ASIAN STEEL MARKETS 2019

 Ho Chi Minh City, Vietnam, April 2019



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DITH Group at a glance



17 million tonnes of raw material & steel^[2] secured from steel 40 mills supplied to over 44,000 customers of which recurring clients and it is this diversification that limits risk and ensures that our business remains sustainable.

DELIVERED IN



14,601

wagons



122,413

trucks

1. Includes six regional sales consultants: Argentina, Chile, Guatemala, South Korea, Thailand & Vietnam

2. Includes intercompany sales

DITH Group at a glance



NORTH A	AMERICA	CENTRAL & S	SOUTH AMERICA		EUROPE		MIDDLE EAST & AFRICA		,	ASIA-PAC	IFIC
NITED STATES	CANADA	GT GUATEMALA	AR ARGENTINA	BE BELGIUM	RO ROMANIA	AE	UNITED ARAB EMIRATES	CN	CHINA	AU	AUSTRALIA
L FLORIDA	AB ALBERTA	HN HONDURAS	BR BRAZIL	DE GERMANY	RU RUSSIA	SA	SAUDI ARABIA	IN	INDIA	NZ	NEW ZEALAND
NJ NEW JERSEY		MX MEXICO	CL CHILE	GB GREAT BRI	TAIN RS SERBIA			PH	PHILIPPI	NES	
IL ILLINOIS			CO COLOMBIA	IT ITALY	ES SPAIN	MA	TN MOROCCO & TUNISIA	SG	SINGAP	ORE	
MI MICHIGAN			EC ECUADOR	LU LUXEMBOU	JRG CH SWITZERLAND	ZA	SOUTH AFRICA	SK	SOUTH I	OREA	
OK OKLAHOMA				MK MACEDON	IA TR TURKEY			TH	THAILAN	ID	
TX TEXAS			PE PERÙ	NO NORWAY	UA UKRAINE			VN	VIETNA	Л	STRENGTH B

1. Steel Consumption in SEA

Consumption by Country

- South-East Asia has been one of world drivers for steel consumption growth in the past several years.
- In 2018, ASEAN-6 region steel consumption was about 77m t bigger than South Korea and Taiwan combined, for the first time.
- In 2018 ASEAN-6 steel consumption growth was +5.5% (World excluding China: +2%), reaching a total growth of +12% in 3 years (World excluding China: +5%).
- Not all countries have been driving such growth:
 - Vietnam was the locomotive with +4.1m t (+23%) over 3 years, followed by
 Indonesia with +3.4m t (+30%) and the Philippines with +1.8m t (+20%).
 - Malaysia and Thailand have been about stable over the same period.
 - Singapore consumption has shrunk by 1m t (-25%).
- In the medium term, we expect Vietnam and Indonesia to keep leading the steel consumption growth path.
- An average yearly growth of +4% is sustainable in the long term in this region.

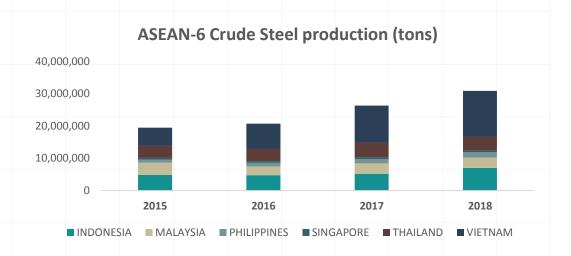


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Source: DITH estimate

Production

- The ASEAN region crude steel production has grown by over 11m t per year (+60%) over the last 3 years, one of the fastest rates in the world to 31 m t in 2018.
 Following the start up of the major projects under construction, by 2020/21 the regional crude steel production may reach up to 50m t.
- The main driver for such change was Vietnam (+7.5m t), followed by Indonesia (+3.5m t). Other countries crude steel production has remained about stable over the period.
- Most of regional production is focused on long products, specifically rebar with 18-20m t per year. By 2020/21, capacity additions will increase the regional rebar production to above 23m t per year.
- The fastest growing product is HRC, passing 9m t in 2018 due to new mills in Vietnam. By 2020/21, capacity additions will increase the regional HRC production to above 13m t per year.



