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# PERSPECTIVE

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## Chinese Steel Investments in ASEAN

*Tham Siew Yean and Yeoh Wee Jin**

**EXECUTIVE SUMMARY**

- With weakening domestic demand and consumption, Chinese steel makers have accelerated their expansion overseas since 2017.
- The export of China's excess production capacity to ASEAN member states is leading to excess steel production in the region. This will have implications for domestic producers, especially if the excess supply in each country cannot be exported to the region and beyond.
- The challenges encountered in the steel sector in ASEAN may be replicated in other industries experiencing excess production capacity in China, such as cement, shipbuilding, and solar power panel manufacturing.
- ASEAN has to more actively monitor the impact of the export of excess production capacities from China to the region.
- The increase in production capacities in ASEAN may create employment and possibilities for technology transfer, but it can also impinge negatively on local producers who lack the scale and technology to compete with the larger scale of Chinese production and technology. Therefore, national FDI policies have to be more cognisant of regional developments in their planning.

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## INTRODUCTION

According to the World Steel Association, China was the leading producer of steel in the world in 2018, followed by India, Japan, US and South Korea.[1] This development can be traced back to the early 1990s, when steel production was classified as a strategic industry. Being the basic raw material for a host of manufacturing and construction activities, it is a backbone sector for development. Consequently, steel production has been expanding rapidly under substantial state support such as subsidies and loans from state-owned banks on non-commercial terms.[2]

Notwithstanding increasing domestic demand, excess production capacity emerged in the early 2000s and peaked in 2015.[3] Although there are ongoing efforts to reform the steel sector, such as production curtailments and a nominal ban on new net capacity, excess steel production capacity continues to plague China till this day.[4]

In 2013, the launch of China's "Belt and Road Initiative" (BRI), was followed by a "going out" strategy for Chinese enterprises, to "move out" China's overcapacity as a basis for its development strategy and foreign policy.[5] China considered this to be a "win-win" strategy as the excess capacity in China could now be used to meet shortfalls in production capacity in host countries. The BRI and the "going out" strategy contributed to an increase in China's investment in the Association of Southeast Asian Nations (ASEAN) member states, which was further accelerated by the US-China trade war in 2018.[6] Although the Covid-19 pandemic in 2020 may slow down, delay and even lead to the cancellation of some BRI projects as China diverts resources to resuscitate its own economy, these disruptions are deemed to be temporary and BRI initiatives are expected to continue since these are China's flagship projects.[7]

For iron and steel, China has identified Southeast Asia as the market with huge potential. The region's high demand for infrastructure such as MRT lines, highways, bridges, roads, flyovers, dams and power plants match BRI aims, and fuel the demand for steel. ASEAN's push for improved connectivity also dovetails with the focus on infrastructure building.

## ASEAN STEEL DEMAND AND SUPPLY

ASEAN-6's[8] steel demand was 80 million tonnes in 2018 (Figure 1). The construction sector is the largest steel consuming sector, taking up 70% of the total demand, while the automotive sector comes second (11% share), and the third largest is the shipbuilding sector (3.7% share). The other steel consuming sectors are the machinery, packaging, oil & gas and other sectors.[9]

Steel products are broadly divided into long and flat products. Long products refer to bars, wire rods, sections and H-beams. Flat products are plates, hot and cold rolled coils, sheets and strips. Generally, a large portion of long products are used for construction and most flat products are used in the shipbuilding, automotive and machinery sectors which are the higher value-added steel consuming industries.

