

JIGSAW TALENT MANAGEMENT

MONTHLY MARKET REPORT

August 2021



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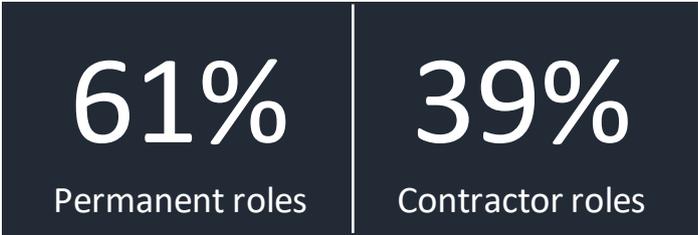
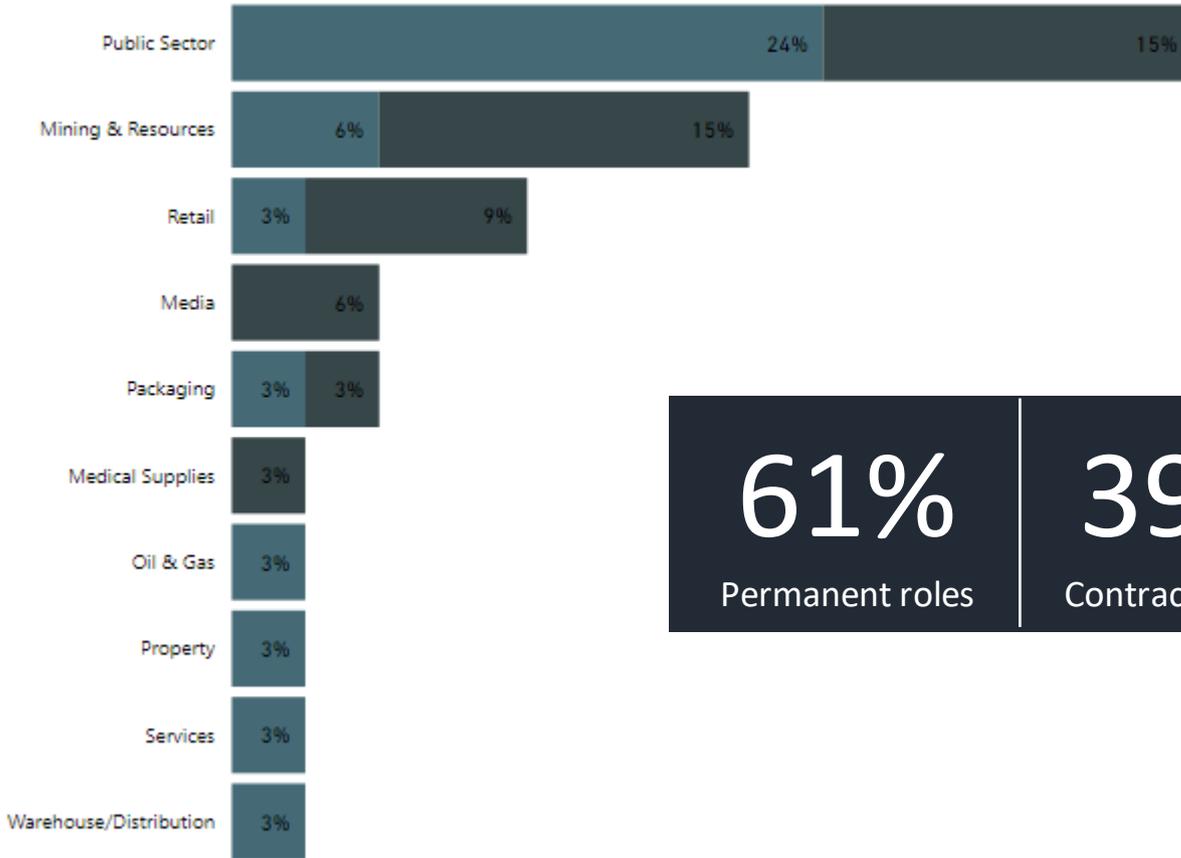
CURRENT MARKET DEMAND

August 2021



Live Roles by Industry

Type ● Contract ● Permanent



Live Roles by Job Category





Australian Labour Market

For the month of May, Australia recorded a new record for employed persons, with 13M+ people employed. Making up these numbers was an increase in full time employment of 97,500 and part time employment contributing 17,700 jobs. The unemployment rate was 5.1% (701k persons) and job vacancies hit a record volume of 362,500, up from 288,700 prior Qtr. When Jigsaw reviewed the data, what struck us was the increasing number of job vacancies in relation to job advertisements (362.5k vs 211.8k). It seems job vacancies are increasing at a faster rate than job advertisements are decreasing. There are 150,646 more open vacancies than there are job adverts for the end of the second qtr. 21. Jigsaw acknowledge that vacancies are recorded quarterly and adverts are recorded MoM, yet even factoring these slight differentiations in data capture, it seems Australia has a skill shortage which is allowing demand for talent to outstrip supply which will challenge the RBA unemployment targets. The bulk of these jobs are in Healthcare, Construction, Retail and Hospitality, which means at these sectors struggle to attract and appoint quality talent, the wage inflation may have to exceed the current 1.5%. The shortage of supply for talent could have many reasons behind it, from overzealous government stimulus enabling high levels of disposable income, record high stock prices adding fuel to this fire, border closures hindering talent flow across states and countries and the likelihood of increased domestic operations to de risk.

The revised information for June indicates that unemployment has fallen further to 4.9% (lowest since Dec 2010, with new unemployed persons at 679k). This figure is being presented on a backdrop of ever rising job vacancies which suggests the employment that is being recorded is either non-productive or of minimal hours. Underemployment is up by 0.5% to 7.9%, which coincides with a 1.8% decrease in hours worked as a result of Melbourne lockdowns. For Melbourne, productivity (hours worked) fell by a whopping 8.4%. This indicates to Jigsaw a financial strain on the businesses as labour is being employed when trading conditions are not optimum. It is fair to assume that the data for July and August will not be as upbeat as that of May and June. The real challenge with all these statistics is understanding one key point. If you are employed for just one hour a week, you are qualified as employed. Many economists are celebrating the results and praising the fiscal policy that has resulted in them. Jigsaw would like to raise caution to this. Governments may be obsessed with KPIs and numbers, but the real economy does not care for statistics. The real economy and its health are based on debt levels, productivity and what is actually produced to be consumed or exported.

Job adverts previously peaked in Australia prior to the last recession (2009). At this time, adverts hit near enough 260k before plummeting to barely 120k. According to the long-term job ad records (past decade), typical peaks for job ads in Australia are at circa 180k, in an economic environment that has low inflation, ever decreasing interest rates (cheap capital) and ever declining real rates. As adverts peaked prior to the 2009 recession, vacancies were too at circa 180k. As the recession took hold, they steadily declined to 150k by 2010, with vacancies steadily building from this base to circa 240k by the March 2020 recession, which saw vacancies fall off a cliff to circa 130k vs job adverts for same period at barely 55k. Jigsaw predicts that over the coming months, both job advertisements and job vacancies will settle to between \$150k - \$180k once again.

