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LOGISTICS NEWSLETTER | FEBRUARY 2019





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ANTI-GLOBALISATION AND ITS EFFECT ON SUPPLY CHAINS

Following the 2008 crash, the world has seen a steady rise in anti-globalisation and populist sentiment, with free trade being blamed for everything from rising unemployment and decreased wage growth to rising immigration and forced technology transfer. This has led to a rise in protectionist measures in economies across the globe with Global Trade Alert finding that since 2008 there have been in excess of 1,000 protectionist measures implemented globally. These range from increased tariffs, subsidies and non-tariff barriers to export bans.

The uncertainty created by the growth of protectionism and anti-globalisation is also having an adverse impact on investment decisions, with potential investors either diverting investments to other countries or reducing foreign investments altogether.

However, the most striking impacts are likely to be in the adjustment of supply chains in response to growing mercantilism. This article will focus on the two mercantilist developments that are likely to have the largest impact: the US-China trade war, and Brexit.

China and the US

In recent months, global supply chains from Asia to the US have seen significant disruption due to the ongoing trade war between the US and China. Whilst the two global economies are in discussions to resolve the dispute this has provided no comfort to US importers who have been front-loading imports in a bid to avoid the next round of tariff hikes due on 1 March 2019. If the threatened tariffs are implemented, US importers will be facing tariffs of 25% on \$200 billion worth of Chinese goods including various food products, minerals, ores, chemicals, paper, textiles, machinery and electronics, metals and metal products.

The front loading has led to significant congestion at US ports which are struggling to deal with the surge in imports ahead of the March deadline. A further concern is that if the increased tariffs are introduced, container volumes to the US from China will drop significantly, ultimately affecting the financial viability of US ports which had rapidly expanded to accommodate an influx of Chinese goods following China's accession to the WTO in 2001.





The effects of the trade war are not limited to China and the USA. Firms further down the supply chain will also take a hit as the US and Chinese companies to which they supply components reduce production. However, third party countries may also benefit from significant opportunities. With firms from both China and the USA facing punitive tariffs, the relative competitiveness of firms in other countries is boosted, leaving them free to step in to replace the now less competitive US and Chinese firms. A recent study by the United Nations Conference on Trade and Development finds that the European Union is likely to benefit the most, with firms there capturing about US\$70 billion of US-China bilateral trade, but with other Asian countries such as Japan, the Philippines, Vietnam and Australia capturing significant shares of trade relative to the size of their exports. Whilst low cost manufacturing was already shifting from China to South East Asian nations, this has accelerated in light of the ongoing uncertainties about China's trading relationship with the US. The effect of this trade diversion is to create new trade routes with new and novel demand for logistics support. Shipping lines have already begun removing capacity on Trans-Pacific trades and have recently made announcements regarding their renewed commitment to growing intra-Asian trade.

The UK and Europe

In Europe, the Brexit deadline of 29 March looms large with the UK seemingly on a course to exit the European Union with “no deal”, leaving both the customs union and single market and leaving the UK to trade with the rest of the world on the minimum terms of the WTO agreements. This has already had a significant impact on UK businesses with companies such as Sony and Panasonic having already made the decision to relocate their operations to countries within the EU.

The companies that remain in the UK, particularly those whose main import or export market is the EU, will now face a completely new regulatory regime of customs checks and associated bureaucracy that many will never have had to deal with before. There is considerable concern that the UK simply does not have the resources to deal with such demand and delays in processing times are likely to be significant. This in turn will have a significant adverse impact on companies with a “just-in-time” logistics model and will require supply chains to be remodelled.





Some estimates suggest that the UK will need 3-5 years to develop the necessary infrastructure and expertise to deal with the necessary customs checks for EU trade so a high level of disruption is expected to continue in the short-medium term.

The liberalising approach of the rest of the World

With the world's two largest economies at loggerheads and the European Union facing its first ever defection, one might be tempted to assume that the golden age of globalised free trade is over. However, the rhetoric from President Trump and other anti-globalists has seemingly spurred on a spate trade liberalising initiatives, such as:

- > The Comprehensive and Progressive Agreement for Trans-Pacific Partnership, revised following the withdrawal of the US in 2017, which entered into force on 30 December 2018; and
- > The EU's continued push to expand its programme of bilateral trade agreements. The EU recently concluded free trade agreements with Japan (which came into force on 1 February 2019), Singapore and Vietnam.

