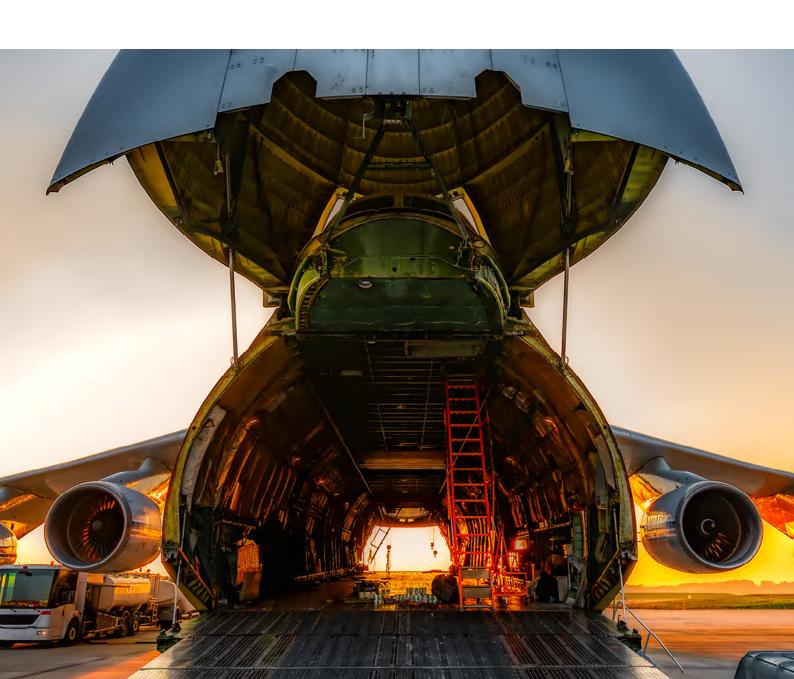


Supply Chains Reimagined: Recovery and Renewal in Asia Pacific and Beyond



Foreword

Through client conversations with multinational companies across multiple industries and headquartered in regions across the world, we have witnessed the rapidly increasing importance being placed on supply chain management, from operational teams to the boardroom

As businesses assess their operational capacity for recovery in order to recalibrate during and post pandemic, it is crucial to understand:

- specific global trends arising from the threefold pressures of COVID-19, trade wars and the increasing politicization of trade
- the differentiated trends emerging within each key sector
- how such changes affect companies based in Asia Pacific; companies looking to move supply chain operations within, into or away from the region

As many companies move into a recovery stage to stabilize supply chain operations and manage demand-side shocks, the opportunity to seek renewal through new, longer-term digital strategies also arises.

Throughout this paper, the terms "recovery" and "renewal" reference two key phases of our dedicated **3R framework**, which offers businesses a roadmap to stability beyond COVID-19.

Additionally, this supply chain paper features an analysis of global export market share data from Silk Road Associates (SRA), collated across 350 product categories and 150 countries. SRA also conducted a range of research interviews, integrating insights from industry thought leaders on key supply chain challenges and businesses strategies. These outlooks have been anonymized and are integrated in this paper, complemented by legal insights from Baker McKenzie partners.

Collectively, this report shows the differentiated pace of industry-specific global supply chain movement, including challenges, opportunities, shifting manufacturing patterns and the impact of government intervention schemes. Each industry-specific section also includes a "wildcard" box which highlights a specific trend which may significantly impact supply chain changes for manufacturers.

All of these factors need to be considered when reimagining supply chains for a post-COVID world.



Anne Petterd Head of International Commercial & Trade, Asia Pacific

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Global supply chain disruption is both a cause and effect of the major global market slowdown in the wake of the COVID-19 pandemic. This disruption has amplified existing supply chain digitalization and diversification issues for Asia Pacific companies and global companies with current or intended supply chain operations in the region.

As businesses and economies reopen and demand increases, attention is now shifting toward seeking recovery of global supply chains in Asia Pacific. Currently, demand remains below 2019 levels — and is expected to remain so for an extended period. Hence, whether companies are looking to enter or move supply chain operations around or away from the Asia Pacific region, they are increasingly motivated to secure lower-cost suppliers and focus their efforts on maintaining their financial health in the short to medium-term.

For businesses seeking to renew their supply chain operations, these shifts will be both significant and, in many cases, long-term. Global companies who are reliant on Asia Pacific supply chain networks will need to consider the rewards and risks of shifting or diversifying operations within, beyond or into the region. Key considerations need to be factored in, such as whether product categories are exposed to new tariffs or specific protectionist policies and how to

respond to mitigate these risks and get ahead of worsening trade barriers. Additionally, digitalization and sustainability considerations are core to supply chain evolution, intertwined with considerations around diversification and restructuring.

The hot debate in this renewal phase will be whether companies, global or Asia Pacific based, reshore manufacturing or relocate to jurisdictions seen as better able to service key markets. Commentary on trade wars has included considerable rhetoric and speculation about companies deciding whether to diversify supply chain operations. However, exiting an existing key market is not a decision lightly taken, nor a simple decision to action, particularly for a company with a globally integrated supply chain. There can be many factors to weigh up. For example, insights from research interviews show that there is strong sentiment to continue investing in China, in part because of its large and growing market.

