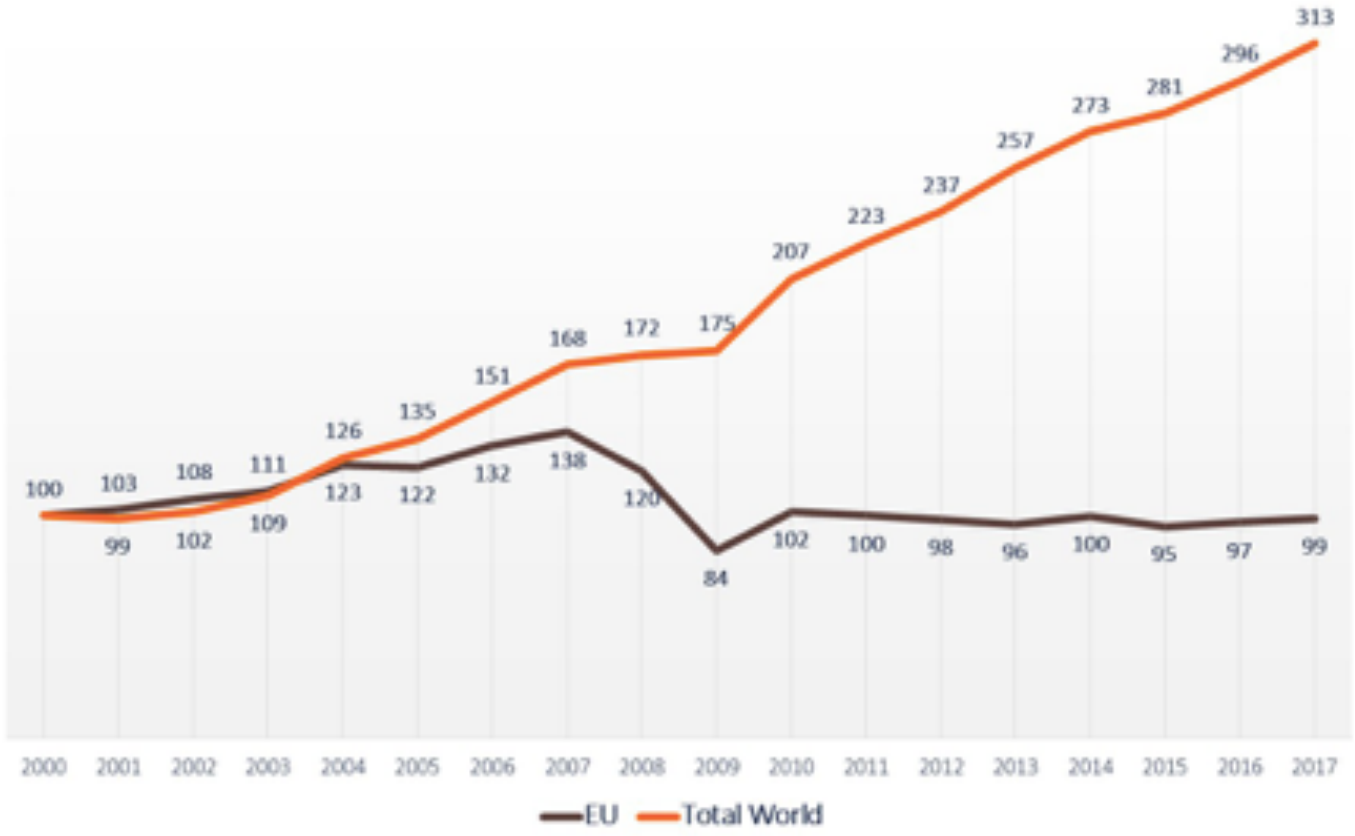
Source: CRU Group

Figure 7: EU share of the global production of semi-finished aluminium products (%)

In the global contest, the share of aluminium consumption in the EU progressively decreased from 29% in 2000 to 14 % in 2017. The competitiveness of downstream transformers, especially SMEs, has progressively deteriorated in the past years. In 2017, the EU production of aluminium extrusions **was below** the levels of 2000, although global production has tripled in the same period. In aluminium rolling and aluminium casting industries, production has increased compared to 2000, but at a significantly slower pace than at the global level.