These large deals suggest that there remains a strong appetite for free trade and further liberalisation in the majority of the world's economies.

Conclusion

As the success of the logistics industry is premised on the maintenance and growth of international trade, any increase in trade protectionism is a cause for concern. However, with large economies such as the EU seeking further trade liberalisation measures as a counterpoint to the protectionist moves of the US, it is by no means certain that the current high level of protectionism will become the "new normal".

The volatility in international trade may even create opportunities for logistics companies to enter new markets as trade is diverted and demand for new trade routes grows. Logistics operators will also have the opportunity to market themselves as an essential resource in an environment of increased trading uncertainty as they can support importers and exporters in becoming as agile as possible, allowing their customers to access diversified sources of supply as a means of mitigating trade risks.

Technology is also likely to become a growing asset, particularly technology that allows visibility along the supply chain, enabling suppliers to see problems as early as possible and to take the necessary steps to remedy that problem. Logistics operators with strong technology offerings are therefore likely to be well-placed to benefit from the current volatile trading environment.



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CONSOLIDATION AND INTEGRATION IN THE LOGISTICS AND SHIPPING INDUSTRIES

Those who live in Hong Kong are familiar with the city's giant conglomerates – your lunch, your phone service, your clothes and your flat may all be from the same group of companies. The same may soon become commonplace in the logistics and transport industries. In a world where countries are attempting to withdraw from multilateral engagements and build walls on the border, some major players in the logistics and transport industries are doing the opposite by integrating their businesses.

There are two types of integration – horizontal integration and vertical integration. Horizontal integration happens when an entity acquires another entity in more or less the same business. Alternatively, horizontal integration may also happen by way of contractual agreements between entities without involving an acquisition.

On the other hand, vertical integration happens when an entity acquires another entity above or below it in the chain of business. For instance, the French container shipping line CMA CGM acquired around 33% of CEVA Logistics in 2018. The two types of integration impact the integrating entities and the market in different ways.

Horizontal Integration

The benefits of horizontal integration to the integrating entities are easy to understand. It increases efficiency thanks to the economies of scale and scope. Perhaps more importantly, it allows the integrating entities to expand their international presence to better meet the global service requirements of their clients. A recent example of this is Korea's CJ Logistics acquiring the US-based DSC Logistics in 2018 to expand its US operation.

While horizontal integration is generally advantageous to the integrating entities, it may not benefit other players in the industry or end users. The cost savings that come with the integration do not necessarily translate into lower prices for the goods and services supplied by the integrated entity. The integrated entity may simply keep the old prices and enjoy a higher profit margin. At the same time, the integration reduces the number of players on the field. Even if the integration is between a local company and an overseas company who has no local presence, it may still be said that the integration eliminates a potential new entrant to the local market. Besides, the integrated entity will almost certainly have a greater market share than each of the constituent entities. This may give the integrated

entity greater market power or even monopoly. This is certainly less than ideal for the suppliers, the customers and the competitors of the integrated entity.

A recent Hong Kong example of horizontal integration is the Hong Kong Seaport Alliance (the **"Alliance"**) consisting of Hong Kong International Terminals, COSCO-HIT Terminals, Asia Container Terminals and Modern Terminals announced in January 2019. These 4 companies operate 23 of the 24 berths at Kwai Tsing Container Terminals. They will jointly operate and manage these 23 berths through the Alliance. The aims of the Alliance are said to be increasing efficiency, reducing emissions and making the Hong Kong port more competitive in relation to other ports in the region, but the businesses who deal with them are naturally more concerned about the impact of the Alliance on maintaining healthy competition. In the event that the Alliance does carry out cartel-like behaviour (for example, simultaneously raising terminal handling charges at all terminals controlled by the Alliance), those who directly interact with the terminals will obviously be affected. Other players who have no direct dealings with the terminals may also be affected by reason of shippers and shipping companies avoiding Hong Kong due to the high terminal charges. The Competition Commission



has already started investigating whether the Alliance may prevent, restrict or distort competition in Hong Kong and we await their findings