20,000,000 15,000,000 5,000,000 0 rebar wrd hrp hrc other HR products 2015 2016 2017 2018

ASEAN-6 Hot-Rolled production breakdown (tons)

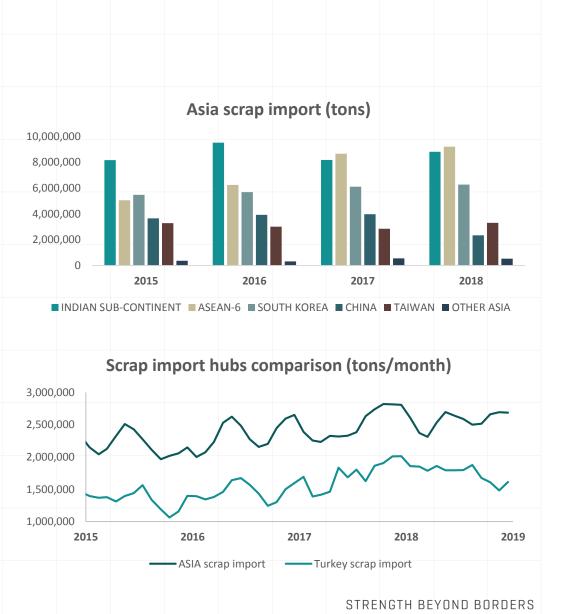
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New Projects

T	The o	combination of demand growth and an import requirement and specialty needs has led to an increase in capacity being built over 2017-21
	0	Vietnam – Formosa – 7.5m tpy – HRC (subject to 2-nd BF start up)
	0	Vietnam – Hoa Phat – 3.5m tpy – HRC and other products
	0	Philippines – Steel Asia – 3m tpy – Billet, Rebar, Wire Rod and Profiles
	0	Malaysia – Alliance Steel – 3m tpy – Rebar and Wire Rod
	0	Malaysia – Eastern Steel – 2.8m tpy – Billet and Slab
	0	Krakatau – Indonesia – 1.5m tpy – HRC
	0	Indonesia – Dexin Steel – 3.5m tpy – Slab, Billet, Rebar and Wire Rod
	0	Indonesia – Morawali – up to 4m tpy – Billet, Slab, HRC, CRC
• h	n ad	ldition, there is a number of smaller expansions in long and flat product capacity through the region.

Scrap Trade Flow

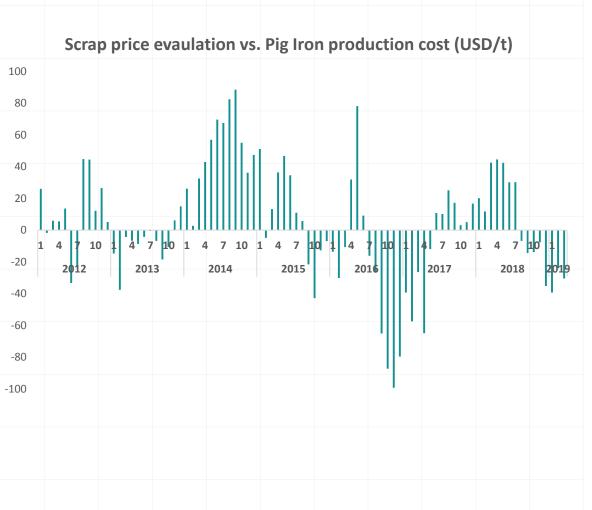
- With growing production, a significant part being EAF based, Asia has steadily increased the total scrap import volume: in total from 26m t in 2015 to 30.5m t in 2018.
- Looking at details, only ASEAN countries and South Korea have shown an increase in scrap import volumes:
 - ASEAN scrap import volumes +4.1m t in 4 years (+82%)
 - South Korea scrap import volumes t + 0.8m t in 4 years (+14%)
 - The Indian sub-continent had a mixed trend, with a volatile performance of India partially compensated by growth in Bangladesh and Pakistan.
 - \circ —China has decreased import volumes by 1.3m t in 4 years (-36%)
- It is interesting to compare Asia with Turkey, which until the middle of 2018 had also kept increasing scrap import volumes in line with Asia, but since the economic crisis in Q3 2018 has drastically slowed purchases. See lower chart.
- This gradually undermines Turkey status as global scrap price maker, while Asia is in the process to pick up that title.



Source: DITH estimate

Scrap vs Pig Iron

Traditionally a significant part of steel production in South East Asia is based on the EAF route – although new projects are mostly integrated mills. 100 80 Since August 2018, when the Turkish Lira collapsed due to structural 60 economic problems exacerbated by political dispute with the USA, 40 international scrap prices have remained subdued compared to Iron Ore and Coking Coal. 20 0 -20 This means in the short term, EAF producers will remain competitive and -40 may have the incentive to maximize production levels. -60 -80 We believe Asia will keep growing in importance within the international -100 scrap market and will become the major global scrap trading hub within the next few years.