"Supply chain diversification has been an issue of interest for some time due to the movement around the world. Many of the changes we are seeing today started some time ago. Now, companies are becoming more cognizant of weaknesses in their supply chain. Supply chains are unique in that they are dependent on demand. The latest developments have put a focus on how demand patterns have changed and how customer behavior has changed as well. Companies should include this in their analysis."

Mattias Hedwall Chair, Global International Commercial & Trade Group

ACKNOWLEDGING THE COMPLEX ECOSYSTEM OF GLOBAL SUPPLY CHAINS

Global supply chains cannot be thought of as a homogenous ecosystem. Three main features should be considered:

Each industry faces different challenges to their supply chain, and there is further differentiation by sub-sector and product.



US-China tensions, liquidity, complexity of supply chains and export destinations also affect the propensity and likelihood of supply chain changes.



Global buyers who do not own their own factories and instead source from Original Equipment Manufacturers (OEMs) can move more rapidly in response to rising costs or new tariffs compared to manufacturers who face challenges such as legacy investments and high investment costs.

5 key trends for supply chains

US-China trade relations are the big driver of supply chain change

- Based on trade data from SRA, China has lost global export market share at an accelerated pace in 2019.
- Companies have managed to negotiate tariff exclusions with the US Department of Commerce.
 The prospect of winning exclusions may delay the shift in production for companies that are either unable to find easy alternatives to China or those who are capital-constrained in today's economy.

Companies will increasingly adopt supply chain diversification strategies

- In Southeast Asia, manufacturing capacity, including land, labor and logistics, will determine potential growth as a supply chain hub.
- Latin America is another alternative for fast-moving buyers. In particular, Mexico has been capturing global export market share, buffeted in part by the United States-Mexico-Canada Agreement (USMCA), which provides legal certainty of access to the US market for Canada and Mexico.

China's large domestic market and strength in emerging markets are pivotal

- China has a growing importance to key sectors, especially the Industrials, Manufacturing and Transport (IMT) and Energy, Mining and Infrastructure (EMI) industries. Research interviews show that American, European and Japanese firms cite China's large and growing market as a reason to retain manufacturing in China. A European Chamber of Commerce's Business Confidence Survey in June 2020 showed that 65% of members still rank China among their top 3 destinations for new investment.
- China's global market share of exports to the emerging markets has risen across almost all categories.
- Foreign multinationals are also using China as a manufacturing base to sell into the emerging markets.

Digitalization and sustainability will impact supply chain operations

- Across all sectors, digitalization will impact how firms facilitate and manage supplier relationships as well as logistics and shipping processes. Automation and Internet of Things (IoT) are now also front and center in supply chain shock-proofing against disruption.
- Healthcare and Life Sciences (HLS) companies are undertaking Power Purchase Agreements (PPAs) using clean energy sources.
- COVID-19 has meanwhile accelerated the adoption of 3D design technologies, as teams are forced to collaborate remotely and share digital assets with manufacturers. 3D design technologies are not new, but adoption rates are now expected to rise sharply.

Government intervention¹ and strategic priorities will affect the future

- Governments will reshore critical medical production, especially Personal Protective Equipment (PPE) products, such as masks, protective goggles and protective gowns.
- Raw materials are the key constraint on domestic production and advanced economies will move quickly.
- Governments will use low-cost loans, financial subsidies and long-term contracts, to spur domestic production. Production relocation of critical medical products is likely to be rapid.
- Governments will also use a range of tax and investment incentive packages to encourage new job-creation supply chain activity, such as in advanced manufacturing.

"COVID-19 has become a 'pressure test' for companies relooking their supply chains. Whether or not companies are able to diversify their supply chains depends on multiple factors such as whether they own the IP or the manufacturing know-how; where each of the component parts are made or assembled; whether their product is considered essential and therefore exempt from specific tariffs and more. The boardroom conversation has now changed — given that trade and investment are two sides of the same coin, foreign investment screening tariff barriers will affect supply chain diversification strategies."

Rod Hunter Trade and Investment Partner, Washington DC

Digitalization and sustainability in supply chain

Anne Petterd suggests that as workplace technology has made great strides due to the pandemic, so too will the management of global supply chains as companies increasingly combine data-driven solutions with Al to identify potential risks, bottlenecks and underperformance in their supply chains.

In longer term plans for renewal, leading multinationals will likely look to integrating pre-emptive risk management and geospatial analytics into their supply chains. Being able to fully map their supply chain to understand the geographic location of suppliers and feed the maps with alternative data (e.g. flood maps)² can help companies to have in-built defenses against large shocks to their supplier ecosystems.

Companies may also look to identify where they are reliant on a single supplier in a high-risk location (e.g. flood prone industrial park) or reliant on a cluster of suppliers all located in the same concentrated area.

Sustainability will also shape the future of supply chains. Nikolaus Reinhuber, Chair, Global IMT Group, Frankfurt, notes that labor cost has been a key driver to manufacturing in low-cost countries, noting, however, that "there are additional drivers ranging from quality to reliability, and including the implications from changing or developing regulatory frameworks, as well as higher Environmental, Social Governance (ESG) standards required by customers and investors."