Vertical Integration

Vertical integration also offers clear advantages to the integrating entities, such as aligning interests, reducing transaction costs and eliminating double marginalization (so that a more competitive price can be set in order to gain greater overall profits). One particular area of integration which has been in the spotlight for a while is the land-sea integration. Traditional shipping companies are increasingly seeking to expand their land-based businesses such as terminal operation and road carriage. For example, the Chinese state-owned shipping giant COSCO acquired majority shares in the Hong Kong-based international terminal operator and logistics company OOCL in 2018. Maersk, the largest container shipping company in the world, is also looking for acquisitions to bolster its operation on land, in addition to a planned reorganisation which will integrate its logistics arm Damco back into Maersk itself.

Unlike horizontal integration, vertical integration usually has little adverse impact on the market because there is no reduction in the number of competitors. An exception to this is when one of the constituent entities of the integrated business dominates the market at a specific point in the supply chain or has exclusive access to certain key infrastructure. The monopoly status may be carried over to other parts of the chain. For example, if all terminals in a port are controlled by the same company, and that company has just merged with a shipping company, the merged entity will have an incentive to discriminate against other shipping companies by providing inferior services or charging higher prices.

Future Trends

Consolidation and integration in the logistics and transport industries have become increasingly common in recent years and there is no sign that they will stop any time soon. In fact, new developments in Hong Kong and in the world seem to point toward the direction of further integration. The Greater Bay Area initiative promotes the full integration of air cargo, ground

transportation and warehousing services. It is only natural that some companies from these fields will start thinking about merging with other companies in order to provide better end-to-end services to the customers. Globally, the adoption of advanced IT technologies such as artificial intelligence and blockchain in day-to-day business activities has been growing. To effectively utilise these technologies, extensive data from each stage of the supply chain is required. The sharing of data that comes with a merger will be a powerful motivation for many companies.

To conclude, regular consolidation and integration will remain a feature of the logistics and transport industries for at least some time, and those who are in these industries can perhaps think about whether they themselves want to undergo the same process.



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BIG DATA COLLECTION FOR SMART MOBILITY VS PRIVACY CONCERN- IS THERE A GOLDEN MEAN?

In December 2017 Hong Kong's Innovation and Technology Bureau launched its Smart City Blueprint setting out the steps that would need to be taken to develop Hong Kong into a Smart City. The Smart City initiative is divided into 6 key sectors: Smart Mobility, Smart Living, Smart Environment, Smart People, Smart Government and Smart Economy.

Using Big Data, Smart Mobility projects aim to improve the safety and efficiency of a city's transport system as well as ensuring environmental sustainability. Big Data frequently contains personal information the collection, sharing, and processing of which is subject to rules and regulations.

A conflict undoubtedly arises between requiring access to Big Data to further social economic projects using the latest technology, and protecting individual's right to privacy.

Hong Kong a Smart City

Smart Mobility is an integral part of Hong Kong's Smart City initiative and aims to streamline the transport

and logistics sectors, ensuring that the city is "future proof" against an ever increasing global population and balancing environmentally sustainable practices with efficiency.

Hong Kong is looking at many different ways of achieving these outcomes, such as:

- > implementing green technologies on local ferry operations;
- > using driverless cars in the airport to increase efficiency;
- > installation of in-vehicles units which will allow payment of tolls / tunnel fees remotely and feed real time traffic information to the drivers with the aim of reducing traffic jams and congestion; and
- > deployment of Logistics software systems which can take advantage of real time data to see when peak times are and to route vehicles efficiently.

In the shipping industry, port calls can be optimised by sharing relevant data in advance improving berth

occupation planning and the availability of necessary equipment. Hamburg's smartPORT uses real time navigation and electric vehicles to ensure a smooth flow of traffic at the port.

What is Big Data?

There is no set definition of what "Big Data" means, although it is frequently used to describe data sets that are so vast and varied in type that traditional data processing techniques are unable to analyse the information. Big Data by itself is unusable however new analytical methods are able to extract valuable information such as key trends and future pattern predictions.