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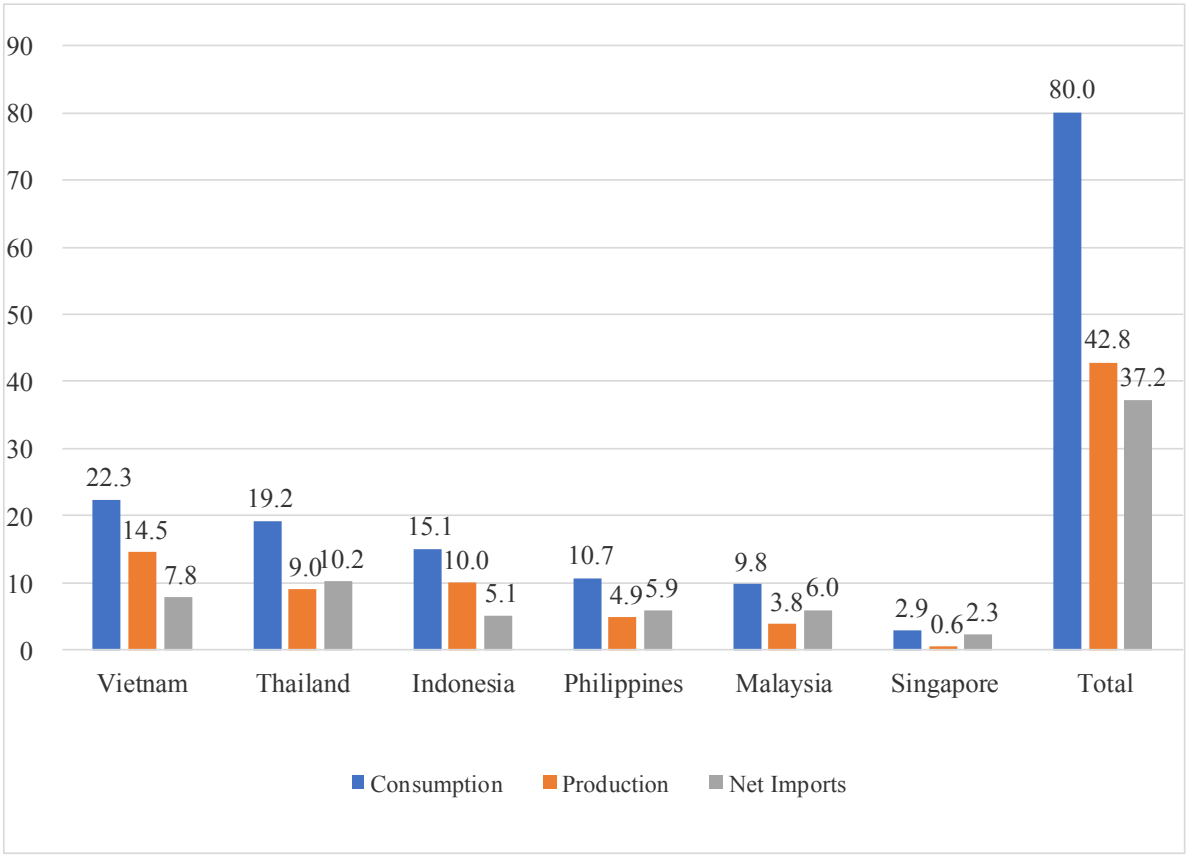
ASEAN-6's steel producers manufactured 42.8 million tonnes of steel products in 2018, which is slightly more than half of the steel demanded in the region. Most ASEAN producers make long products, namely bars, wire rod and sections, while some produce plates and sheets meant for the construction, shipbuilding, automotive and other sectors. Of the steel produced in ASEAN, 71% are long products and 29% are flat products.

ASEAN-6 imported a total of 50.5 million tonnes of steel in 2018, of which 13.2 million tonnes were long products and 37.3 million tonnes were flat products. Net imports amounted to 37.2 million tonnes (Figure 1). More than 80% of the long products imported were for the construction sector. China is a major source of imported long products (48%). By contrast, 75% of the flat products are imported from Japan, China and South Korea. AMS produces steel that is mainly for use in the construction sector and therefore needs to import higher quality flat products to meet the steel demand in other sectors.