Reinhuber suggests that as demands by national or supra-national regulation, public opinion, customers, and in particular investors, on compliance with ESG demands and standards (such as the UN Sustainable Development Goals) and the challenges of climate change increase over time, manufacturing will move away from locations where the implementation of higher standards is delayed. "To put this the other way around, low-cost countries, in which the level of implementation increases faster will have a competitive advantage. The impact of technology progress will continue to be a driver for supply chain shifts: an example is the growing use of sending 3D-printers to manufacturing sites. Finally, new or additional sanctions will, of course, have an impact on reorganizing supply chain shifts," Reinhuber states.

As sustainability affects supply chain work, companies are looking to power their global operations entirely by renewable energy sources. With sustainability rising in importance for companies in pursuing ESG goals, opportunities in supply chain forward-planning collaboration also exist between different industries. For example, major pharma companies are also engaging in virtual corporate PPAs with developers for clean energy products in Europe.

Mapping the transactional landscape

It is likely that many companies will invest in their own facilities or Joint Ventures (JVs) with local/international partners where there are financing options in order to secure more robust supply chains. Given the current economic climate and generally depressed M&A space, this may take some time to materialize, but in the short term, there may still be some activity in strategic areas.

Liquidity will be a key consideration for supply chains. While some suppliers may need access to liquidity to stay afloat during a time of much depleted business, others will need to finance plans to innovate and digitize at a much more rapid pace, to shock-proof against the repercussions of COVID-19. As the latter group looks to raise capital (on both the public and private markets), debt instruments may be the dominant route given the process is quicker than with equity.

Interestingly, hybrid debt is emerging as a capital raising option as companies seek recovery. In May 2020, numbers were the highest monthly volume of hybrid debt issuances on record: USD 20.6 billion. Companies may look to such issuers to fund growth and opportunities as they are able to offer hybrid security issuances with generally lower interest rates.

There may also be interest in attracting Sovereign Wealth Funds (SWFs) and pension funds to invest in supply chain projects as the push for digitalization of supply chains has now been amplified. In recent years these parties have become strong investors in digital assets such as data centers as the importance of and dependency on data centers for businesses has grown. Similarly, as the digitalization of supply chains matures, strategic investment opportunities are expected to emerge.

However, some suppliers may still look to find an M&A solution, particularly for distressed companies looking for buyers or investors. In terms of M&A for these companies, key issues for buyers and investors to know will include if assets are being acquired free of any encumbrances, that change of control consents or retention of title clauses in material contracts have been identified and that it knows which employees may be transferred automatically. Supply chain integrity will also likely emerge as a key area of focus in the due diligence process.

"Strategic supply chain acquisitions will be a focus. Businesses that support supply chains under stress are likely to become an increasingly attractive investment such as logistics, storage and digital transformation businesses. Similarly, companies may increase their focus on opportune purchases or collaborations with other businesses that improve supply chain stability such as manufacturing capability. Extra patience may be needed, as these deals will likely move at a reduced pace than was previously the case."

Ai Ai Wong, Global Executive Committee Member & Asia Pacific Chair, Singapore

O1 Consumer Goods & Retail: Potential for mobility for global brands

A focus on strategic business renewal has seen the Consumer Goods sector (CGR) already moving toward low-cost countries more than a decade ago. While manufacturers are keen to turn their attention to other markets in Southeast Asia, and Latin America, factors such as logistics, financing and tariffs remain key challenges to supply chain shifts in CGR.



Insights in this section span data on global export market share across over 120 consumer goods products. As CGR companies plan for supply chain recovery and renewal, it will be key to consider the strengths of China's scale and vertical supply chains, balanced against other emerging market opportunities.

Any rapid shift to supply chains in CGR can only be sustained after investments are made to increase manufacturing capacity in the new country. In the face of rising costs or new

tariffs, global brands will be more quickly able to seek alternative manufacturing or production capacity in another market. This is unlike companies who are less agile due to a reliance on local manufacturers.

Bangladesh, Mexico and Vietnam account for most of the gains in global market share among low-cost consumer goods exporters. US-China trade relations have accelerated the shift in global sourcing to low-cost countries in 2019, especially Mexico and Vietnam.



Between 2018 to 2019, China lost 4% in global CGR export market share where Southeast Asia, Europe and Latin America grew by 1% each.

During this period, Southeast Asia gained 1% global export market share in household electrical goods where China lost 1%.

Southeast Asia also gained 2% in phones and 2% in furniture, where China lost 3% in each of those categories.



Source: Silk Road Associates



Source: Silk Road Associates

The COVID-19 pandemic has disrupted efforts to focus on supply chain shock-proofing or digitalization. Instead, companies are now focused on managing the aftershocks to demand, plummeting sales and financial difficulties. Loke-Khoon Tan, Head, Asia Pacific Consumer Goods and Retail, Hong Kong notes that "as one of the hardest hit industries under the global pandemic, major CGR corporates are pivoting

their business strategies to cope with decreased consumer behavior, closed stores, and excess inventories. To boost sales, we seecompanies investing in e-commerce and digitalization, while also repurposing their factories to manufacture personal protective equipment to support the fight against COVID-19. Businesses have also considered diversifying their production locations in an effort to mitigate risks and maximize recovery."



OPPORTUNITIES IN ASIA PACIFIC AND MEXICO

Indonesia's logistics growth

The new Patimban port in West Java and road and rail investments will ease logistics bottlenecks for the developing industrial parks attracting supply chain projects for CGR.