SEA Export

Following the increase of local steel production, steel export volumes from ASEAN countries have grown very rapidly between 2015 and 2018: from 9.8m t in 2015 to 16.000.000 15.6m t in 2018. See upper chart. 12,000,000 Export volumes to other ASEAN countries have increased, but not as much as 8,000,000 export volumes to outside of the region: 4,000,000 Intra-ASEAN volumes have moved up by 30% (from 4.1 to 6m tpy). Ο ASEAN exports to other regions have moved up by 74% (from 5.7m t to 9.6m Ο tpy). Note: about 1m t per year of Vietnamese steel goes to the USA. Only two countries are driving the increase in export volumes. See lower chart: 8,000,000 Indonesia (from 1.6m t in 2016 to 3.8m t in 2018), and 0 6,000,000 Vietnam (from 3.2m t in 2016 to 6.5m t in 2018) Ο 4,000,000 Challenges for this trend to continue: possible new import barriers in the USA. 2.000.000 Strategic advantages: duty advantage for exports to the fast growing steel market of India (1m t exported in 2018, growing trend).



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Source: DITH estimate

SEA Import

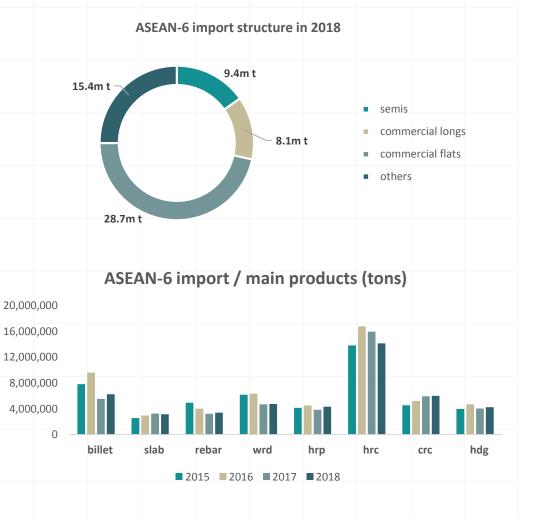
Import volumes which have peaked at 71m in 2016 t per year, have stabilized at **ASEAN-6 Steel Import Volumes** around 60m t per year in 2017 and 2018. 80,000,000 60,000,000 40,000,000 Meanwhile import volumes from within the ASEAN region have kept increasing from 2.9m t in 2015 to 4.9m t in 2018, with interregional import share growing 20,000,000 from 4.5% to 8% over the same period. 0 2015 2018 2016 2017 ■ from ASEAN ■ from other origins This shows the ASEAN steel import market remains very much dependent upon international supply, and it is too early to call for a broad regionalization. **ASEAN-6 Steel Import Volumes** 20,000,000 15,000,000 The country showing the biggest swing in import is Vietnam, due to the major 10,000,000 increase of domestic production which has substituted part of import volumes starting from 2017. 5.000.000 0 **INDONESIA** MALAYSIA PHILIPPINES SINGAPORE THAILAND VIETNAM ■ 2015 ■ 2016 ■ 2017 ■ 2018

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SEA Import – Product Breakdown

- ASEAN countries import structure has not changed very much un the last 4 years. Trend is for an increase of Flat products share vs. a decrease of Long products and semis.
- HRC is by far the biggest product, accounting for about 15m t per year.
- The most important regional trade flow dynamics are :
 - Billet volumes are one of main swing factors, defined mainly by international billet price competitiveness compared to scrap prices, as most domestic production is based on EAF.
 - Rebar and Wire Rod follow the same logic as billet, although to a smaller extent as more markets are protected.
 - HRC volumes have been swinging due to the increase of domestic production capacity in Vietnam.
 - CRC volumes have been growing constantly due to demand trend.

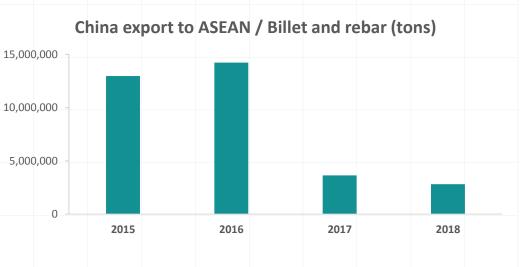


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China Export / Long Products

- During the last 2 years, China has lost competitiveness in the international market of Billet and commercial Long Products. See lower chart: the Turkish export benchmark has moved from 50 USD/t higher to 50 USD/t lower than Chinese domestic prices.
- As a result, Chinese export volumes of billet and commercial Long Products have decrease dramatically since 2016. South-East Asia used to be a major importer of this material and has lost the biggest part of volumes: from 14m tpy in 2016 down to 3m tpy in 2018. See upper chart.
- The reason is a combination of:
 - Higher demand in China for long products due to a stimulated construction industry
 - Lower capacity for long products production in China due various government policies, targeting Long Products producers more than Flat Products producers.
- Can this trend be reversed ? Only when Chinese steel consumption peaks and starts shrinking.