**Figure 1. Consumption, Production and Net Import in ASEAN-6, 2018**




Source: SEASI

## CHINA'S STEEL INVESTMENTS IN ASEAN

With weakening domestic demand and consumption, Chinese steel makers, both private and state-owned enterprises have been accelerating their expansion overseas since 2017. ASEAN as a region is a potential growth market with an increasing number of infrastructure projects as well as rising manufacturing activity. In particular, Foreign Direct Investment

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(FDI) in manufacturing is expected to grow in this region due to the expected relocation of manufacturing activities from China as a result of the trade war and shifts in the supply chain precipitated by the on-going coronavirus pandemic.[10]

In 2019, it was estimated that almost half of the 14.2 million tonnes per year of existing overseas capacity from Chinese mills were located in the region.[11] There are currently three Chinese steel mills which are up and running with a total capacity of 8.5 million tonnes per year, in Indonesia and Malaysia (Table 1). But there are seven new projects with even bigger capacities in the pipeline, which all together will triple the capacity (or 41.6 million tonnes/year), if they are realized. These will also be based in Cambodia, the Philippines and Myanmar, meaning that five AMS out of the ten will be hosting Chinese steel mills.

**Table 1. China's Overseas Steel Projects in ASEAN, 2018**

| Currently operating | Location | Crude steel capacity (million tonnes/yr) | Type of steel |
|---|---|---|---|
| Alliance Steel (2017/18) | Malaysia | 3.5 | Long products (LP) |
| Eastern Steel (restarted 2018) | Malaysia | 2.0 | Flat products (FP) |
| Tsingshan Holding Group (2015/18) | Indonesia | 3.0 | LP and FP |
| | | | |
| **In the Pipeline** | | | |
| Hebei Bishi Group | Indonesia | 3.0 | n.a. |
| Wen'an Iron and Steel | Malaysia | 10.0 | FP and LP |
| Dexin Steel Indonesia | Indonesia | 3.5 | LP |
| Baowu Steel Group | Cambodia | 3.1 | n.a. |
| Hebei Iron and Steel | Philippines | 8.0 | LP |
| Panhua Group | Philippines | 10.0 | FP |
| Kunming Iron and Steel | Myanmar | 4.0 | FP |
| Total | | 50.1 | F.P. and L.P. |

Notes" n.a.: not available; there is no proposed investment from China in Vietnam.
Source: Zhang et.al., 2019 and Southeast Asia Iron & Steel Institute (SEAISI, unpublished data).

## OPPORTUNITIES AND CHALLENGES

Investments in the steel sector have the potential to create employment and attract more capital and technology for the development of a capital-intensive industry. For example, Alliance Steel in Malaysia is reportedly investing USD1.4 billion[12] for their new steel mill at the Malaysia-China Industrial Park in Kuantan, which has just started operations in 2017.

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However, since each AMS is only considering investments within their own borders, the emerging capacity in the region is not monitored. Information about this is important, and more so since there are also other new investments in the steel sector in ASEAN besides those coming from China. Table 2 shows these other investments, whose plants will add another 25.7 million tonnes/year to the total production, if all the planned expansion is realized.

**Table 2. Planned Investments from Other Countries in the Steel Sector in ASEAN, 2018**

| Current and Future | Location | Crude steel capacity (million tonnes/yr) |
|---|---|---|
| Krakatau Steel (Local Indonesian) | Indonesia | 1.2 (FP) |
| Krakatau Steel / Krakatau POSCO (Indonesia/Korea) | Indonesia | 4.0 (FP) |
| Gunung Group (Local Indonesian) | Indonesia | 1.5 (FP) |
| Formosa Ha Tinh (Taiwan/Japan) | Vietnam | 15.0 (FP and LP) |
| Hoa Phat Group (Vietnam) | Vietnam | 4.0 (FP and LP) |
| Total | | 25.7 |

Source: SEASI (unpublished data).