Renewed sourcing models

CGR companies are actively looking at Southeast Asia (Indonesia, Malaysia and Thailand) to renew their sourcing model(s).

Rising CGR hubs

Opportunities exist for development in Southeast Asian and Latin American countries, dependent on the ability of specific CGR companies and suppliers to shift manufacturing or scale production. Key hotspots to look out for are Mexico, Vietnam, Indonesia and India.



CHALLENGES

Scale for diversification

Cambodia and Laos have great manufacturing potential for certain CGR goods but operate on smaller scales than North Asia. The Philippines has many Korean and Japanese brands, but most are focused on manufacturing for the domestic market.

US tariff rules

Manufacturing in Vietnam and other countries is often reliant on Chinese parts. If this reliance remains, these countries may not benefit from seeing a slew of manufacturers shift into their markets. This is because the use of parts from China may mean that US tariffs targeting China under US national rules of origin still apply to the manufactured goods when exported to the US.

India will need to scale manufacturing and lessen investment obstacles

The Indian market's ability to expand CGR manufacturing will be dependent on CGR manufacturing scalability as well as foreign direct investment rules and further lessening of bureaucracy.



FINANCING

Due to the impact of COVID-19, weakened global demand may leave many suppliers running factories below existing capacity for an extended

period, dampening prospects for

significant new investments.

Potential financial distress may occur among tier 2 and tier 3 suppliers due to sustained global demand slump so companies will have to manage limited cash available to invest in new factories overseas.

Longer-term, the financial sector will find growing opportunities to finance industrial parks and other manufacturing related investments in key manufacturing hubs.



WILDCARD — VIETNAM'S STATUS AS A RISING STAR

"Vietnam is attractive to companies given its export-friendly bonded manufacturing arrangements, its geographic proximity to China and its rich material and component supply ecosystem, as well as its expanding network of free trade agreements, many of which, like the EU-Vietnam FTA, will present significant cost-saving opportunities."

Jon Cowley, Senior International Trade Lawyer, Hong Kong

"With some of our CGR clients, we are seeing an increased focus on e-commerce. However, the logistics are completely different to how supply chains operate in a traditional sense. Businesses should therefore look to ensuring their supply chains and logistics systems are upgraded and ready to support the new ways of conducting business."

Mattias Hedwall Chair of the Global International Commercial & Trade Group, Stockholm



Continuous Energy, Mining & Infrastructure: Emerging market and energy subsector opportunities

Even as the COVID-19 pandemic has thrust the world into a state of change, the global EMI supply chain is among the least impacted as compared with other industries. Advanced economies, including North Asia, Europe and the US, account for an overwhelming 85% of global exports of manufactured EMI products (as opposed to raw materials).



The regional breakdown of data on 62 product categories across over 150+ countries shows that Europe has higher relative shares in EMI machinery & transport products and fabricated metals products, while North Asia and Southeast Asia have far larger shares of solar cell production.

Three key current trends will continue to be played out: the emergence of competitors to China; competition for emerging markets; and US EMI investment in Chinese manufacturing. US EMI investment in China

suggests that foreign multinationals are expected to continue to invest in Chinese manufacturing and to collaborate with Chinese State Owned Enterprises (SOEs), given China's large domestic market and growing foreign Engineering, Procurement and Construction (EPC) contracts (partly related to the Belt and Road Initiative [BRI]). It is also expected that China's BRI push will continue to boost exports to the emerging markets even as the US seeks to reduce the reliance of its domestic energy sector on Chinese imports.



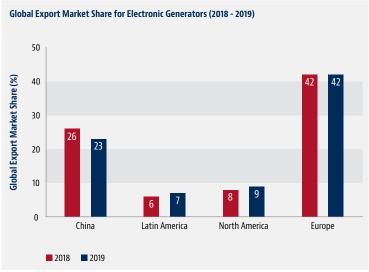
From 2018 to 2019, China and Southeast Asia both gained 1% global EMI export market share each, where Europe, though still dominant, dropped by 1% to 37%. Global export market share for North America remained unchanged.

During this time period, China lost 3% market share in electric generators where Latin America gained 1% to hit 7% while Europe still dominates at 42%. North America gained 1% export share in 2019 from 2018.

Southeast Asia increased its global export market share by a whopping 5% in photovoltaic (PV) modules and cells (solar panels), increasing from 23% to 28% from 2018 to 2019.



Source: Silk Road Associates



Source: Silk Road Associates

"As industrial activity continues to resume and recover across the region and supply chains normalize, companies that have components of their supply chain in the Asia Pacific will need to carefully examine whether reshoring, shortening or diversifying supply chains will be necessary to protect against future disruptions and if so, whether this can be achieved in a cost effective and efficient manner. Companies will need to closely monitor government policies introduced in their home jurisdiction as well as in the jurisdictions in which they operate. These policies will affect decisions, whether voluntarily (e.g. government funding and incentive schemes) or compulsorily (e.g. import restrictions)."

Bee Chun Boo M&A Partner, Beijing



OPPORTUNITIES FOR ASIA PACIFIC AND MEXICO

Emerging markets

China's exports are expected to increase because of BRI and internationalization of Chinese energy and infrastructure companies.

