Beyond the Bilateral:

Value Chains and the Future of Australia-Indonesia Economic Engagement

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Contents

Executive Summary

- Australia and Indonesia are beginning efforts to diversify their trade, investment, and technical cooperation in response to economic uncertainty and geostrategic pressures.
- Australia-Indonesia economic ties are nested within a rapidly-changing regional architecture. New trade instruments, including the bilateral IA-CEPA and regional RCEP agreements, offer opportunities to recast Australia-Indonesia economic engagement in terms of broader Indo-Pacific dynamics.
- Regional value chains have re-shaped trade patterns, and when RCEP enters into force, it will provide a stimulus for the development of more economic links between countries in the Indo-Pacific region.
- The future of bilateral economic relations is no longer focussed on engaging with the each other as a potential export market, but rather as complementary partners in regional economic networks.
- Sectors such as agriculture, the battery and electric vehicle value chain, the digital economy, and education offer promising opportunities. Both countries have the necessary resources to grow these industries as new value chains in the region take shape and new policy settings are implemented.
- Value chain development requires action from policymakers and business that focusses on implementing and utilising agreements such as IA-CEPA and RCEP, improving infrastructure, and supporting regional economic linkages.

1 Introduction

Australia and Indonesia have long defined their relations by their proximity. While they share a wide range of diplomatic cooperation mechanisms across security and political spheres, their shared economic cooperation mechanisms have only begun to emerge in 2020. The first significant step in their economic integration was the much-vaunted Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA), which entered into force in July 2020. IA-CEPA reduced tariffs for Indonesian and Australian goods, established an economic cooperation program, and provided for changes to Indonesia's negative investment list to open previously closed sectors to investment from Australia. Business groups that supported the negotiation of IA-CEPA hoped a bilateral trade agreement would boost overall trade relations, which have stagnated for decades.

The second development to coalesce around Australia and Indonesia is the Regional Comprehensive Economic Partnership Agreement (RCEP). Signed virtually by its 15 members in November 2020, RCEP has prevailed in spite of a rising tide of protectionism and the complications of the COVID-19 pandemic. Comprising 29 percent of global GDP, RCEP is one of the most important breakthroughs in trade since the establishment of the WTO in 1994. RCEP represents a significant investment in Indo-Pacific economic architecture, within which Australia and Indonesia are key economies. The partnership is widely expected to serve as a stimulus to the region's economy, facilitating the development of regional value chains and promoting a consistent approach to investment throughout the region. RCEP is expected to enter into force in early 2022[1].

IA-CEPA and RCEP demand a shift in the way Australia and Indonesia frame their economic relations.

Taken together, IA-CEPA and RCEP demand a shift in the way Australia and Indonesia frame their economic relations. A simple bilateral approach will no longer grasp the wider opportunities now that both countries sit together in a unified trading bloc that consists of all 10 ASEAN countries and the northeast Asian economies of China, Japan, and South Korea. Instead, viewing Australia and Indonesia as partners and participants in this larger Indo-Pacific economic bloc takes into account what they can achieve together within the frameworks of IA-CEPA and RCEP. New trends in global and regional value chains create an opportunity therein.


PHILIPPINES
PALAU
BRUNEI
INDONESIA
Banda Sea
TIMOR-LESTE
Darwin

2 Value chains in the Indo-Pacific

A major characteristic of international trade is the emergence of global value chains. Production networks that span multiple countries, value chains have revolutionised the production of single goods. Today, the production of a mobile phone or laptop computer now takes place across many countries progressing through different stages of manufacturing. The iPhone is one common example of a product that consists of multiple components made in different countries, finally being assembled in one location before being shipped to the consumer. A product with a value chain need not be high-tech. Agricultural products where primary products need processing or packaging can be part of a value chain.

The global increase in trade in services has also prompted the rise of service value chains. A variety of services go into globally traded products. The physical design of products, programming software, engineering, and financial services are all essential "inputs" that support the development of goods. Value chain networks are supported by transport and logistics services, which in turn rely on infrastructure maintained by government or private sector.