Since the production of steel requires mineral inputs, it is not surprising that China has also invested strategically in Indonesia's substantive mineral mining resources. Indonesia's ban on the export of unprocessed minerals in 2014 has served to attract Chinese investors to increase their investment in the local production of nickel, aluminium and electrical power.[13] Thus, over the last 4-5 years, Tsingshan, for example, has invested in nickel and stainless steel production facilities in Indonesia, which also provides the lowest costs of production. Although there are similar mines in other parts of ASEAN, these are on a relatively smaller scale, as in the case of copper, nickel, gold mining in the Philippines.[14]

Estimates from Southeast Asia Iron and Steel Institute (SEAISI) indicate that the ASEAN-6's steel consumption grew at 4.9% y-o-y to reach 80 million tonnes in 2018. It is estimated that there is an existing capacity of 97 million tonnes, indicating an excess capacity of about 17.0 million tonnes. Nevertheless, there is a net import of 40 million tonnes due to pricing and quality differences between regional production and imported goods. Imports of steel from China increased significantly after the reduction in tariffs under the ASEAN-China Free Trade Agreement signed in 2009 and which entered into force in 2010.

Steel makers in ASEAN are not able to compete with China-produced steel not only because the latter uses blast furnaces and cheaper iron ore in contrast to the region's electric arc furnace plants using more expensive scrap as raw materials, but also because of extensive Chinese government support for its steel producers. The ASEAN market is served mainly by imports, about half of which are from China,[15] leading to idle production capacity, financial losses and risks of closure for the region's domestic producers.[16]

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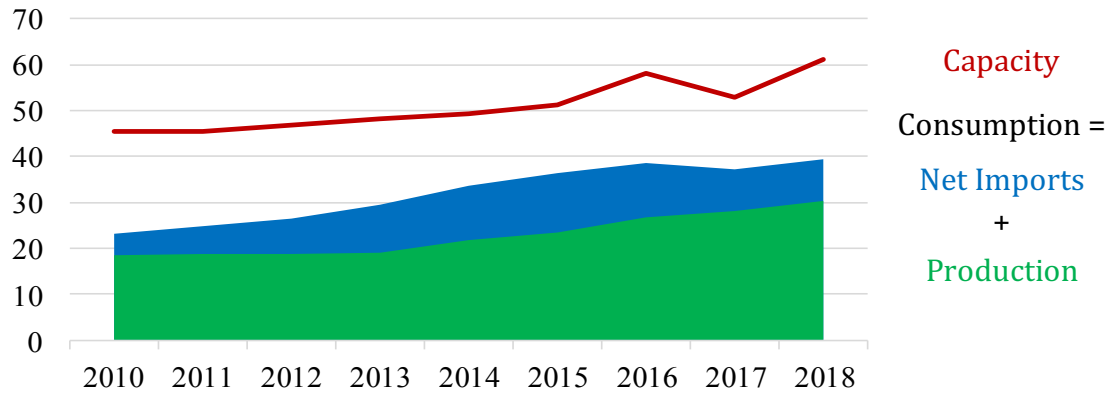
Whether the existing and increased capacity in AMS, (as at 2018), can be absorbed by consumption within the region depends on the type of steel that is produced. SEASI estimates that in 2000-2018, the regional supply of long products in the ASEAN-6 was sufficient for the market level (Figure 1). Fundamentally, current capacity exceeds current production in ASEAN due to price and quality differences between imported and locally produced steel.

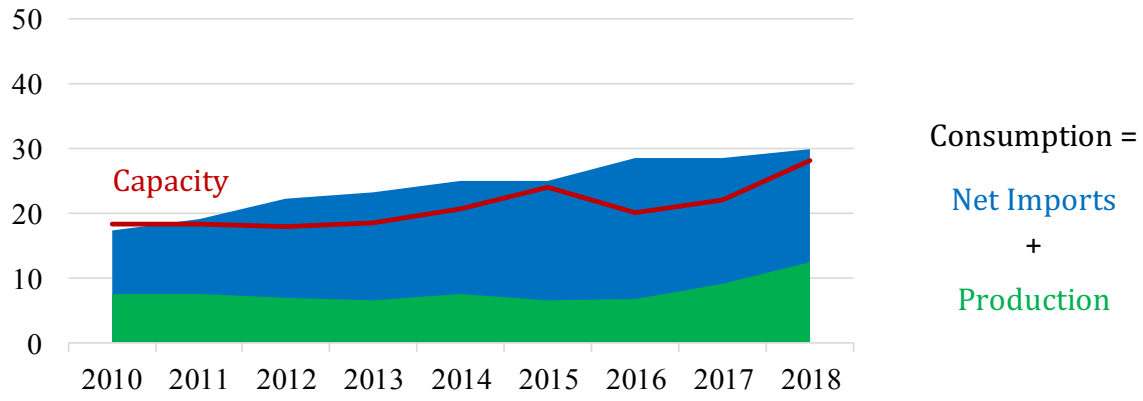
**Figure 1. Long-steel Production, Consumption and Capacity in ASEAN-6, 2000-2018**