Opportunities in Mexico

US EMI companies producing in China for export to the US are rethinking their supply chains. Mexico could benefit as US EMI companies shift supply chains operations to Mexico to avoid section 301 tariffs³ or output bound for the US market.

Machinery, electrical equipment and electric generator exports

Emerging markets remain a battle ground for these products.



CHALLENGES

Financing and investment pipeline

COVID-19's impact on cash flow could impact the volume and pace of investments. Coupled with weak global demand, capital-intensive projects may experience delay or cancellation.

Shifting investment plans

Due to a US Executive Order aimed at reducing security vulnerabilities in the US energy sector, companies may rethink investment decisions in China where a large share of output is intended for the US market.

Falling US imports

US imports could be impacted by Executive Orders allowing the US government to prohibit US persons from installing bulkpower system (BPS) and other equipment where the US government determines that producer's country is an "adversary."

^{3.} Section 301 duties refer to certain tariff and non-tariff actions taken by the US Trade Representative (USTR) to obtain removal of foreign government policies that the USTR determines are unjustified, unreasonable or discriminatory, and burden US commerce.



FINANCING

Lending opportunities to foreign firms in China's EMI sector will remain significant. China's large domestic market and growing foreign EPC contracts, partly related to the BRI, are a compelling reason for foreign multinationals to continue to invest in Chinese manufacturing and to collaborate with Chinese SOEs.

With BRI adopting a more collaborative and private-sector led approach in the coming years, more financial lending opportunities for international banks will emerge.



WILDCARD — SOLAR PANELS BUCK THE TREND

The solar cell subsector is an exception to the general **trend,** as market shares remain volatile as the industry is buffeted by national subsidies and protectionist measures.

The rise of Malaysia as a global solar cell manufacturing hub is also a key trend.

Vietnam is also a rising Southeast **Asian hotspot**, given the government's focus on renewable energy. The country's Renewable Energy Development Strategy, launched in 2015, outlines specific laws on foreign investment, investment protection and for solar power. Reports also cite that Vietnam reached the largest installed capacity for solar power in Southeast Asia by the end of 2019.

O3 Healthcare & Life Sciences: COVID-19 related mandates will affect PPE supply chain

Europe and the US dominate the Healthcare & Life sciences (HLS) sector, accounting for 78% of global export market share. China's share of the PPE industry is high at 22% and rises to over 50% for specific items, such as masks, protective goggles and protective gowns.



China's role in the HLS supply chain is more important when considering specific Active Pharmaceutical Ingredients (APIs) and raw materials or component parts used in medical devices manufactured elsewhere.

COVID-19 has prompted governments to quickly diversify the supply chain for a small group of products, such as masks, protective goggles, protective gowns and APIs. In addition to PPE and APIs, this section includes analytics on 96 product categories across more than 150 countries.

Government intervention through trade and non-trade measures is expected to influence HLS supply chains in the coming years. As countries seek to develop critical production capabilities, disruption will be more focused on specific products such as masks or APIs.

However, legacy investments in overseas production facilities will make rapid supply chain change improbable. The industry also faces significant cost pressures, and it will not be easy to find alternatives to current low-cost inputs from China and India, which dominate the API market.

Governments will seek to build confidence and resiliency in pharmaceutical supply chains post-COVID-19. A greater focus on localization of supply chains may also spur smart manufacturing, such as the use of data analytics to manage inventories and drug distribution, especially during virus spikes, or the use of AI for quality control during production.



From 2018 to 2019, Europe increased dominance of pharma products from 76% of global export market share to 77%.

While Europe has a stronghold in pharma products, North America has maintained 21% of global export market share in medical supplies and equipment.

China increased dominance from 22% global export market share in PPE to 23%, and Latin America increased global export market share in medical supplies by 1% to 7% during this time period.4



Source: Silk Road Associates

"Healthcare and Life Sciences companies now face increased complexity in managing their supply chains, given the host of legal and regulatory measures arising out of COVID-19. Companies will now be pushed to work even harder as manufacturers evaluate their entire supply chain amid heightened awareness of potential shortages and disruptions that may be caused by the pandemic. These would relate to active pharmaceutical ingredients, finished dose forms and any components that are affected by special regulation or government intervention. As companies plan ahead, sustainability, market access and IP risks will be key concerns for HLS supply chains."

Isabella Liu, Former Head of Healthcare and Life Science, Asia Pacific Current Head of Intellectual Property and Technology, Asia Pacific



OPPORTUNITIES FOR ASIA PACIFIC AND MEXICO

Essential product production

Countries will look to increase production capacity of commoditised medical supplies, including gloves, syringes and hand sanitizer.

Al-enabled medical devices

Al-based diagnostic imaging has responded quickly to the pandemic. Development of Chinese Al will be boosted by government support, ultimately impacting exports.

Strategic diversification

Opportunities exist for relocating some segments of global HLS supply chains in Mexico as a strategic alternative for the US market.



CHALLENGES

Potential shifts in global supply for API

Concerns over global supply for APIs will become prioritized as countries shift into recovery and renewal phases post-COVID-19. Additionally, API-specific tariffs will also impact global supply chains.

Regulatory changes

Supply chain diversification may become a priority if current labelling laws for finished pharmaceutical products, which do not require brands to disclose API sources, change. This would impact US manufacturing as there is a current reliance on APIs from China and India.