*Source: **CRU Group***

Figure 7: **Production of aluminium extrusions in EU (2000=100)**



Source: ***CRU Group***

Table 7 : EU production of aluminium extrusions, by countries (t x 1,000)

Region/Country	2000	2007	2012	2013	2014	2015	2016	2017	Δ 2000-2017	CAGR
France	190	137	139	130	144	150	149	150	-21%	-1.4%
Germany	484	615	536	540	574	570	570	584	21%	1.1%
Italy	481	567	543	500	487	523	549	607	26%	1.4%
Spain	310	491	396	370	347	362	387	381	23%	1.2%
UK	184	114	86	89	89	78	78	84	-54%	-4.5%
Other countries	1,148	1,927	922	890	944	893	925	927	-19%	-1.3%
TOTAL	2,797	3,850	2,622	2,519	2,585	2,576	2,658	2,733	-1%	-0.1%

*Source: **elaboration on CRU Group data***

N.	Company	Number of plants	Capacity 2015	Capacity 2018
1	Hydro Aluminium - Extruded Solutions	34	616,500	631,000
2	Grupa Kety S.A.	2	80,500	93,500
3	Sankyo Tateyama K.K.	4	88,500	89,000
4	Aluminios Cortizo S.A.	6	70,000	86,000
5	Industrija Metalnih Polizdelkov d.d. [Impol]	2	75,500	75,000
6	Eural	1	70,000	70,000
7	Hammerer Aluminium Industries GmbH [HAI]	3	60,500	68,500
8	Metra S.p.A.	3	67,000	64,000
9	Extrusion y Lacados Benavente, S.A. [Exlabesa]	5	54,000	63,500
10	Otto Fuchs Metallwerke K.G.	1	70,000	60,000
11	Alumil S.A.	3	71,500	59,600
12	apt Hiller	2	64,000	59,500
13	Alco Hellas S.A.	6	90,000	53,981
14	All.Co. S.p.A.	4	24,500	50,000
15	OpenGate Capital LLC	2	49,000	45,000
16	BOAL B.V. [BOAL Profielen]	3	46,000	44,500
17	Constellium	3	33,000	44,500
18	Indinvest L.T. S.r.l.	1	31,500	41,500
19	Richter Aluminium GmbH	2	45,000	40,000
20	Erbslöh AG	1	42,000	38,000
Total EU		**247**	**3,812,790**	**3,859,445**

*Source: **elaboration on CRU Group data***

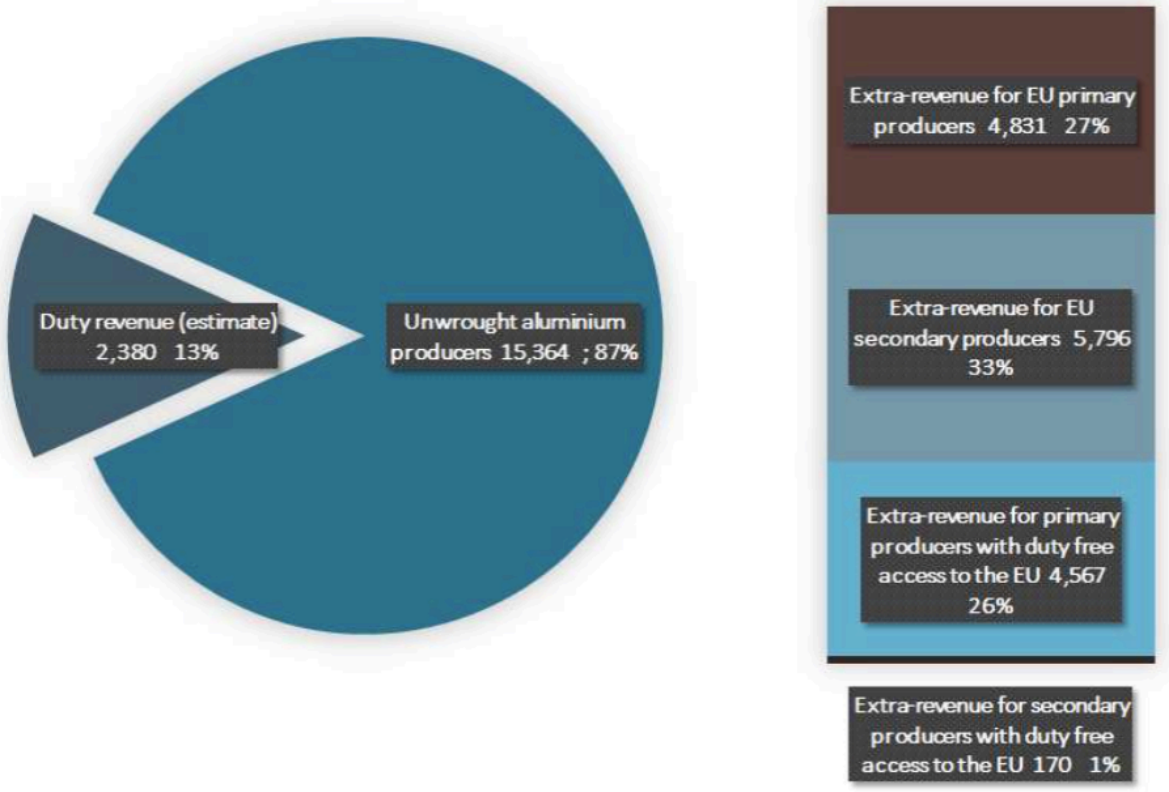
Table 8: Aluminium extrusion top EU companies and production capacity