Sources of Big Data are diverse from smart phones and social media, to vehicle sensors, and GPS applications. Locational related data is usually the key to producing useful information from Big Data sets especially for Smart Mobility initiatives.

For example, Hong Kong currently collects real time traffic data from smart sensors which feed into traffic



lights. The traffic lights then automatically change in reaction to the flow of traffic helping to ease congestion.

Hong Kong's Personal Data Laws

Personal data is defined in Hong Kong as any data (i) relating directly or indirectly to an individual, (ii) from which it is practicable for the identity of the individual to be directly or indirectly ascertained and (iii) in a form in which access to or processing of the data is practicable.

Taking into consideration the sources of Big Data it is easy to see how some of the information collated can be personal data.

Under the Personal Data (Private) Ordinance (Cap. 486) (“**PDPO**”), consent of the individual is not a prerequisite to data collection in Hong Kong, however, notice of the data collection should be given. Only relevant personal data should be collected for a lawful purpose and be necessary for or directly related to that purpose.

Advancement of Smart Mobility v Privacy

In 2015 the Privacy Commissioner for Personal Data held a conference highlighting the privacy issues associated with the collection of Big Data, warning that if the collection of Big Data is not well managed then

it could lead to a “dictatorship of data” with individual’s losing control over a substantial amount of information concerning them.

There are many ways in which the collection of Big Data in relation to Smart Mobility may contravene the PDPO for example:

- > Real time traffic information can be collected from the GPS data transmitted from smartphones. This will show the location of the individual the smartphone is registered to;
- > The inclusion of people and their faces in images taken via automated services for mapping purposes;
- > The on board units of vehicles may have reference to the license plate numbers and MAC (Media Access Control) addresses. These are considered indirect identifiers;
- > Many companies are collecting data without fully understanding or appreciating whether it will be used for a different purpose in the future; and
- > The accuracy of the information collected is often not verified nor is the relevance of it checked.

The 6 Data Protection Principles “DDPs”:

1. Personal Data must be collected in a lawful and fair way, for a purpose directly related to a function/activity of the data user.

Data subjects must be notified of the proposed and the losses of persons to whom the data may be transferred.

Data collected should be necessary but not excessive.
2. Practicable steps shall be taken to ensure personal data is accurate and not kept longer than is necessary to fulfil the purpose for which it is used.
3. Personal data must be used for the purpose for which the data is collected or for a directly related purpose, unless voluntary and explicit consent with a new purpose is obtained from the data subject.
4. A data user must take practicable steps to safeguard personal data from unauthorised or accidental access, processing, erasure, loss or use.
5. A data user must take practicable steps to make personal data policies and practices known to the public regarding the types of personal data it holds and how the data is used.
6. A data subject must be given access to his/her personal data and allowed to make corrections if it is inaccurate.



It has long been noted that it is difficult for legislation and regulations to keep up with the pace of technological advancement, and the use of Big Data in Smart projects seems to be no different.

However, the PDPO recognises that there is a need to balance the privacy of individuals with public interest and has provided several exceptions to the PDPO regulations. One of which is data collected and processed for the purpose of research and statistics are exempt from the provisions of DPP3.

As applications are developed to collect Big Data, those designing them should first and foremost identify whether personal data is being collected and how data protection should be incorporated in to the application from the beginning. This could be achieved by stripping out identifying markers at the processing stage.

Conclusion

It is difficult to escape the conflict between striving for a better future via Smart projects and safeguarding individuals' privacy. There will be big pressure on companies that collate, store, process and utilise Big Data in a way that is compliant with privacy laws and to maintain compliance going forward.



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LIABILITIES FOR AUTOMATED WAREHOUSING AND DISTRIBUTION CENTRES

The growth in e-commerce has brought the efficiency of warehousing and distribution centres to the fore. Rather than being bottle-necks and costs centres, warehouses are increasingly being seen as an asset, providing opportunities for value-added services and cost efficiencies.