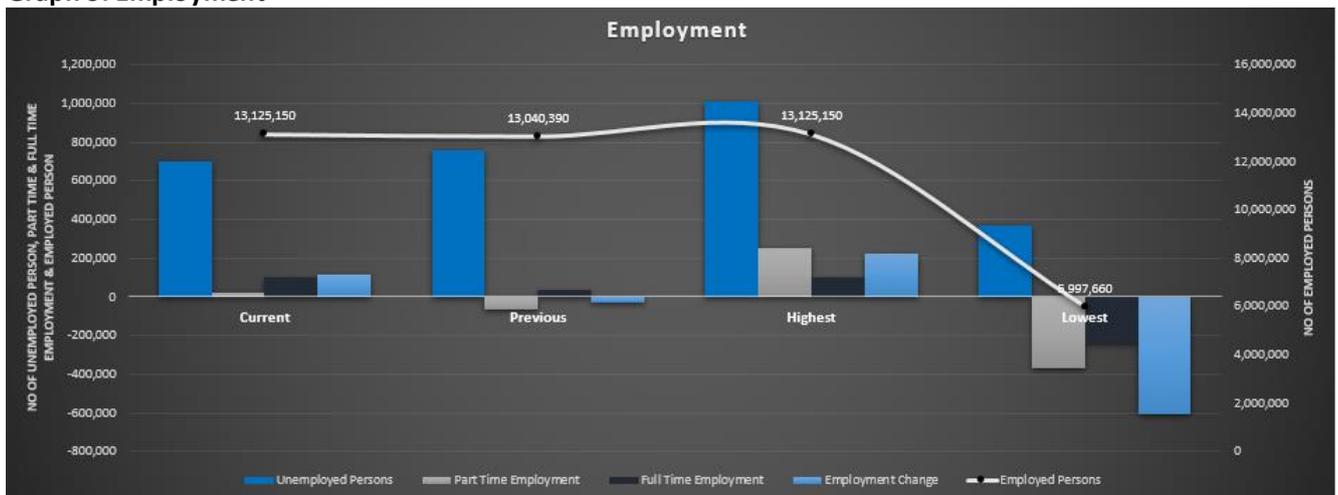
As the central banks indicate a tightening of fiscal policy and monetary policy in the future, the data implies there is simply no way of this happening without serious negative impacts on the economy. For Australia, the RBA are forecasting no rate change until 2024 with a target unemployment rate of 4.5% by mid-2022. In the US, the FED is talking about both fiscal and monetary tightening to happen prior to this timeline. When interest rates were raised in the US back in 2017, the government debt was at circa \$20 Trillion and debt to GDP was 105%. These interest rate rises placed huge pressure on the Global economy, with rates having to be reversed in 2019 from 2.16% to under 1% as unemployment started to sky rocket and global growth was impacted. Now, in 2021, government debt is over \$28 Trillion or 115% GDP. We can see how the raise of just 1-2% impacted the US economy back between 2017 and 2019 forcing central banks to pivot quickly on policy. Imagine the impacts of such interest rate rises now. Australia and other nations will not escape US economic outcomes as the fiscal system is too connected. They are trapped.

If we consider the unemployment rate is now at 4.9%, which is 0.4% of the 2022 prediction, a continuous rise in employment could place the RBA in a position of action and we will see if the economy is truly in as good shape as the politicians would have many believe. Rising inflation and low unemployment will force the RBA to either come clean and admit rate rises are impossible in Australia as they are in the US, or bite the bullet and raise them, in turn wiping out bank balance sheets as the market is flooded with overpriced housing.

With the Australian market having over 700k people (revised re latest data to 679k) unemployed and a demand of 362K+ open vacancies (3% of the 5.1%), the question is, without a flood of new talent coming in from overseas, is the supply of talent even available to accommodate open roles? Compounding this potential issue is the volume of people leaving Australia due to government lockdowns. So far, over 500k of temporary migrants have left Australian shores for governments who are more accommodating. This is a very critical labour force for Australia. This temporary workforce is executing many of the roles the country takes for granted such as catering services, fruit picking and shelf stacking in the supermarkets and retail. These temporary migrants are leaving the country as they feel the government let them down during lockdowns re fiscal support, coupled with the overly governed visa processes. As a result of this discontent, they are moving on to other destinations such as Canada. Many of these temporary workers fulfil a huge need re servicing lower paid roles in the short-term yet have the potential to quickly add value in the skilled sectors over the long-term if residency is secured, as many have good educations and experience in other markets. This trend is evident in the numbers. Part time employment is well off the previous highs and out of sync with both the records achieved in May for total employed and permanent employment labour. This trend of skills migrating out of the country could result in inflationary pressure as industries are forced to pay more for transactional labour in their operations. For agriculture, it could simply mean much product gets wasted as there are not enough resources available to harvest, resulting in less product being available on supermarket shelves and in turn adding to inflationary pressure.

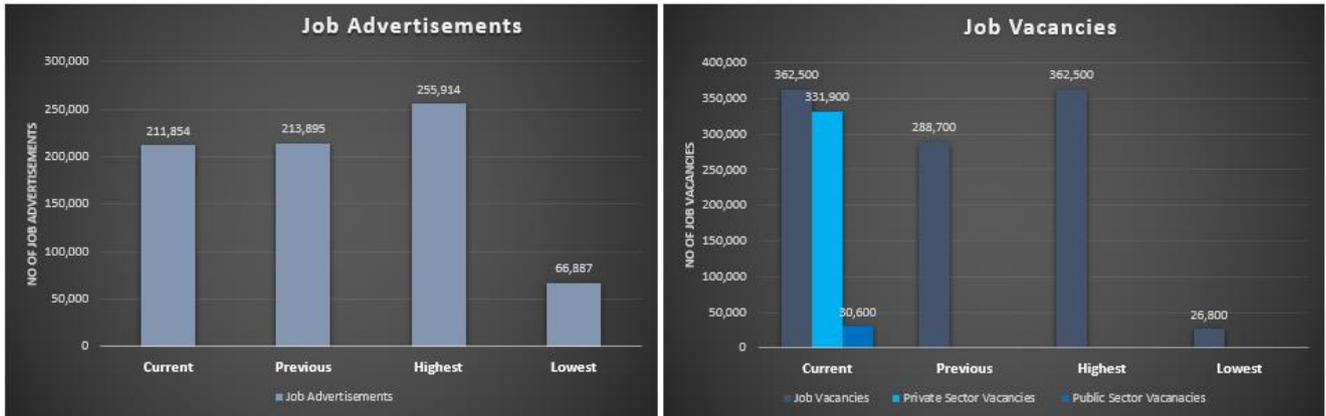
The trend for skills leaving Australia will not end. Vaccine passports and forever quarantining of the non-vaccinated (possibly vaccinated too) will also cause many families to leave Australia to be closer to their overseas relations. As Jigsaw see it, people in the workforce typically get 4 weeks annual leave per annum. If you are in quarantine for 2 weeks on arrival to your destination on the way out of Australia and are forced to do 2 weeks quarantine on the way back into Australia, you literally have zero free days left. Essentially, the Australian government are eliminating overseas holidays to India, Canada, UK and Europe where many of the highly skilled workforce originated who have large families they like to visit. As a result, unless there is a huge mind shift in Covid policy, Australia's economic future is looking very uncertain. It will no longer just be at the mercy of its crude exports; it may also be at the mercy of an labour shortage that is permanent. This could result in many businesses pulling out of the market altogether as wage inflation and a lack of talent place more pressure on a market which has a population of 25 M and heading backwards. The potential counter to this trend is the UK/Australian trade agreement. Although details on this are not cemented, it is likely as Jigsaw indicated last month that easing of migration policy between the two countries could change the dynamic re the labour shortage which would be to the gain of companies and at the detriment of Australians. A flood of UK immigration will continue to keep wage growth stagnant at 1.5% and lower GDP per capita, at a time when inflation is surging due to too much money supply in a contracting economy.