Emerging markets

Emerging markets may face challenges replacing the Chinese API industry given the importance of a large domestic chemical feedstock to the industry.



There will be opportunities for financial **institutions** to finance the reshoring of critical production capabilities, especially masks or capex -intensive APIs & raw materials, as governments seek to rebuild production capacity.

However, financial institutions will find fewer financing opportunities in the HLS sector owing to global supply chain change, as Europe and the United States already account for the large share of global HLS exports, limiting the scope for reshoring.



WILDCARD — GOVERNMENT PRIORITIES AND REGULATION WILL AFFECT PPE AND STRATEGIC PRODUCTS

The US may broaden its definition of what is considered an essential industry. The US Trade Representative (USTR), as part of its section 301 action imposing tariffs on Chinese imports, recently asked companies to identify products which are critical to COVID-19. Products deemed as essential would not be subject to section 301 tariffs. Beyond the obvious PPE products, the list includes a range of goods, from commercial trucks to water pressure components used in hospitals.

Globally, governments are expected to **use a range of policy tools,** such as government subsidies, low-cost loans or guaranteed purchases, to develop domestic production capacity of affected PPE products. Hong Kong is a good example of how quickly governments and the private sector can act to boost local mask supply.



O4 Industrials, Manufacturing & Transport: Eyes are on emerging markets

While the main drivers of supply chain shifts in IMT such as geopolitical change and trade wars are globally resonant, climate change and labor issues are also accelerating the need for IMT companies to revisit supply chains.

There is a need to adapt to disruptions by developing more flexible supply chain models. There are specific challenges and opportunities to plan for recovery and renewal in IMT supply chain management. An analysis of 220 product categories across 150+ countries for IMT shows that while there has been minimal movement in global export share since 2015, emerging markets remain a key hotspot and trade wars could result in a more pronounced shift in the mid-term. China continues to be a large and growing IMT market, and Multi National Companies (MNCs) will continue to invest in the country.

IMT companies will seek financing to rebuild and re-strategize their supply chains to reduce their exposure to single-source suppliers, especially to provide added protection against significant supply chain disruption like that experienced due to the pandemic and trade wars. Throughout the recovery and renewal stages, transforming and strengthening supply chains against current disruptions will require close coordination between trade, tax, corporate and compliance groups.



Between 2018 to 2019, Latin America saw a 1% increase in global IMT export market share from 6 to 7% where China fell by 1% from 14 to 13%.

During the same time period, China lost 2% global export market share in both IMT machinery and railroad equipment.

Latin America gained 1% in IMT machinery from 2018 to 2019, and Europe gained 2% export market share in railroad equipment during this time, after a 4% increase in market share from 2015 to 2018.



Source: Silk Road Associates



Source: Silk Road Associates

"Global buyers should look to make supply chains more robust and stable or resilient. To achieve this, there are three areas to consider: regionalization, diversification and digitalization. Regionalization i.e. bringing manufacturing capabilities "back home" or closer to where the final product is being needed, will require balancing higher manufacturing cost against capability to deliver and supply. Diversification comes into play to avoid the risk of single-source suppliers. Building up additional and alternative sources of supply, who can play a role in a break-down or stoppage, is key to avoiding temporary or longer term shut-down of production facilities. A stronger focus on digitalization will enable global buyers to react more quickly to market, environmental and other sustainability challenges, redirect manufacturing tasks to alternative sources of supply and to implement and scale up new manufacturing processes."

Nikolaus Reinhuber Chair, Global IMT Group, Frankfurt



OPPORTUNITIES FOR ASIA PACIFIC, MEXICO AND EUROPE

Japanese IMT manufacturers

These may continue to produce in China for China as well as for export to Japan and other emerging markets, despite Japanese government initiatives to reshore manufacturing to Japan.

Emerging markets

BRI projects will continue to be a key driver of IMT exports to emerging markets, especially construction transport equipment. In 2019, China accounted for 19% of IMT exports in to the emerging markets.

European railroad equipment

Europe's global export share in railroad equipment rose by 4% between 2015 to 2018 and by another 2% in 2019, accounting for 40% of global share in 2019.



CHALLENGES

Building an agile supply chain takes time

Companies may seek to reduce their exposure to single-source suppliers. This process has already begun but will take time given the capital-intensity of shifting and/or investing in facilities and difficulties in finding the right skilled labor.

Shifting industrial policies

Government industrydevelopment and critical infrastructure policies that focus on local sourcing requirements to develop industrial capacity in energy and other critical sectors may also affect the pace and trajectory of supply chain shifts in IMT.

Managing weakened global demand

Extended weakened global demand will affect IMT companies' ability to attract investment in new capacity and/ or to seek recovery with rebuilding supply chains or renewal through supply chain digitalization.



MNCs are expected to continue to invest in **China,** creating opportunities for the financial sector.

BRI financing activity will also be of interest.

While Chinese banks have dominated such trade in the short-term, BRI financing opportunities may exist in niche areas, especially serving foreign IMT manufacturing in China for export to the emerging markets.