Table 9: MFN import tariffs for aluminium and articles thereof in the EU (2018)

Product category	HS Code	Code description	MFN Applied tariff (%)	EU law (Regulation No.)
Unwrought aluminium	76.01.100000	Aluminium, not alloyed	3	R0705010
	76.01.202010	Aluminium alloys, Slabs and billets, Slabs and billets containing lithium	0	R1623900
	76.01.202090	Aluminium alloys, Slabs and billets, Other	4	R1623900
	76.01.208000	Aluminium alloys (other)	6	R9720860

Source: Authors based on European Commission, Market Access Database (accessed September 5, 2018) and WTO Tariff Download Facility (accessed September 5, 2018)

Figure 8 : Breakdown of the extra-costs from EU import tariffs on unwrought aluminium. **The cumulative extra-costs for EU downstream transformers over the period 2000 and 2017 (€ billion – real 2018) is 17.8.**



Source: Authors on CRU Group, European Aluminium and Eurostat ComExt database (accessed August 23, 2018)

COMMENTS 1

The aluminium industry has always been present in EU with a large range of activities along the entire value added industrial chain. While the upstream activities have been historically characterized by strong industrial concentration, the downstream segments have mostly consisted of few large vertically integrated companies and a number of small and medium sized enterprises.

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

Extruders, rollers and foundry casters rely on modern technologies and are able to achieve the highest international standards in terms of quality of products and production processes, thus ensuring timely, reliable, and customised supply for many manufacturing processes and end-user industries.

COMMENTS 2

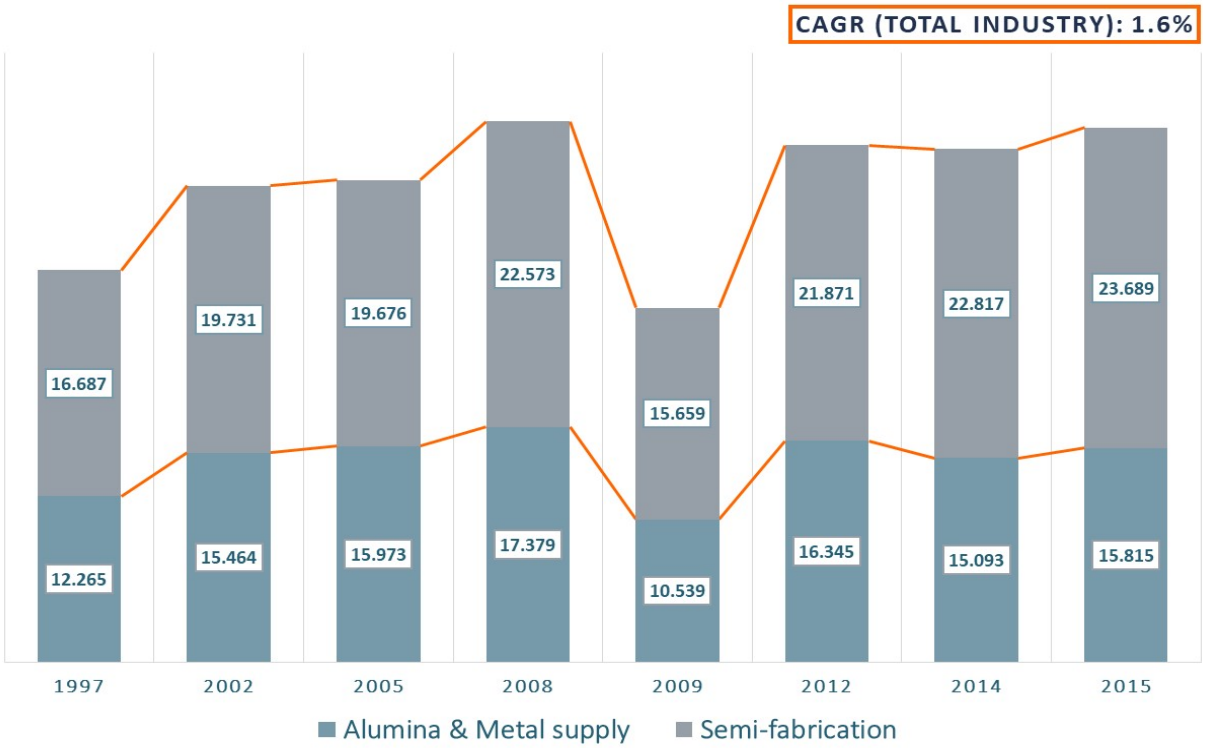
The aluminium downstream sector has progressively became a beacon for the entire aluminium value chain, in particular when accounting for the downsized role of primary producers (see Fig. 9). Furthermore, the aluminium downstream sector accounts for