Graph of Employment





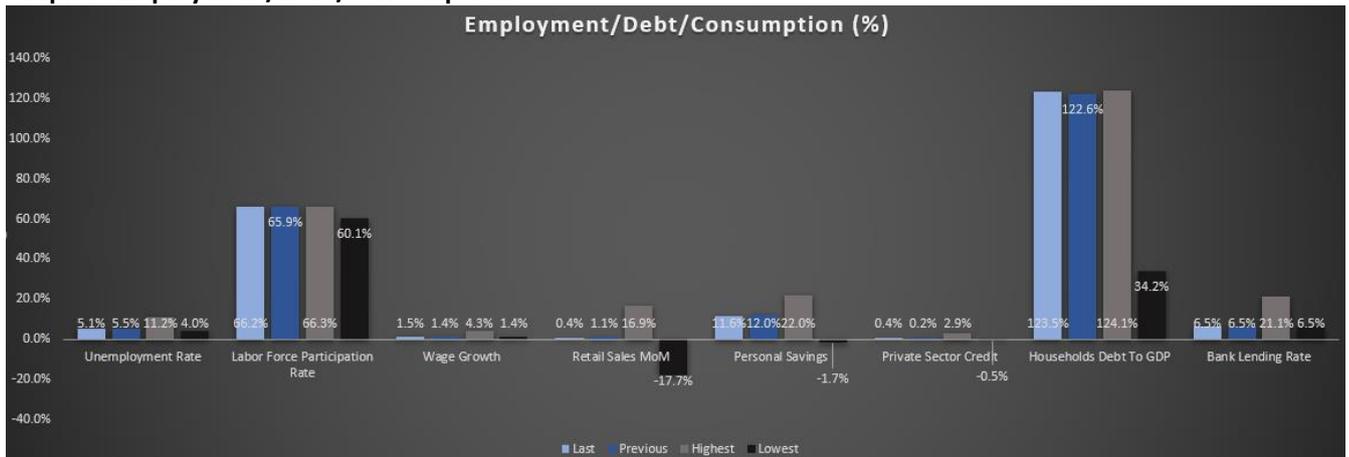
Graph of Job Advertisements/Job Vacancies



Global deflation combined with government stimulus is sending the world on the path to stagflation. As supply gets smashed by supply chain disruption, food, semi-conductors, rubber, and other commodities we rely on will be heavily compromised. If we look at Australian households, a second recession will be severe. As NSW goes through another lockdown, and at time of writing, no stimulus is being offered by the Government (Stimulus has been granted since), many small businesses will not be able to cope with more government engineered losses in revenue. Australia’s personal household debt is increasing (at an all-time high) at the same time as personal savings are decreasing and wage growth is stagnant. Personal disposable income is also at a record high, as the result of government’s stimulus. This has increased the amount of non-income derived savings deposits in the banks, placing fiscal strain on their balance sheets in the low interest rate environment. Considering this, Jigsaw still believe that interest rates will follow Europe and go negative, which flips the banks’ balance sheet to classify deposits as assets instead of liabilities. If this happens, it means the governments social programmes (Stimulus) will slowly get converted into bank profits as deposit accounts are charged to hold funds. To prevent that happening, Australian citizens will have to spend, in turn ensuring the huge volume of liquidity increases velocity, placing even more energy into the stagflation prediction. For the banks, it will protect their high-risk balance sheets at the expense of interest rate arbitrage (profit generation), yet if the negative rates are siloed to deposit accounts only, not lending mechanics, there is a chance the banks could increase profits with this fiscal manipulation.

Time will tell.

Graph of Employment/Debt/Consumption



Volatile Oceans

The shipping industry has been through a rollercoaster ride over the past 24 months. Since 2020, ocean freight rates have surged on a backdrop of economic lockdowns. The issue facing importers is truly epic.

As governments close down economies to prevent the spread of Covid-19, they also injected huge amounts of liquidity to the public. As a direct result, online retail surged as people were spared debt commitments re rent and mortgage payments while service sectors were shut down, in turn driving capital to products, merchandise and commodities. Instead of buying coffees, eating out and servicing debt commitments, consumers splashed their stimulus on used cars, consumer goods from China and home renovations. As workers in the ports and landside operations were not optimal, efficiencies in producing, loading and un-loading containers were hindered, causing not just delays in imports, but often entire scheduled shipments being cancelled (Blank Sailings).

So, we have a perfect storm. Consumer demand is high, supported by government debt, operations are hindered due to government policies, and there are too few ships/containers in operation. Trust and volatility across supply chains are breaking as fixed contracts are not being fulfilled. The shipment spot price (auctions) is heading skywards as the circumstance are being heavily exploited by the carrier industry to drive record profits.

The more common supply shocks covered by media were for PPE equipment and defence materials, yet in a globalised economy, containers are the building blocks of the import/export market. When we consider 80% of production the west consumes takes place in an emerging market thousands of miles away, it is a little shocking to know that China is the sole builder and seller of containers. China has its own fiscal issues to contend with and should anything happen to any of these two operations, Houston would have a very big problem. This issue is further exasperated by the US trade deficit with China. As the US is a consumer country, heavily leveraged by its robust capital markets (largest debtor nation) and global currency status, it has very little to export, especially in comparison to its key supply partners. The US top categories for export are Machinery, Nuclear Reactors, Boilers (13%), Electrical Equipment (11%), Mineral Fuels and Oils (11%) and Vehicles (7.4%). The bulk of these exports go to Canada and Mexico. Canada has equal exports to the US, so the trade balance is par, yet US exports to China is 50% less than Canada. When we look at imports from China to the US, the trade imbalance is huge. China accounts for 20% of US imports, with a value of circa \$457 billion for 2020. That is a trade imbalance of \$332 billion and a key reason why the dynamic of reverse logistics is so disjointed.

Donald Trump's tariffs added to the issue, creating an even bigger problem re the trade deficit.

America recently recorded its largest trade deficit in history which occurred in March (\$91 billion) with the US current account at -3.1% of GDP, it has been worst, in 2006 the current account was -6% of GDP because of rapid increase in oil prices (this seems to be on the cards again), a weak dollar (DXY between 82 – 85) and a surge of imports from China. Looking at the chart, it seems it won't take long for this record to topple.

As containers full of merchandise are loaded on trucks and distributed across the US, the containers sit dormant, taking a lifetime to circulate back to Chinese ports. These containers are mostly empty. When they do find their way back, as there is little demand (less now than ever) for what little exports (Agriculture products) America has to offer China, they are empty. It is more profitable to transport the containers back empty than with US product.

The dynamics of the container supply chain creates more stress on the ocean freight back log, hindering both product/container availability and pushing more cost into the supply chain, as well as creating an elongated timeline between demand vs supply, resulting in increased consumer prices. A weaker US dollar will compound this issue (as in 2006), as imports of which the US is dependent on will increase, with little export market to offset the ever-increasing trade imbalance. This will drive the weaker currency (USD) resulting in one of the many doom cycles for inflation. As cost increases, more stimulus will be required to support the economy, or interest rates will have to rise, which no matter what the FED says, they cannot. Products that will be impacted re the ever-increasing cost and breakdown of efficiency across ocean logistics model include cars, electronics, food, and clothing.

If we just revisit the US inflation which is at time of writing 5.4% (in reality, more likely 10%), the FED will have to raise rates immediately to 7% to have any chance of curbing it. Welcome to Debt Armageddon.

In March 2021, the issue got worse still. The Suez Canal was blocked for a week with the grounding of the cargo ship Evergreen, which was a 20,000 TEU container ship that is 400m long and weighs over 200,000 tonnes. This caused a backlog of over 300 ships. The Suez Canal is critical to global trade. Circa 12% of all global trade pass through it, including 1 million barrels of oil and 8% of all liquified natural gas. To avoid the Suez Canal would increase both time and cost for importers. The alternative route would be to go round Africa passed the Cape of Good Hope, adding well over a week and 7,000km to the route. This would increase the cost of both ocean freight and working capital.



There are many issues facing the ocean freight sector, not all are due to the pandemic. The ocean freight sector has struggled historically to make profits. In 2014, prices for ocean freight plummeted, with typical cost for a 40ft container to move product from China to Europe costing about \$400 per shipment. This unsustainable price drop in freight was twofold. Demand for exports dropped rapidly in 2014 in sync with the sector over capitalising in carriers. Huge sums of money were injected, making them larger to improve economies of scale and meet forecasted growth. As these capital projects were highly leveraged, the sector experienced fiscal stress when markets did not follow the forecast playbook. Lower shipment prices made debt servicing challenging. The construction of many carriers was cancelled as a result of oversupply and little demand, many businesses had to diversify into more profitable sectors where increased margin could be made, such as offshore oil development.