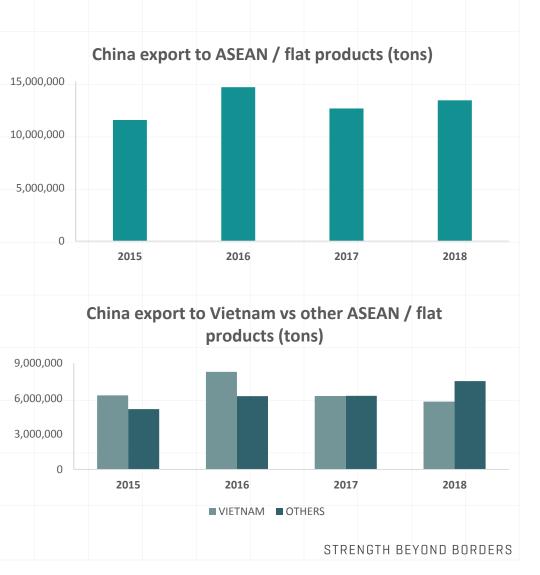


Price spread / Rebar FOB Turkey vs China export parity (USD/t)



China Export / Flat Products

- Differently from Long Products, Chinese Flat Products exports have remained broadly stable over the last few years – the only significant factor being trade barriers in specific markets.
- Chinese export volumes of Flat Products remained stable also in South-East Asia.
 See upper chart.
- The only country in South-East Asia that has seen lower Flat Products import volumes from China during the last 2 years is Vietnam. See lower chart.
- Vietnam is the biggest importer of Chinese material within the ASEAN region, taking as much material as all other countries combined.
- With the continuous increase of domestic production, Vietnam will decrease further import dependency, first of all upon Chinese commercial products.



Other Exporters

0

0

Ο

Besides China, other countries export to SEA has been growing until 2017, then ASEAN import origins, excluding China (tons) stabilized in 2018. See upper chart. 35,000,000 30,000,000 Top 3 exporters remain Japan, South Korea and Taiwan capitalizing on high product 25,000,000 quality, J.V. approach and long term relationships with regional customers. 20,000,000 15,000,000 However, their volumes have been actually shrinking slowly since 2016. 10,000,000 5,000,000 Among other origins, it is noteworthy: 0 2015 2016 2017 The volatility of volumes from India, which has a very dynamic domestic market swinging above and below the international price level; The rise of volumes from Turkey and CIS, following the increase of 12.000.000 competitiveness vs. Chinese origin. 10,000,000 The rise of Semi-Finished Products of Iranian origin, following the lift of 8,000,000 6,000,000 sanctions in January 2016. 4,000,000 China, Japan, South Korea and Taiwan are mostly exporting Flat Products to the 2,000,000 region. Other countries are mostly exporting Long Products and Semi-Finished 2015 2016 2017 INDIA IRAN RUSSIA BRAZIL ■ TURKEY ■ OTHERS



Source: DITH estimate

Products.

4. Conclusion

- Average consumption growth of +4% per year. Same trend to continue at least in the medium term.
- Production increase of 11m t per year since 2015. With several green field projects in the pipeline may add another 20m t within 2021, making South-East Asia one of fastest growing steel production regions in the world.
- Regionalization (intra-ASEAN) of import flow is still not a big factor for the region. Substitution of import has so far been coming rather from domestic production of each country.
- China, Japan, South Korea, Taiwan to remain primary origins for Flat Products at least in the Medium term. However, these countries will need to compete to the new capacities in Vietnam, Indonesia and, possibly, other countries of the region.
- In the short term, competitive scrap prices are a positive factor for the local steel industry where a significant part of existing plants is EAF based.
 New projects are mostly integrated mills, which will reduce the dependency upon scrap market competitiveness.
- SEA is to keep the status of swing market for long products: domestic production against imports from CIS, Middle East, Turkey.
- Challenges to South-East Asia steel industry
 - Short term: possible new import barriers in the USA targeting Vietnam exports.
 - Longer term: China is to try to come back to the Long Products market in some years creating a serious price pressure.



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