To realise the potential of warehouses to drive efficiencies, more and more companies are turning to automation. Automation in this part of the supply chain can take many forms ranging from simple barcode scanners and RFID tags to completely automated distribution centres with widespread use of machines. The common features across this range of automation options are:

- > Increased collection, use and management of electronic data compared to a non-automated warehouse;
- > Increased reliance on computers and software programmes;
- > Increased use of non-human operated systems; and
- > Increased use of highly skilled workers to maintain automated systems.

The benefits of automation include increased efficiency, in terms of both costs and time, reduced spend on human workforce, space savings and safer operations. It is therefore not surprising that some of the world's largest retailers (such as Amazon, Nike and Coca Cola) all operate automated warehouses.

However, as with the introduction of any new technology, the automation process is not without its risks. An automated warehouse operator is of course exposed to the usual risks associated with the storage and handling of goods, such as theft, loss or damage to goods and delay in delivery. But automation also brings with it a new range of risks, as follows:

System breakdown

The more reliant an automated system is on a computer programme to manage and coordinate the complex interrelations of tasks in the automated warehouse, the higher the risk to the system in the event the computer programme or computer itself fails. This could be caused by something as mundane as a power outage and requires companies to implement sufficient back-up systems to allow the warehouse to continue to operate or to restore operations as soon as possible.

In addition, where a smaller element of the system breaks down, such as a section of conveyor belt or a single bot, the expertise required to maintain and repair the system is likely to be different to the skill set of the current workforce. Automated warehouse operators will therefore need to ensure they employ a sufficient number of high-skilled workers to keep the systems operational.

Interactions between human employees and warehouse bots

Any context in which humans and robots or automated machinery interact brings with it the risk of clashes between those parties, and the risk of potential serious injury to human employees. These risks can be mitigated to some extent by minimising the zones in which humans and robots both operate and by implementing clear operational safety policies.

Risk associated with increased use of the "Internet of Things"

As ever more objects become connected to the internet, they become exposed to the types of cyber risks traditionally seen in other computing contexts. Cyber-attacks and breaches of cyber security are on



the rise and the introduction of automation in the form of internet-enabled and connected objects potentially increases the areas of vulnerability in a business. Automated warehouse operators will therefore need to ensure that they have in place a clear and complete cyber security policy that is regularly reviewed to ensure it is up to date.

With an increased cyber-risk comes an increased risk of loss of data. Whilst that could have a significant business impact if inventory and order data were held to ransom or otherwise lost, external risks also exist in the form of regulatory sanctions for loss of personal data. For example, as discussed in the May 2018 edition of [this Newsletter](#), the GDPR regime in the EU exposes companies to significant fines in the event of breaches of data protection rules.

Risks associated with increased use and reliance on technology

Whilst there seems to be a technological answer to most problems these days, the increased reliance on technology is not without its downside. Both software and hardware are rapidly superseded, leading to a risk of obsolescence once a particular system is installed.

Warehouse operators looking to automate their systems will need to carefully consider the costs and ease of maintenance and upgrading of the system to ensure their investment has the longest possible life span. They may also need to expand their workforce to include highly skilled computer engineers, programmers and software engineers to help maintain and upgrade the system as necessary.

Operational constraints

Some automated systems are not yet equipped to deal with a large variety of packaging shapes and sizes. Installing these systems would therefore require a change in the range of products handled by the warehouse or a standardisation of the packaging of those products.

In addition, certain automated systems such as conveyor belts offer less flexibility once installed compared to a manual warehouse which limits the warehouse operator's ability to reconfigure the warehouse to deal with a changing customer or product base. These limits will need to be carefully considered before any investment decision is taken.

Conclusion

As with all new technologies, all of the risks of using them cannot be foreseen. Companies can to a large extent mitigate those risks by installing back-up systems and redundancy and also by seeking appropriate insurances. However, current insurance policies should be studied carefully to ensure they offer coverage of the new risks from automation and that certain types of losses (such as data) are not excluded. In addition, companies looking to automate should carefully study the terms and conditions of the manufacturers and suppliers of the automated systems. It is likely that these will contain wide-ranging exclusions and / or limits on liability making it difficult for the warehouse operator to seek recourse from the manufacturer / supplier for losses suffered in the course of operating the system.



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