It seems times have now changed for the ocean freight sector. The drive for improved economics has led to the carriers doing what is best for them and not what is necessarily best for their customers. The times of low margin operations caused the market to consolidate, with more of the import/export market being controlled by ever fewer carriers. As the global trade heated back up from the lows in 2014, the carriers now have more leverage in negotiating power and broad competition is now off the table.

Of the 10 major carriers, just under 60% of market share is covered by the top 4 carriers, which include APM-Maersk, Mediterranean Shg Co, CMA CGM Group and Hapag-Lloyd. These businesses are hitting record increases in profits. Again, using info re DHL's May report, carrier Fiscal results between 2020 – 2021 are outlined below:

Company	Revenue	Operating Profit
Maersk Group	31% Inc	676% Inc
COSCO Shipping H	101% Inc	No Data
Hapag-Lloyd	33% Inc	774% Inc

As a result of these fiscal improvements and many more like it, carrier share prices have increased between 100% to 1000%.

In sync with this market consolidation, the ships themselves being larger, leveraging economies of scale re labour, storage capacity and fuel, results in larger containers, larger ports, and larger land holdings. How big are modern carriers? The largest ship can carry 19,000 twenty-foot containers. The biggest carrier Maersk has a fleet of 600 vessels. If the 600 vessels lined up in series, they would cover half the globe. When things get bigger, the capex and MRO costs increase with it, while the cost to service markets goes down. What efficiencies were gained to profit carriers works against the importers/exporters. A bigger ship is a slower ship, and the new larger ships are not so easy for importers to allocate merchandise affectively. Large operations that have huge volumes to export/import are the real beneficiaries, while smaller businesses must mould supply chains to cope with larger slower freight. Focus has moved away from speed of materials, which reduced the cost of holding working capital and fulfilling customer demands for immediate delivery, to the efficiency of space and cost. Of course, different businesses will have different demands across speed and cost, yet the lack of option re carriers has killed the choice and supply chain flexibility.

According to DHL's market report released in May 21, the SCFI (Shanghai Containerised Freight Index) breached 3,000 points for the first time ever in May hitting 3,343 points. Spot prices from Shanghai to Northern Europe increased 16% for May excluding premiums to secure empty containers. For transatlantic trade, the route from North Europe to the US east coast, the rates have increased over 30%. Cargo demand across the board is outstripping availability. The ship shortage has drastically impacted trade from Europe to North America, as most of the world's fleet are concentrated on the East – West routes. As demand has surged over 45% compared to a year ago, many carriers are deploying extra loaders and upgrading to larger vessels to cope.

Security of supply has never been more volatile. Logistics is becoming a highly strategic component of a business's operations and the future for all companies is going to continue to get ever more challenging as we enter the world of ESG (Environmental Social Governance). Like the mining sector, distribution is coming under the carbon footprint radar. Marine Environmental Protection Committee is going hard on reducing GHG (Greenhouse Gases). The larger carriers are already efficient under the power of fossil fuels, so innovation will be key to ensure bulk carriers can meet the carbon intensity indicators set for 2030 and 2050. CII will allocate energy ratings to ships which will mean many organisations will have to decide to make, buy or sell aging fleet. No doubt, the requirements for increased capex for fleet upgrades; ship builders to invest in new designs; port operators to transform ports etc; will keep the

cost of ocean freight elevated from many years. According to Maria Bertzeletou of Breakwave Advisors, 5% of all deep-sea fleet will be required to be powered by non-fossil fuel such as ammonia, hydrogen, methanol, or biofuel. The report by Breakwave Advisors indicates that the RNA is already working with engine producers, ship designers and operators to drive sustainable solutions such a propulsion engine that reduce the index rating by 50%. Digital innovation will also play its part as real time data will support route optimisation and tracking. Ports around the world are supporting these changes with Africa, Middle East, US, and Europe all signing up to these regulatory demands. According to Peter Lindstrom, Head of Klaveness Research, the next 4 years will see a slowdown in fleet growth because of uncertainties re energy and propulsion systems. These changes are being pushed in a time when nobody knows if global trade will once again slow down as in 2014. If the global debt markets create a crash like we have never seen in history, over capitalisation could again occur. As the sector is as important to a Nation as the finance sector, especially for countries that produce little for their own consumption, the business of containers and carriers or lack thereof, is a genuine geopolitical issue.

It is likely, if the economy is holding, ocean carrier demand is going to remain high for a number of years. There is evidence that China will not be able to produce enough containers to meet demand. The US, which is a consumer nation heavily reliant on imports is at particular risk. China builds over 90% of the worlds dry cargo containers (commodities) and 100% of the worlds cold chain containers. In an article authored by Greg Miller of American Shipper, China International Marine Containers (CIMC) produced 580,000 twenty-foot equivalent units (TEUs), accounting for a market share of 42%; Dong Fang International Containers, 358,000 TEUs (26%); and CXIC Group 200,000 TEUs (14%). Market shares were similar in full-year 2020, when a total of 3.1 million TEUs were produced, according to Drewry.

JIT = No Room for Error

No doubt, all these changes to the ocean freight landscape will put many businesses off using ocean freight altogether, if they have a choice and a supply chain solution to avoid it. For most businesses that don't, the question is, what solutions can be explored to ensure supply, whilst keeping costs to a minimum. In Jigsaw's view, the first thing that will change is the method called JIT. Just in Time is a method that encapsulates both production and inventory storage. The system is designed to boost efficiency and optimise losses. The direct benefits of JIT are reduced cost of working capital and fulfilment of customers' expectations. The downside to this methodology is many. Like any good idea, the real-world impacts from theory to reality are dictated by how many parts of the solution are under your control. For JIT to operate effectively there are many links in the chain that must gel perfectly. Issues can arise when forecasting is inaccurate, so a robust and mature S&OP framework is a must. The model lacks flexibility for volatile supply and demand changes, it is costly, as ICT is required to enable the process and often, the model requires too much reliance in a single source supplier. Of course, when it works, that is, when the world is not in chaos and product/consumer flow is predictable, benefits are realised.

As we move outside of the pandemic, as globalisation is getting fragmented between countries on dollar swap lines and countries who are not, supply chains will need to adopt a different way of thinking. JIT requires seamless integration of customers and suppliers. As we can see with ocean freight and the breakdown in relations between exporters/importers and carriers, supply and demand shocks can be crippling for businesses adopting JIT. There is simply no inventory buffer. Businesses have selected to drive down expenses to create value to shareholders, which is free cashflow, only to incur huge costs in the future through supply chain disruption.

So, JIT should perhaps be labelled, NRFE (No Room for Error). It helps when we research how the concept of JIT materialised. Post WW2, you know, the war we fought to prevent socialism and fascism spreading through Europe, Japan was left decimated. A small country with limited wealth, the CEO of Toyota came up with the JIT concept through many years of trial and error. JIT was a truly great concept for a tiny country, where available land for storage and wealth was limited. Taiichi Ohno correctly questioned the value of storage, understanding that the indirect cost of land, power, labour, security and working capital added zero value to the product itself. What made JIT so successful in Japan was distance. A small country means suppliers were located close to each other. This assisted in reducing volatility whilst increasing predictability. Imagine the time exposed to danger when overtaking in your car. Overtake a short car, like a mini, and you can safely pass in a short distance and at a lower speed. The risk is measured and easy to calculate. Overtake a long 18-wheeler and the risks increase dramatically. You now have far more time exposed to danger as you must travel further and faster to achieve your objective. As business culture likes to benchmark and in turn replicate a good idea, JIT was adopted and pushed as best practice by many supply chain professionals and consulting firms. The question is, is it? As the distances increase between your customers and producers, so does the exposure to risk. As most production is based out of China, thousands of miles away from your customers, you have essentially not just increased supply chain risk via a lack of control of



basic supply chain mechanics, you are now exposed to geopolitical risk. Jigsaw see a rapid pivot from JIT and flexible supply chains will start to take over. This will include supplier and country diversity, and a shift back to storing inventories where value is not just free cashflow but supply security and an eye on mitigating the downside of unforeseen cost. As a result of this trend, many property-based enterprises may pivot from commercial CBA based real estate to storage based real estate, with the more strategic focussing on outsource storage operations that are both domestic and integrated.