Source: SEAISI estimates

In the case of flat steel, consumption appears to be catching up with ASEAN steel capacity in (Figure 2). But given the increase in new capacity in flat products, there is a potential for excess capacity to emerge in the future.

**Figure 2. Flat Steel Production, Consumption and Capacity in ASEAN-6, 2000-2018**




Source: SEAISI estimates

Unless there is a significant jump in demand from the region, it would appear that there will be excess capacity in the long products produced. Not all the new investments are meant for import substitution since domestic consumption capacities in some countries are limited,

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and some are explicitly meant for export as in the case of Alliance Steel in Malaysia where an export condition is included in the investment approval.

However, investments in niche steel products such as hot rolled coils by Formosa Ha Tinh, Krakatau Posco in plates and Tsingshan Steel in stainless steel, are reported to be meeting the demand for these specialized products in Vietnam and Indonesia. These players' strategy of positioning themselves in niche steel segments that are not fully served by the existing steel producers have allowed them to be able to substitute imports. Since specialized steel is also in demand in ASEAN, these players are also able to export their excess production to the region.[17]

But overall, the current excess capacity of 14-20 million tonnes is estimated to grow to around 82.8-88.6 million tonnes in the future, if all planned capacities are realized and assuming a consumption growth of 5.0% per year. This inevitably implies spill-overs from the region's steel production into the export market. Export destinations may include the ASEAN region, especially since exports to the US will face the steel tariffs imposed by Trump, while exporting back to China is unlikely due to the excess capacity there, as well as competitive pricing.[18] China is instead a sizeable import source for ASEAN, providing 43% of the total steel imports in ASEAN 2018.[19] ASEAN markets do not actually need most of the planned steel production as there is sufficient domestic and regional steel capacity. The sizeable import of steel in ASEAN is mainly due to China's overcapacity and its trade practices, as highlighted by the Steel Industry Coalition in the United States.[20]

There are also Chinese investments in steel in other parts of the world, such as Pakistan, Uzbekistan, UK, Macedonia, Serbia, Bangladesh, South Africa and Zimbabwe. Therefore, exporting to other countries along the BRI corridors may also be somewhat constrained.[21] Exporting the excess capacity in steel will therefore be the key future challenge for the region. Finally, steel producers selling locally will face constraints as well since domestic producers will find it difficult to compete with steel produced by Chinese companies, whether locally or in China.

## POLICY IMPLICATIONS FOR ASEAN

Unlike investments in risky mega-infrastructure projects, China's investment in traditional and new manufacturing activities are met with open arms in ASEAN because FDI brings in capital, creates employment and provides opportunities for technology transfer. Each member country competes for these FDI through fiscal, non-fiscal incentives and the creation of special economic zones. Competing for investments have also led to an "incentive war" among member countries as exemplified by the special incentives packages that aim at attracting investors affected by the US-China trade war.[22]

The role of incentives in promoting FDI has been studied extensively, and the general consensus is that these incentives are of secondary importance. The primary factors for attracting FDI into a country pertain to more fundamental variables such as market-size, the availability of natural and human resources, especially skilled labour for the higher value-added investments.[23]

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A better policy option is to provide an investment-friendly legal and business climate through the removal of investment barriers. In this regard, accelerating the implementation of the ASEAN Economic Community (AEC) Consolidated Strategic Action Plan on improving the investment climate by establishing an open, transparent and predictable regime in the region is of primary importance. AMS should therefore prioritize improving transparency in investment-related policies and regulations over other measures. Accelerating this initiative is vital for a refocus on the importance of ASEAN for the region, given the negative impact of the Covid-19 pandemic on national economies and increasing signs of a retreat from regional initiatives through export bans on items such as rice, rubber gloves and other products deemed essential to each country in managing the pandemic.