WILDCARD — GOVERNMENT INTERVENTION TOOLS **MAY INFLUENCE SHIFTS**

Expectations of US government industrial policy to ensure self-sufficiency in critical products will affect reshoring patterns. Executive orders (EOs) may change export controls or procurement regulations to protect national interests. In May 2020, US President Trump issued an order authorizing the Energy Secretary to prohibit the installation of bulk-power system equipment produced by a foreign "adversary." This EO followed the pattern of a May 2019 EO providing similar authority to the Commerce Secretary with regard to information and communications technology imports.

Such executive actions can create **uncertainty** for the global supply chain through material impact. However, some US companies have successfully applied for exclusions for section 301 duties, which are not submitter specific. This means companies can take advantage of a competitor's successful application for an exclusion on a specific product.



This trend is set to continue in the next few years even as manufacturers add to their list of production destinations; for example, Indonesia and the Philippines are attracting attention. The TMT sector also faces competition from other industries such as CGR and IMT in moving manufacturing to these countries.

In general, North Asia still accounts for an overwhelming 63% share of global TMT exports. China alone accounts for around half of

North Asia's share and is the world's largest exporter of key products such as smartphones and computers.

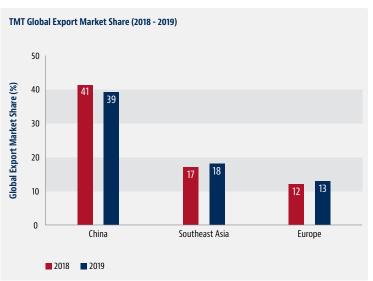
However, the Chinese domestic market is a large and growing market for TMT products companies are expected to keep producing "in China for China", which will ensure significant TMT capacity remains in China. Its "Made in China 2025" plan will also boost development for the semiconductor industry.



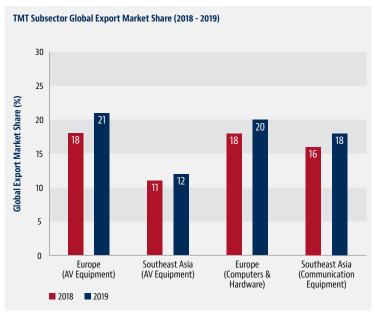
From 2018 to 2019, Southeast Asia and Europe each gained 1% global TMT export market share to achieve 18% (Southeast Asia) and 13% (Europe); China lost 2% global TMT export market share, dropping to 39%.

During this time, Southeast Asia gained 1% in audio visual equipment and 2% in communication equipment, where China lost 4% in audio visual equipment and 3% share in communication equipment.

It is also notable that Europe gained 3% global export market share in audio visual equipment and 2% in computer and hardware. Latin America gained 1% market share across computers and hardware, as well as in storage devices, LCD devices and component parts from 2018 to 2019.



Source: Silk Road Associates



Source: Silk Road Associates

"Pre-COVID-19, generally, the prompts for redrawing the supply chain might have been tax considerations and often manufacturing costs. Now, along with managing the continuing and changing risks of COVID-19, which differ among TMT sectors, several other factors are back in play when looking at how to diversify, transform and mitigate risk in supply chains. These are to be considered through a holistic approach and they include reliable access to labor, ease of market access, the availability of government incentives, new technology R&D hubs being set up and, of course, the ongoing trade wars with the attendant import tariffs, technology transfer and export restrictions as well as restrictions on public and private procurement."

Raffaele Giarda Chair, Global Technology, Media & Telecommunications Group, Rome



OPPORTUNITIES FOR ASIA PACIFIC AND MEXICO

Global tech companies

These companies have been shifting production of consumer TMT products mainly to Vietnam and Mexico.

Opportunities for diversification

A number of global computer equipment companies are reportedly planning to shift a significant percentage of production beyond China due to tariffs and trade actions.

Taiwanese capacity

Taiwanese TMT companies have invested in new capacity, responding to customer demands amid new US rules.



CHALLENGES

Government interventions

Government discretion through possible bans on the sale and export of technology tools to certain jurisdictions will affect how smoothly companies can shift manufacturing locations. In particular, semiconductor manufacturing could be significantly impacted.

Export controls and manufacturing capacity

The TMT sector may face greater supply chain disruption in the event of deteriorating US-China tensions and vastly changing global dynamics. In particular, uncertainty over TMT goods and technologies subject to export control restrictions may impact decisions about technology transfers and choice of manufacturing location.

IoT export potential remains unclear

Due to expanding bans, export potential of 5G technology from China to several jurisdictions hangs in the balance. China's 5G drive and Shenzhen's position as a global leader in IoT manufacturing, means that China has a strong competitive advantage in its domestic market and in emerging markets.



FINANCING

Opportunities in financing will emerge in Indonesia and the Philippines given the growing attention by IMT companies' supply chain renewal plans.

Tech companies have also moved production for data center servers and other networked devices to Taiwan and other countries— financial institutions should be aware of the emerging opportunities as digitalization becomes an impetus for supply chain investment.

Financing opportunities exist for computer and smartphones manufacturing in Southeast Asia (especially Vietnam) as well as in Mexico, especially as the rate of global export market share accelerated markedly in 2019.



WILDCARD — DIGITALIZATION IS A GAME CHANGER

"Digitalization of the TMT supply chain continues apace accelerated by COVID-19. Whilst in the last few years we saw many digitalization projects at the later stages of testing and various pilots, we are now seeing these digitalization projects coming of age and being implemented in the supply chain.