Production may also have to be remodelled. Many supply chains rely on staggered production, where a finished good has many stops for assembly before reaching the consumer. A product that you buy every day could have a global trip before reaching your home, with different components and materials being assembled along the way. Jigsaw believe Global Value Chains will be too costly in future using this methodology. Combined with the increasing cost of ocean logistics, operational downturns due to black swan events and increased geopolitical tension, production of many products will have to be based near targeted markets or at a minimum closer to ports. Near shoring (reducing road freight) will go some way to offsetting the ever-increasing ocean carrier costs, considering the volatility of price fluctuations across fixed contract and spot. As businesses have stepped ever increasingly to supply chain integration to gain more control of cradle to grave operations, businesses with enough scale and large cash reserves may even start to acquire carriers or develop their own operation to ensure supply chain control. If this is a strategy (however unlikely), the gain of integration would have to be weighed up with the capital requirements both now and in the future re ESG, along with political and geopolitical risks.

Moving Production

As ocean freight continues to compound the already dire issue of inflation of commodities, businesses may decide to move production entirely. If this is a decision, what are the options? For the US, the obvious choice as indicated previously is Mexico, which is really what the USMCA was to enable. As previously indicated, the US currently exports machinery, vehicles, fuels, medical equipment, plastics, and textiles to Mexico to the value of \$250 billion per annum. Still, the US has a trade deficit with Mexico, importing well over \$350 billion per annum from Mexico, comprising of steel, equipment, food, and oil. Mexico is culturally more synced to the US than Asia, is closer and critically, removes the risk and cost of distance, allowing the JIT model to be retained. The downside of course is pushing so much capital into Mexico could create a neighbour that is long term threat to the US Southern border if not managed appropriately. Still, it's not as if China did not transition from trade partner to strategic threat, with supply chain monopolies, a huge military and cyber attacking ability. With some adjustments re regulation, Mexico's future could be rosy.

For companies outside the US based in the East, who want to create some flexibility in their supply chains, even if avoiding the issues of ocean freight are impossible in the short term, the options are limited. Contenders consist of Malaysia, India, Indonesia, Vietnam, Thailand, Cambodia, and Bangladesh. Jigsaw would have included Taiwan, but under the current conditions, it is no longer an option. Cambodia and Bangladesh are positioned as potentials, yet if we explore in more detail, they are not immediate solutions. Cambodia is next to Vietnam, has a GDP of circa US\$30 billion. In 2019 its GDP growth was 7.1%, although as the pandemic took hold in 2020, this has dropped to -3.1%. It's a market-based economy with the biggest contributors to GDP being manufacturing and services. The country runs a trade deficit, as it imports about 25% more than it exports, with exports mostly comprising of apparel to the US, Japan, Germany, and China. Imports comprise of fabrics, vehicles, and oil/fuels. Interest rates are low at 0.71% and the exchange rate re the Reil is AUD \$1 = 3,065.82 Cambodian Riels.

Cambodia's textile sector is volatile with worker productivity being down compared to China and wages high, as the labour force is supported by Unions. Corruption is also a concern, comparing Cambodia's score of 160 vs China's 42 on the corruption index, Cambodia is ranked 162 out of the 180 countries measured, having the lowest score of all Asian countries. That is not to say this dynamic will not change as global trade patterns shift. Cambodia has recently forged ahead will energy dependency, as it realises oil production from its offshore investments in the Gulf of Thailand. As the oil price recovers and likely stays elevated, as a result capex being withheld for exploration in the West, it will likely increase investment for fossil fuels, raising its production from a modest 7,500 barrels, which will equate to revenues of over USD\$500m. Hurdles still loom. As Kris Energy recently announced it was filing for bankruptcy due to being over leveraged. Energy dependency could lower imports of oil, and assist the government improve the balance of trade, powering a lucrative export market that is far more diverse than textiles. It all depends on how Hun Sen utilises the opportunity. If governments in the East can create increased capital to the

country and transform the policies, a real opportunity could be had re trade with increases foreign capital enabling the country to develop. For the time being, it seems this option is a distant one.

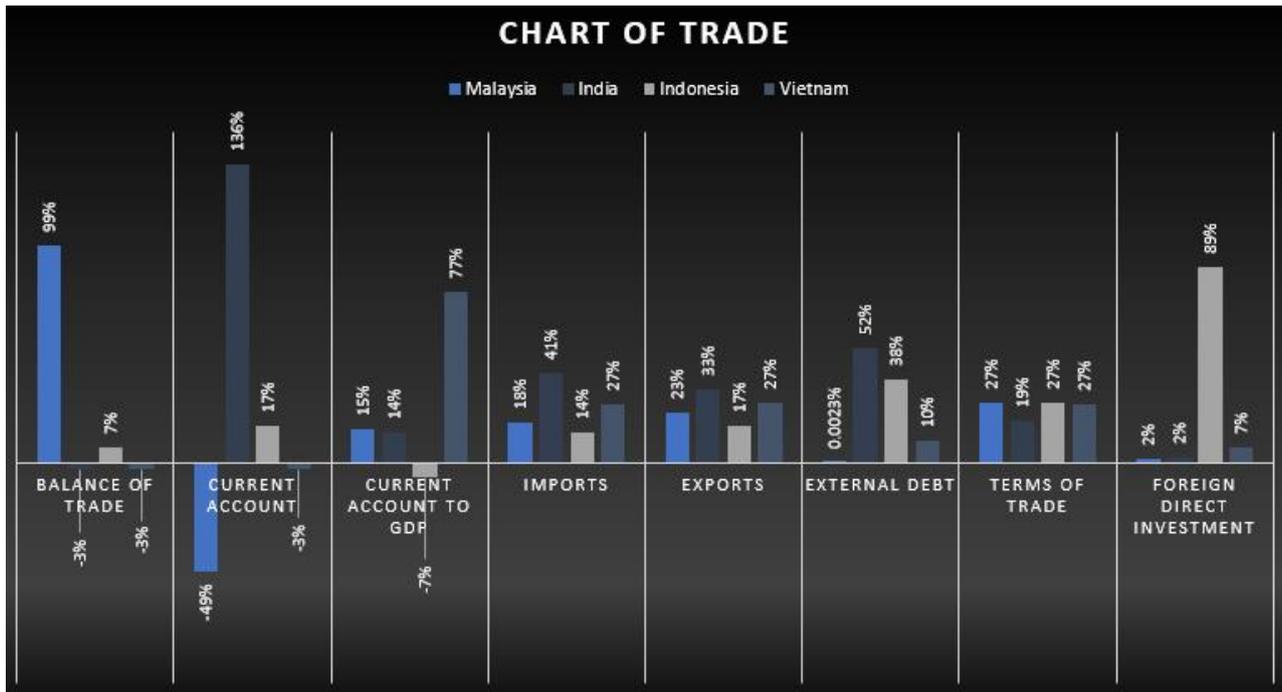
Then there is Bangladesh. Bangladesh has a GDP of circa \$324billion (for 2020) and a GDP growth rate of 5.2%. Biggest contributors to the country's GDP are Utilities, Services, Manufacturing and Agriculture. So, it is a far more diverse and mature economy than Cambodia with far less corruption, having an Index rating of 26. Government debt is 31% of GDP and the country runs a trade deficit, with imports being roughly 33% more than exports. Like Cambodia, Bangladesh mostly exports apparel and imports cotton, fuel and machinery and materials. Interest rates are high by global standards at 4.75%, so is corporate tax at 32.5%. Bangladesh is the 3rd fastest growing economy in the world, and it seems it is trying to fix its reputation for pollution re sustainable manufacturing, building greener, safer plants. It has a long-term strategy to becoming a developed country by 2041 and the government is pushing hard for production diversity. Key to attracting foreign capital will be ensuring energy supply, building more robust infrastructure, easing of regulations, and containing corruption in the private sector. Businesses seriously considering Bangladesh would also have to factor in a 33% increase in distribution timelines than that of China (26) vs Bangladesh (100), which is not a solution to remedy the issue of ocean freight costs and efficiency. Not even the very cheap labour costs could off-set the current logistical inflation.