The extraction of essential minerals for the production of steel in ASEAN should support the initiatives in the ASEAN Minerals Cooperation Action Plan 2016-2025. It is especially important for the sustainable development of these resources to foster the use of best practices, particularly in the social and environmental dimensions and in good governance, in line with the third objective of the Plan which is to strengthen capacity in sustainable mineral development.[24]

Since steel is excluded in the ASEAN sectoral cooperation initiatives, it is pertinent to underline the importance of dialogue to foster cooperation instead of competition. In this regard, the ASEAN Iron and Steel Council needs to enhance and accelerate its role in terms of information sharing and cooperation among the AMS by monitoring the increase in production and trade in this sector in each member country over time. This information sharing should seek to identify:

(i) ASEAN's manufacturing capacity and building capability for products that are not manufactured or for which there is already sufficient capacity, within ASEAN,
(ii) Excess capacity for consolidation for synergistic benefits,
(iii) Distortions that can artificially foster increases in production and capacity that will impinge on the region's trade through its spill-overs into the export market.

At the national level, it is important for each AMS to consider incoming investments from a regional perspective, rather than a national one alone. While each investment may have the potential to contribute to each country's development, the export push has to consider the region's development, since each country is equally keen to promote exports, especially to the region. It is therefore important to consider the region's production and export capacity in a particular sector before export-oriented investments are approved in one's country. National governments should utilize information sharing from the ASEAN Iron and Steel Council to identify what sort of steel investments are needed for the region and to discourage investments in steel products that are already facing excess capacity.

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## CONCLUSION

Besides iron and steel, industries such as cement, shipbuilding, and solar power panel manufacturing are also facing overcapacity issues. China has taken several initiatives to combat this by discarding ageing and outdated facilities, prohibiting manufacturers from blind expansion of their production scales, and attempting to streamline the industry through consolidation. Concurrently, there is also an ongoing effort to export its excess production capacities through outward investments. The resultant expansion in the steel sector in ASEAN may therefore be replicated in other industries, as will its implications on the region's total capacity as a whole and on the subsequent need to export.

ASEAN therefore has to play a more active role in using existing initiatives or creating new approaches to monitor the impact of the export of excess production capacities from China into the region. The increase in production capacities may create employment and possibilities for technology transfer, but it can also negatively impact the sustainability of existing ASEAN steel producers who lack the scale and technology to compete with the larger scale of Chinese production and the technology that are supported by the Chinese government in the form of tax rebates, financing support, grants, and others. In short, national FDI policies have to be cognisant of regional developments in their planning.

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[1] World Steel Association, undated. "World Steel in Figures in 2019".https://www.worldsteel.org/media-centre/press-releases/2019/world-steel-in-figures-2019.html <Accessed 7 March 2020>.
[2] Jorg Wuttke, 2017. "The Dark Side of China's Economic Rise". *Global Policy*, Volume 8, Supplement 4. June 2, pages 62-70.
[3] Global Forum on Steel Excess Capacity 2019. Chair's Report. https://www.meti.go.jp/english/press/2019/pdf/191026_001-2.pdf <Accessed 8 March 2020>
[4] The excess capacity is conventionally estimated for 2015 to be between 325-350 million tons. See Lu 2017. "China's excess capacity in steel: A fresh look". <https://www.piie.com/blogs/china-economic-watch/chinas-excess-capacity-steel-fresh-look> Accessed 19 April 2020.
[5] He Yafei, 2014. "China's overcapacity crisis can spur growth through overseas expansion." South China Morning Post, https://www.scmp.com/comment/insight-opinion/article/1399681/chinas-overcapacity-crisis-can-spur-growth-through-overseas <Accessed 5 March 2020>. This wave is to be distinguished from the earlier wave of outward investments from China following its "go global" strategy, and accession to the World Trade Organization (WTO) in late 2001.
[6] United Nations Conference on Trade and Development (UNCTAD), 2019. *World Investment Report 2019: Special Economic Zones*. Geneva: UNCTAD.
[7] Russel, D. 2020. "The Coronavirus Will Not Be Fatal for China's Belt and Road Initiative but It Will Strike a Heavy Blow". https://asiasociety.org/policy-institute/coronavirus-will-not-be-fatal-chinas-belt-and-road-initiative-it-will-strike-heavy <Accessed 22 March 2020>.
[8] ASEAN-6 countries comprise Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam
[9] SEAISI, 2015. "Study to Promote Intra ASEAN Trade and Investment in the Steel Sector".
[10] For impact of Covid on supply chain, see Deloitte 2020. "Covid-19: Managing supply chain risk and disruption". < https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/finance/Supply-Chain_POV_EN_FINAL-AODA.pdf. <Accessed 19 April 2020>.