nearly the 92 percent of the total employment in the whole EU aluminium industry. Accordingly, 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. At the same time, it is fundamental to rebuild the widespread manufacturing competences throughout the entire EU,

thus reversing the current path of industrial desertification

that has interested in particular those territories characterized by weaker geographical proximity relationships with the end-user industries.

Figure 9: Total revenues generated by the European aluminium industry



Source: European Aluminium

COMMENTS 3

In the following, some policy recommendations will be drawn based on report's findings: as main point it is a must to a**bolish import tariffs on unwrought aluminium to reduce downstream costs without bias to the upstream production.**

Lacking raw materials, and with a primary production that has strongly declined in recent years, the EU aluminum industrial value chain strongly depends on foreign production of metal. **Import tariffs inevitably confer a cost disadvantage to EU manufacturers** of semi-finished products compared to foreign competitors; imposing a customs duty on unwrought aluminium increases unitary production costs of the used metal

by about 18 billion euro over the period 2000-2017.

In markets opened to international competition, a coherent policy would require the opposite strategy.

By reducing the price of unwrought aluminium and by widening the sources of supply, the abolition of import tariffs could improve the competitiveness of downstream producers and, as a consequence, reinforce the market position of end- user industries.

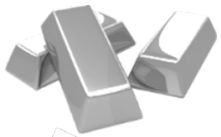
Figure 10 - Final losers are all end-use aluminium products consumers

End-customers of aluminium products suffer the most.
Every customer of beer in EU pays more by USc2 per every 1 can bought due to EU-28 import duty on unwrought aluminium.