Of the remaining alternatives, a breakdown is outlined in Table 1.

Table 1 – Breakdown of Trade – Malaysia, India, Indonesia, Vietnam

Malaysia Trade						India Trade			Indonesia Trade			Vietnam Trade					
	Last	Previous	USD	USD	Unit	Last	Previous	Unit	Last	Previous	Unit	Last	Previous	Unit			
Balance of Trade	13700	20500	3288	4920	MYR Million	-9400	-6280	USD Million	2370	2286.4	USD Million	-1	-2.07	USD Billion			
Current Account	12294	18629	2951	4471	MYR Million	-8134.78	-2212.23	USD Million	-997	892	USD Million	1698	8276	USD Million			
Current Account to GDP	1	3.3			percent of GDP	0.9	-0.9	percent of GDP	-0.44	-2.7	percent of GDP	5	2.4	percent of GDP			
Imports	78600	85144	18864	20435	MYR Million	41860	38550	USD Million	14234.5	16204.3	USD Million	27.5	28.27	USD Billion			
Exports	92300	105620	22152	25349	MYR Million	32460	32270	USD Million	16595	18490.7	USD Million	26.5	26.19	USD Billion			
External Debt	1039656	958455.56	249517	230029	MYR Million	570000	563487	USD Million	415626.58	417527.8	USD Million	108118.1	112114	USD Million			
Terms of Trade	103.5	103.7		957/1510	points	73.7	73.3	points	102.73	103.67	points	101.5	101.89	points			
Tourism Revenues	12688.2	86143.5	3045	20674	MYR Million	2837	1971	USD Million	111.7	111.1	USD Billion	9.24	7.15	USD Billion			
Tourist Arrivals	9645	7599				Capital Flows	-38.46	-166.97	USD Million	Remittances	2259.79	2307.23	USD Million	Capital Flows	5297	1267	USD Million
Gold Reserves	38.88	38.88			Tonnes	Remittances	14035.31	14015.54	USD Million	Tourist Arrivals	155607	127512		Crude Oil Production	189	195	BBL/D/1K
Crude Oil Production	533.33	544.93			BBL/D/1K	Tourist Arrivals	0	0		Gold Reserves	78.57	78.57	Tonnes	Terrorism Index	7.2	13.47	Thousand
Terrorism Index	2.09	2.5				Gold Reserves	695.31	676.64	Tonnes	Crude Oil Production	610	751	BBL/D/1K				
Capital Flows	15797	-10888	3791	-2613	MYR Million	Crude Oil Production	628.59	618.59	BBL/D/1K	Terrorism Index	4.63	5.07					
Foreign Direct Investment	9137	6781	2193	1627	MYR Million	Terrorism Index	7.35	7.52		Tourism Revenues	88.56	147.36	USD Million				
						Weapons Sales	151	18	SIPRI TV Million	Weapons Sales	9	15	SIPRI TV Million				
						Auto Exports	19673	24750	units	Capital Flows	5562.08	-907.22	USD Million				
Malaysia Labour						India Labour			Indonesia Labour			Vietnam Labour					
	Last	Previous	USD	USD	Unit	Last	Previous	Unit	Last	Previous	Unit	Last	Previous	Unit			
Unemployment Rate	4.6	4.7			percent	Unemployment Rate	11.9	8	percent	Unemployment Rate	6.26	7.07	percent	Unemployment Rate	2.37	2.5	percent
Employed Persons	15350	15330			Thousand	Labor Force Participation Rate	49.8	50.4	percent	Employed Persons	128454184	129366192		Employed Persons	53.15	55.33	Million
Unemployed Persons	742.7	753.2			Thousand	Population	1347.12	1332.9	Million	Unemployed Persons	9767754	6816840		Unemployed Persons	1.1	1.1	Million
Labor Force Participation Rate	68.6	68.6			percent	Retirement Age Women	60	60		Labor Force Participation Rate	67.77	69.32	percent	Minimum Wages	4420	4420	VND Thousand/Month
Job Vacancies	449581	454974				Retirement Age Men	60	60		Wages in Manufacturing	2876184.7	2635445.63	IDR/Month	Population	97.58	96.48	Million
Minimum Wages	1200	1200	288	288	MYR/Month	Youth Unemployment Rate	34.7	21.1	percent	Minimum Wages	4.42	4.28	IDR Million/Month	Retirement Age Men	60	60	
Wages in Manufacturing	3304	3364	793	792	MYR/Month	Minimum Wages	178	178	INR/Day	Population	270.2	266.1	Million	Retirement Age Women	55	55	
Population	32.73	32.59			Million	Employment Rate	47.3	46.8	percent	Retirement Age Women	57	57		Wages	6340	7199	VND Thousand/Month
Retirement Age Women	60	60							Retirement Age Men	57	57		Wages In Manufacturing	6154	7126	VND Thousand/Month	
Retirement Age Men	60	60							Wages In Manufacturing	6154	7126	VND Thousand/Month	Youth Unemployment Rate	6.98	7.01	percent	
Wages	3224	3087	774	741	MYR/Month				Retirement Age Men	57	57		Labor Force Participation Rate	76.6	76.4	percent	
Malaysia Government						India Government			Indonesia Government			Vietnam Government					
	Last	Previous	USD	USD	Unit	Last	Previous	Unit	Last	Previous	Unit	Last	Previous	Unit			
Government Debt to GDP	52.7	51.2			percent of GDP	Government Debt to GDP	69.62	69.8	percent of GDP	Government Debt to GDP	38.5	30.5	percent of GDP	Government Debt to GDP	46.7	43.5	percent of GDP
Government Budget	-3.2	-3.4			percent of GDP	Government Budget	-9.4	-4.6	percent of GDP	Government Budget	-6.5	-2.2	percent of GDP	Government Budget	-5.8	-4.4	percent of GDP
Government Budget Value	-12673.3	23160	-3042	5558	MYR Million	Government Budget Value	-123174	-78699	INR Tens of Millions	Government Budget Value	-1039200	-348653.7	IDR Billion	Government Budget Value	-203441	-191500	VND Billion
Government Spending	42895	55940	10295	13426	MYR Million	Government Spending	4559.97	3551.03	INR Billion	Government Spending	164256.6	289963.74	IDR Billion	Government Spending	390051	358592	VND Billion
Government Revenues	49527.2	76902	11887	18456	MYR Million	Government Revenues	354787	147991	INR Tens of Millions	Government Revenues	169900	1960633.6	IDR Billion	Government Revenues	1551074	1424914	VND Billion
Fiscal Expenditure	62200.5	53742	14928	12898	MYR Million	Fiscal Expenditure	477961	226690	INR Tens of Millions	Fiscal Expenditure	2739200	2309287.3	IDR Billion	Fiscal Expenditure	1754515	1616414	VND Billion
Credit Rating	70					Credit Rating	56			Military Expenditure	9488	9003	USD Million	Credit Rating	43		
Military Expenditure	3910	3769			USD Million	Military Expenditure	73001	71469	USD Million	Credit Rating	60			Military Expenditure	5603	5202	USD Million
						Government Spending To GDP	17.6	13.21	percent of GDP								
Malaysia Taxes						India Taxes			Indonesia Taxes			Vietnam Taxes					
	Last	Previous			Unit	Last	Previous	Unit	Last	Previous	Unit	Last	Previous	Unit			
Corporate Tax Rate	24	24			percent	Corporate Tax Rate	25.17	25.17	percent	Corporate Tax Rate	22	25	percent	Corporate Tax Rate	20	20	percent
Personal Income Tax Rate	30	30			percent	Personal Income Tax Rate	42.74	42.74	percent	Personal Income Tax Rate	30	30	percent	Personal Income Tax Rate	35	35	percent
Sales Tax Rate	10	10			percent	Sales Tax Rate	18	18	percent	Sales Tax Rate	10	10	percent	Sales Tax Rate	10	10	percent
Social Security Rate	21	23			percent	Social Security Rate	24	24	percent	Social Security Rate	7.74	7.74	percent	Social Security Rate	32	32	percent
Social Security Rate For Companies	12	12			percent	Social Security Rate For Companies	12	12	percent	Social Security Rate For Companies	5.74	5.74	percent	Social Security Rate For Companies	21.5	21.5	percent
Social Security Rate For Employees	9	11			percent	Social Security Rate For Employees	12	12	percent	Social Security Rate For Employees	2	2	percent	Social Security Rate For Employees	10.5	10.5	percent