[11] Zhang, J., Bartholomew, P. and Wells, W., 2019. "Analysis: China looks overseas for steel expansion". https://www.spglobal.com/platts/en/market-insights/latest-news/metals/111919-china-steel-overseas-expansion <Accessed 6 March 2020>.
[12] See http://alliancesteel.com.my/articleList_6_1.html?lang=en <Accessed 8 March 2020>.
[13] See Humphreys, D., 2017. "In search of a new China: mineral demand in South and Southeast Asia". *Miner Econ* 31, 103–112 (2018). https://doi.org/10.1007/s13563-017-0118-7 <Accessed 8 March 2020>.
[14] Ibid, page 109.
[15] See SEASI, 2018. "ASEAN Steel Consumption to rebound in 2018: SEASI". http://www.seaisi.org/News/7589/Asean+steel+consumption+to+rebound+in+2018:+Seaisi+ <Accessed 22 March 2020>.
[16] My Pham, Khettiya Jittapong, 2016. "Southeast Asia steelmakers bid to emerge from China's shadow". Reuters 23 June. https://fr.reuters.com/article/businessNews/idUKKCN0Z82TA <Accessed 9 March 2020>.
[17] Intra-ASEAN steel trade has stagnated to less than 10 percent of ASEAN steel imports because steel companies in the region are producing competing products and countries use non-tariff measures such as standards and anti-dumping measures to restrict imports from the region.
[18] There are instances of some Chinese companies exporting their steel products back to China (see https://www.straitstimes.com/asia/se-asia/central-sulawesi-sees-gains-from-tie-up-with-china-firm) possibly because these products are used to supplement the headquarters' output which is being reduced due to supply reforms, or because the steel is specialized such as stainless steel, or the steel products are produced more cheaply in host economies.
[19] See SEASI, 2018. "ASEAN Steel Consumption to rebound in 2018: SEASI". http://www.seaisi.org/News/7589/Asean+steel+consumption+to+rebound+in+2018:+Seaisi+ <Accessed 22 March 2020>.
[20] See Steel Industry Coalition, 2016. "Report on Market Research into the Peoples Republic of China Steel Industry Part 1". https://www.steel.org/~/media/Files/AISI/Reports/Steel-Industry-Coaliton-Full-Final-Report-06302016. <Accessed 9 April 2020>
[21] See Zhang, J., Bartholomew, P. and Wells, W., 2019.
[22] See Dezan Shira and Associates, 2019. "ASEAN Briefing: Trade War Incentive Schemes in ASEAN". https://www.aseanbriefing.com/news/trade-war-incentive-schemes-in-asean/ <Accessed 9 March 2020>.
[23] UNCTAD, 2000. "Tax Incentives and Foreign Direct Investment: A Global Survey". https://unctad.org/en/Docs/iteipcmisc3_en.pdf <Accessed 9 March 2020>.
[24] The first objective is to boost trade and investment while the second is to enhance cooperation.

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