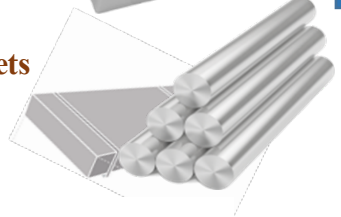
Primary Al production

Unwrought aluminium, not-alloyed

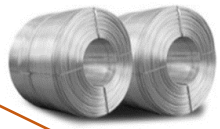
Foundry alloys



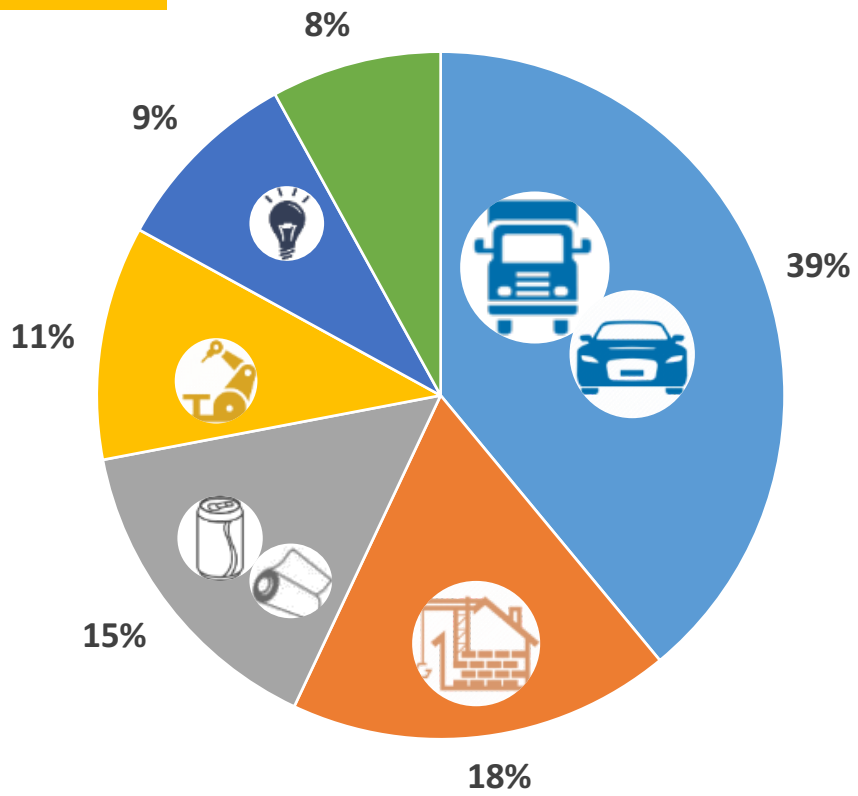
Alloys Slabs and Billets



Wire Rods



Main end-user segments



Source: CRU, Eurostat

COMMENTS 4

The maintenance of the primary aluminium production in EU can only be justified on a strategic reason, and the customs duty should not be regarded as a possible tool for supporting the upstream industry.

As import tariffs on unwrought aluminium have substantially failed to protect unexploited local primary production capacity and to favour an increase in the EU production and export of primary aluminium, one can questioned which policies have to be adopted in upstream activities. . Recent market developments clearly indicate that in the EU context the maintenance of a primary production is not possible except for low shares of the total apparent consumption. What is supposed to happen in SPAIN as to the primary aluminium smelters is very clear. Moreover, recent debates in U S also highlight the increasing relevance of investigating alternative remedies for dealing with the import dependency of strategic industries, such as the aluminium industry, especially in a context characterised by a broad variety of different government interventions. Indeed, government interventions, primarily in the form of energy subsidies and concessional finance, are relatively large in primary aluminium thus influencing the entire value chain.

COMMENTS 5

Improving industrial competitiveness of downstream sector through innovation, research and resource efficiency:

Metal working has a long established tradition in the EU, and EU aluminium downstream producers were able to keep the EU industry profitable despite cost disadvantages. However, industrial policies of many emerging economies are deliberately aimed at scaling up the aluminium value chain, by moving from upstream to downstream activities and to more efficient and high-value solutions. Maintaining the technological leadership and possibly reinforcing the competitiveness of EU companies producing aluminium semis would thus require **government interventions, sectoral policies and incentives for downstream activities** should be primarily directed to expand their innovative, research and technological capacities, as well as to encourage improvement in sustainability, resource efficiency and environmental performances, both to reduce the carbon content of products and to facilitate the subsequent recycling and reuse of aluminum waste in a circular economy perspective.

COMMENTS 6

The industrial competitiveness of EU downstream sector depends on the relations with the major end-user industries

Coherent and coordinated policies are required to improve the economic and competitiveness of the downstream aluminium companies, looking at the interactions between measures in different areas, such as energy, trade, research, raw materials, and public administration. The contraction of these industries in many EU countries effectively has forced them to operate in a wider competitive context, of a generally global dimension, not always characterized by equal conditions of competition.

Finally, improving the understanding of the aluminium industry

The increasing number of studies on the aluminium industry is a clear sign of the demand for a better understanding of the sector and how competitive conditions can affect single economies. In respect of this need, researchers must confront with lack of reliable data and economic statistics related in particular to the downstream activities. One of the aim of the LUISS reports about the EU aluminium industrial system is **to contribute in establishing a constructive and transparent exchange of views on the aluminium industry in the EU**. To improve policy making, further analysis would be needed thus allowing to better take into account the overall impact of proposed measures all along the aluminium value chain and, ultimately, on European consumers.