Chart of Trade – Malaysia, India, Indonesia, Vietnam



Trade	Malaysia	India	Indonesia	Vietnam
Balance of Trade	\$32,880,000,000	-\$940,000,000	\$2,370,000,000	-\$1,000,000,000
Current Account	\$2,964,325,558	-\$8,134,780,000	-\$997,000,000	\$169,800,000
Current Account to GDP	1	0.9	-0.44	5
Imports	\$18,939,476,423	\$41,860,000,000	\$14,230,000,000	\$27,500,000,000
Exports	\$22,240,632,982	\$32,460,000,000	\$16,600,000,000	\$26,500,000,000
External Debt	\$25,001,653	\$570,000,000,000	\$415,626,000,000	\$108,118,000,000
Terms of Trade	103.5	73.7	102.73	101.5
Foreign Direct Investment	\$2,192,000,000	\$2,837,000,000	\$111,700,000,000	\$9,240,000,000

Malaysia is the third largest economy in Asia, with a strong culture of trade which its government has supported and its economy has benefited from. Its top exports are machines, minerals, metals, plastics, and chemicals. It has a trade surplus and a strong score in terms of trade index, meaning its exports command a greater price than its imports (high value), enabling it to maintain a surplus in trade. It has a low unemployment rate which could mean the job market is highly competitive, pushing the cost of wages higher than other options presented here. On the flip side, this means the labour market is likely both experienced and skilled. Malaysia ranks higher than China on ease of business scoring 15 re the Index, which is very high. Export tax is also more favourable than China, as there is none (China is 13%). This means exports made in Malaysia are deflationary to importing countries, making products competitive on price, or allowing for extra margin on goods.

Malaysia has one other key benefit re ocean freight. It is based on the Strait of Malacca. This is one of the most important shipping routes globally, offering both economic and strategic benefits. It is the shortest route between the Indian Ocean and the Pacific Ocean and 4.3% of all cargo (27m+ Containers) flow through this route annually. Close access to this channel gives a country easy access to the fastest growing economies in the world, which are China and Indonesia. It is also worth noting that the Thailand Government (A country that we could have included here) are seeking to build a land bridge of roads and rail (120km) to link two newly constructed deep sea ports which are located in the Andaman Sea and the Gulf of Thailand. This venture aims to position Thailand and the key route for cargo coming from the Indian Ocean and Persian Gulf to the Pacific. This in future could be a real issue for foreign investment in Malaysia, placing real strain on its export operations and overall economy. If successful, this infrastructure would make it far cheaper to distribute goods over the ocean freight operation currently utilised. The project will not come without risk. If the final infrastructure does not claw logistical revenue away from the ocean carriers, the project could be a huge malinvestment. As the shipping sector goes through an ESG overall, the construction and fleet used for rail and road will also have to be highly efficient and green.



India is a typical country associated with both offshoring and outsourcing of services. Over the past decade, many service-based operations have planted purchasing and call centre operations on its soil. The key benefit India offers is western communication and very low labour costs. 178 INR a day equates to just over USD\$2.

This sounds attractive. No doubt, for certain operations it is. For skilled production though there are risks. The country is large and like China, very fragmented. Worker capability is volatile, heavily depending on region. This is a key reason why the country has a high unemployment rating of over 11%. The government in India is also keen to manage its own production and support local Indian companies, so foreign investment is better placed owning a slice of an emerging Indian business than attempting to compete on the same soil. India's real issue is it lacking key infrastructure and its fragmented political structure does not make doing business as easy as Malaysia. In fact, India's score for ease of business is 44, compared to Malaysia's 15. India's key exports include chemicals, precious metals, textiles, minerals, and machinery. With terms of trade at 73, its imports are of higher value than its exports. With a trade balance that is negative and a government that is liable for a large amount of debt, hence its credit rating of below 60.

Indonesia seems to be a strong contender for offshoring operations. With low cost of labour, a USD \$4billion+ infrastructure investment mandate by the government, a stronger credit rating than both India and Vietnam and a stable inflation rate. Indonesia has a mature digital capability which is also highly attractive for skilled labour that can be employed to manage cyber security (which would be needed), SAP systems etc. Foreign investment in Indonesia is huge compared to all other emerging countries compared here. Key to this is the Indonesian government ensuring the country attracts foreign capital by ensuring all investors, whether it be domestic or foreign are treated equally (India will not do this). The Investment Law was introduced in 2007. Many of Indonesia's industry sectors are the result of 100% foreign investment. These sectors include production, pharmaceuticals, and mining. Indonesia's largest export partners are China, US, Japan, Singapore, and India, with the largest categories comprising of minerals, fuels, agriculture, fats, oils, steel, and electrical equipment. It has a strong terms of trade rating of 102, which is just below Malaysia, indicating the value of its export pricing is higher than its imports. This is evident in its trade surplus, with imports being less than its exports. Key imports into Indonesia include machinery and nuclear reactors, minerals and fuel, electronic equipment, and steel. The labour participation rate is high, so labour is skilled, and economy is strong. Debt to GDP is low at 37% and interest rates are 3.5%, which is another strong sign that the economy is in good health. The biggest contributors to Indonesia's GDP are Construction, Production and Utilities. Ease of doing business ranks at 73 on the index, which is high compared to China, Malaysia.

Addressing the ocean freight issue, Indonesia is focussing on building competitive infrastructure which will include ports, vessels, and skilled labour. Indonesia has 7 ports that will be upgraded and integrated into a port hub. This will be a very large investment that will include North Sumatra, Riau Islands, Jakarta, East Java, South/North Sulawesi, and Papua. Shipping companies under MOT Reg 45/2015 had to pay a minimum capital requirement to cover the cost of a sea transportation company, additions for dredging operations if required, port operations, salvage operations, land, and air freight. Companies focussing only on domestic investment will not come under these initiatives.

Vietnam (Like India) is the most common country that comes to mind when businesses think of outsourcing and offshoring. It has good access to shipping routes (reducing the cost of shipping) and proximity to China, enabling cheap and easy access to Chinese exports for cheaper downstream value chains. Its trade balance between imports and exports is well balanced, allowing it to build up a trade surplus (5% GDP) and manage its debt to GDP, which as of today stands at 46.7%. The government are pushing for free trade agreements globally which enables lower export costs, and the labour force is young, skilled, and experienced. This can be seen by the low unemployment rate and workforce participation rate which is the highest at 76.6%. This could create a problem re attracting labour, with costs being pushed up to attract the most skilled and competent operators. As with India, Vietnam's real achilles heel is the infrastructure, which compared to Malaysia and Indonesia, is poor. The government will need huge amounts of capital to invest in rail, ports, energy, and roads. Ease of doing business ranks at 703 on the index, which is high compared to China, Malaysia and positions it close to Indonesia.

Can Other Countries Build Containers?

If you are not already exhausted reading our content, you may remember Jigsaw identified the market gap for the production and development of containers, if steel, which is a huge input cost for containers, can be made competitively to compete with the market. Containers are made from a big role of steel that is unrolled and cut into several parts using machinery. They are then blasted and primed to remove impurities and corrugated for structural

strength. Floor panels are added, door assembly and rubber seals for water proofing. Each 20ft container costs about USD \$4.5k to make. It would be interesting to see if bamboo could replace steel for building containers. Bamboo has a higher tensile strength than steel, is cheaper and lighter (steel is 15 times denser) and easier to recycle. It can be sourced from Asia, Australia, South America, and Africa. If for now we stick to steel as the raw material, what are the options to move production away from China.