Noteworthy developments include: increasingly advanced robotic process automation mitigating human risk and improving efficiency, new generations of faster 3D printers producing ever more complex components and block chain solutions, tracking the origin and security of goods in the supply chain.

Additionally, the trend of businesses partnering with logistics solutions companies to integrate with other partners in their supply chain is also a hallmark of the renewed drive to digitalization."

Carolina Pardo Global Steering Committee Member for TMT and Partner, Bogota

Conclusion



As global demand-side shocks have widely impacted various industries, consumption deserts are now putting pressure on decision-making and creating tension between the short-term goal of ensuring cash flow versus preparing for longer-term recovery in adjusting to changes in how global supply chains operate.

The World Trade Organization (WTO) reports that the volume of merchandise trade shrank by 3% year-on-year in the first guarter and is likely to fall 18.5% in the second quarter meaning that the goal for many is to work toward reaching near 2019 levels, particularly as excess stock grows.

All of this means that governments in a great many economies are now looking at ways to create trade and production environments to help weather the pandemic. How this plays out in a highly globalized and interconnected world, when almost every country is focused on the same outcomes, remains to be seen.

What is certain is that threefold pressures will continue to pivot and shape supply chain shifts.

Trade is being politicized more than ever before



Increasingly resonant nationalist rhetoric is shaping the pace and geography of supply chain diversification. Rising foreign investment screening regimes from Australia, US and India, amongst others, will reshape global supply chain strategies and capacities.

US-China tensions will affect supply chain shifts



Many businesses have been re-thinking their China supply chain strategy. However, China's competitive advantage, large market and BRI mean it would be unreasonable to believe that there will be an en-masse supply chain diversification away from China.

COVID-19 has accelerated the need for change



Global efforts to combat the devastation of COVID-19 may prompt governments to reshore selected industrial goods considered to be of strategic national importance (e.g. those in support of medical, military and key industry efforts), intervening through regulation or subsidies.

"As companies formulate plans for recovery, they are looking to find long-term solutions, which are completely different from crisis management. Companies need to be ready for change and to navigate supply chain changes with the right counsel or advice that helps them to communicate directly with all parties involved in the supply chain management and operations processes. The road ahead involves all parties; this is not an isolated phenomenon. Hence, the dialogue going forward is key: there is a need to balance client interests with new ways of serving end-use customers, particularly when there is a need to service the product directly in new digital ways. Legal guidance and advice on infrastructure is pivotal in finding success through recovery and renewal."

Anne Petterd Head of International Commercial & Trade, Asia Pacific

The opportunities ahead

"Even as businesses look to diversify their manufacturing and supply chains, the relocation of factories or sourcing will not be solely due to factors such as scale, costs, stability and skilled workforce. Yet, MNCs and leading companies will seek to reduce their exposure to constantly changing trade tariffs and policies," notes Petterd.

The scale and pace of supply chain shifts very largely depend on the stabilization of global trade tensions and the confluence of regulatory edicts from global governments. Businesses looking to protect their people and operations will do well to stay on top of shifting regulations and weigh their options for shifting their supply chain operations with agility, considering the complexity of their own production, assembling and market geographies.

Beyond COVID-19:

The Resilience, Recovery & Renewal Model

Our Resilience, Recovery & Renewal model is helping organizations navigate the business and legal impacts of the COVID-19 pandemic. Wherever you are in your response to the pandemic, we will help you with the services and resources you need. Visit our **Beyond COVID-19 Resource Center** for real-time legal and regulatory updates. We will be tracking risks and opportunities across business functions, industries and geographies.



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About Silk Road Associates (SRA) Silk Road Associates is a leader in geospatial and alternative data analytics, providing solutions for the Asian and broader emerging markets using the firm's proprietary SRA Intelligence® analytics. They work with clients across the financial, industrial, private equity, and supply chain sectors.

Note on Methodology

All trade data shared in this report was produced with Silk Road Associates

For CGR, IMT, and EMI industries: This report uses the OECD's BTDIxE industry classifications to classify the 4-digit HS code data as a start and then further refine the classifications to best fit for Baker McKenzie's industry classifications. Note that select codes cover multiple products at the 4-digit (or even 6-digit code) level and so may be counted in more than one category.

For the HLS industry: This report uses the WTO's definition of trade in the medical products industry for the purpose of our HLS study, including medical equipment, medical supplies, medicines, personal protective products. Note that the HLS industry is the only sector where we use 6-digit HS code data so as to avoid misclassification given the specificity of the products.

For the TMT industry: The report uses UNCTAD's definition of trade in the ICT industry for the purposes of our TMT study, including computers and peripheral equipment; communication equipment; consumer electronic equipment; electronic components; and miscellaneous goods. UNCTAD is the primary UN body dealing with trade, investment and development issues.

On trade analytics

- Global export market shares are calculated by aggregating 4-digit HS code data based on the world's top 50 importers accounting for 95% of global imports hetween 2015-18
- Data for 2019 aggregates 4-digit HS code data for a smaller group of countries that have reported data so far at this level
- This approach overcomes the challenges of analyzing supply chain changes in emerging markets, as many emerging market countries either do not report data at the 4-digit level or report data with a multi-year lag making it challenging to track recent developments.

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