As we now know, China is astoundingly the only builder and seller of the key building blocks of global supply chains, a huge opportunity is looming for a well backed entrepreneur or current large-scale operation to capture market share. Jigsaw are mostly against government intervention in the free market economy, yet here is one opportunity where a private public partnership could create genuine value to commerce. Rather than funding non-economic projects that add zero value to the real economy, a JV which can launch a new competitor to China in the sector for containers would add immense value both as a business and de-risking a countries import/exports. If the US took up the initiative, Mexico is on the doorstep and is now arguably a far cheaper country than China re labour and land values that could go some way to offsetting the increased cost of steel or as indicated, compete with bamboo.

Australia too could take up the challenge. Australia has more land mass that is not utilised than many countries, as most people live near the ocean. A manufacturing hub could be built centrally with smooth, wide safe roads and rail. This hub could be treated like a new State (We have 5 already, so why not a 6th), with different tax laws and regulations to lower cost. A business focussed State, created for the singular purpose of production and research. Nuclear energy could power production and both citizens and immigrants could choose to live in these Hubs with genuine benefits for the economic commitment. For immigration, skills would be very easy to allocate and define as they would be central (central allocation not central control). Lower wages in sync with lower tax, energy and land values could enable Australia to compete with many markets on the world stage, with containers being a starting point and an enabler for a diverse array of complex products. Australia has the commodities to back up the production, with coking coal, iron ore etc that requires zero ocean freight to supply. Of course, these are just ideas and would require very smart analysts to crunch numbers, coupled with a genuine appetite for strategic initiatives.

Of course, Nuclear power requires lots of water to produce steam, which powers large turbines to create electricity. A nuclear plant based in central Australia (other locations could be researched) would require water to be transported centrally. The Bradfield Scheme has been circulating for many years. Job Crew Bradfield was the principal designer for the Harbour Bridge. He proposed a plan to use a hydraulic system of dams, pumps, and pipes to divert water from coastal rivers across north QLD across the Great Dividing Range. Job's theory was that this infrastructure project would increase irrigation and sustain water in central Australia, in turn improving the climate, leading to increased rainfall and in turn improving farmland. This idea was pressed until his death in 1943.

The idea was debunked many times re cost and poor science, with many highlighting the idea is a pipedream that has no merit. Nobody can prove that the Bradfield scheme would generate fertile land centrally and increase rainfall. Fair enough. The thing is, this idea was being pushed for agriculture, and like the un-subscribers stated, the cost, which in today's money would be well over \$4 billion, could not guarantee any real commercial benefit. However, now the case is for energy sustainability and reduced cost of commerce which, with a \$4 billion outlay (remember, the government outlaid over \$560 billion on stimulus over the past 18 months that was mostly handed to Gerry Harvey and Solomon Lew) could have huge long-term benefits for business and households in reducing the cost of operations and living expenses, with agriculture being a side benefit if Job was right. The Bradfield project has one other draw back which is the environmental impacts. If you divert water away from natural flood patterns, many species can be adversely impacted, despite the damage flood waters cause to households and the increased costs to insurance companies.

So, the Bradfield project maybe a non-stater, so let's pivot and look at Water Desalination as another possibility. Rather than impacting rivers such as the Bradfield scheme, water desalination takes water from the ocean and passes it through treatments to remove particles. The filtered sea water is then forced via pressure through special membranes whereby osmosis process is reversed. A desalination plant can process 245 million gallons of water per day. The issue with desalination is the process uses vast amounts of electricity and is very expensive, which if used to power a nuclear reactor could increase the cost of energy making the nuclear option pointless. Or would it? If fossil fuels are used to power desalination plants, then you have a carbon problem as well as a cost issue. Yet, if the desalination plant is powered by small to medium sized nuclear reactors, which use low pressure steam from the turbine and hot sea water for the cooling system, you have a genuine opportunity.

A desalination plant is expensive. Adelaide's desalination plant will cost circa \$1.8 billion to build and \$130m to operate annually. The plant will be powered by green energy (spin) using 3.7 kilowatt-hours of electricity per



kilolitre of water produced. That likely means the plant will be powered by solar panels, 500,000 of them in fact and batteries to store the energy required. In 2018-19, the State of Adelaide's electricity bill was \$83m. So, the project is very expensive and is only worth the investment in the dry season. The plant only runs at 10% capacity and like the Bradfield scheme has negative environmental impacts. Not just directly but in-directly re the use of solar panels. Solar panels have a life span of 25 years but, like batteries that store the energy they produce, they lose efficiency over time. Aside from being terrible at generating power to the masses (see California), they cause a real issue when discarded. Aside from the huge carbon footprint in their production (something ESG pushers refuse to acknowledge, as this truth is inconvenient), there is millions of metric tonnes of waste to dispose of. The one thing we have learnt about society is we are awful and managing waste. Anyone championing recycling is living in a pipedream, maybe the same dream as Job Bradfield and his scheme. Solar panels are very difficult to recycle, and the volumes being produced are way beyond the ability of technology to recycle.

If we are going to produce a desalination project, the answer is surely to use nuclear reactors and to utilise the technology for energy production to drive and improve Australia's commerce, increase real GDP, and improve the country's ability to manufacture and diversify its exports into complex goods, not just dirt. It is far too expensive and will ultimately prove unreliable to use these technologies for agriculture alone. According to Ibrahim Khamis in the Department Nuclear Energy in the IAEA (who is Jigsaw's source for the following info), of the thousands of desalination plants globally, only 15 globally are powered by nuclear reactors. Ibrahim points out in his presentation, there is no better solution to meet an increasing global demand for water and energy, meet ESG targets, remove energy volatility and supply security. Comparing desalination technology across nuclear, coal, gas, wind and solar requires weighing up the total water cost by the amount produced. Taking into consideration such as land availability and cost, capacity of plant, pump, and feedwater capacity, make a huge impact on the numbers. Using nuclear has a significant cost of capital to build and maintain the plant, with costs of 65% vs 15% that of fossil fuels and MRO of 20% vs 10%, yet the fuel costs are 15% vs 75% and less at the mercy of commodity price variations. A 100% increase in the uranium spot price would only equate to a 5% increase in total cost of water generation. For fossil fuels, this change of circumstance would equate to a 70% increase.

No matter if these ideas have merit or are just plain ridiculous, it seems we have the technologies, we just require the drive, guts and will to act for the greater benefit of both the people and the wider economy.

Material of the Month – Tin

Tin is a metal often associated with cans which are mostly made of tin coated in steel. This important metal was first discovered over 5,000 years ago in Turkey, but more commonly linked to its uses in Mesopotamia (now known as Iraq), where the population utilised the material to make bronze (an alloy of tin and copper). In more modern times, Tin is used to coat other metals to prevent corrosion, used for solder in the electronic sectors and is heavily used in the process of making glass. Future demand will likely stem from battery demand in the form of sodium-ion batteries, niobium tin alloy to produce super conductive magnets and act as a catalyst for hydrogen fuel cell technology. Unlike many other minerals, it has zero biological function in humans, yet it is not toxic to our system, unlike lead.

For businesses that use tin as a key raw material, supply mostly comes from 4 key countries which are China, Indonesia, Malaysia, and Peru, with Brazil and Thailand being an option should issue re supply occur.

Although demand was hit hard in the initial phase of the Covid-19 pandemic, the demand and in turn prices have surged to levels beyond 2019 and even past the last commodity bull cycles in 2010. This price surge is due to a supply shortage that is the result of many smelters across Asia and S America were adversely impacted due to initial demand shocks. As consumers are now spending more free time at home due to ongoing lockdowns and a culture change reworking commitment, electronics purchases have surged. The price per ton is up 62.91% since the start of 2021 at circa \$33k USD/T with the price to remain elevated for considerable time, with the 12-month spot price forecast to hit over \$36kUSD/T. See graph below.

Price of Tin