Regional value chains are already a trend in RCEP's "centre of gravity", the Indo-Pacific region.

Value chains are already a trend in the Indo-Pacific where RCEP's economic "centre of gravity" is currently positioned. Regional value chains have developed specialising in producing specific components or in a stage of production. China has played an important role in the development of Indo-Pacific value chains[2]. However, its role is gradually changing as some stages of production shift to countries in Southeast Asia. While the primary benefactor of this shift in production has favoured Vietnam, Indonesia has captured a small share of manufacturing, bringing the region's economic transformation even closer to Australia.

In a region characterised by value chains, the connectivity of trade partners is important. Australia's exports are no longer only tied to improved bilateral access to markets. In a value chain context, the trade relationships Australia's partners, such as Indonesia, have with others in the region also drive demand for Australian goods[3]. Implementing existing trade agreements, overseeing their workings, and supporting the trade diplomacy of key partners become important policy considerations.

Physical infrastructure facilitates the efficient movement of goods and services and allows access to markets. A region-wide 'infrastructure gap' constrains the economic integration and expansion of the region. At the nation-level, Indonesia suffers from a lack of investment in essential infrastructure throughout the archipelago, increasing trade costs and isolating markets. Both countries have acknowledged the need to develop infrastructure and industry in Indonesia's eastern archipelago and Australia's remote northern region to take advantage of their geographic proximity[4].

Proximity matters more in the wake of the COVID-19 pandemic and US-China trade war. Firms are beginning to "de-risk" their value chains from "long, thin" value chains to ones that are shorter and more resilient[5]. Locating most of a value chain within one regional trade bloc, bound by consistent rules under a multilateral trade agreement such as RCEP, is one way to enhance resilience. Australia and Indonesia have favourable characteristics for shorter, more resilient value chains. Short voyage times for shipping through safe seas is one. Their shared democratic values and commitment to security cooperation is another.

The concept of a bilateral "powerhouse" is a fundamentally value chain-oriented concept.

Under the RCEP regime, both countries have an opportunity to combine their respective competitive advantages to become a regional "powerhouse". This concept was developed during the negotiations of IA-CEPA, which were contemporaneous to those of RCEP. It is a vision for both countries to utilise each other's economic complementarity, competitiveness, and productivity in order to target market access in third countries[6]. The powerhouse is a fundamentally value chain-oriented concept. Within the framework of IA-CEPA, an economic powerhouse would pair Indonesia's rising manufacturing capabilities and Australia's strengths in agriculture and resources to create high-quality products[7]. The implementation of RCEP will help make this concept a reality.

Photo credit: DFAT | Timothy Tobing, Australian Embassy Jakarta, via Wikimedia Commons, some rights reserved, https://www.flickr.com/photos/kedubesaustralia/44349906102/

3 The new architecture for Australia-Indonesia economic relations

IA-CEPA entered into force in July 2020 after a decade in the making, and RCEP was signed four months later after thirty-one negotiation rounds. Between these two new agreements, a new framework for bilateral economic relations has emerged. Both agreements have also withstood existing trends of protectionism and took major steps towards completion in the midst of the COVID-19 pandemic.

RCEP's purpose is to merge the so-called "noodle-bowl" of overlapping ASEAN+1 trade agreements into a single set of trade rules for the region. By creating unified trade rules and simplifying complex issues such as rules-of-origin, RCEP will unfetter the development of regional value chains. RCEP establishes a region-wide certificate of origin regime. Australian and Indonesian goods, and those manufactured within a bilateral value chain, will be able to move more smoothly across the 15-member bloc[8]. While RCEP does not include investor-state dispute settlement (ISDS) as IA-CEPA does, its members have committed to 'negative list' investment liberalisation[9]. This will also make the Indo-Pacific an attractive region for new value chain investments.

The principal purpose for IA-CEPA is both strategic and economic. On one hand, IA-CEPA resembles a trade agreement between two countries at different stages in their economic progress. It is structured to reciprocally reduce tariffs and grant market access. On the other, it represents a strategic effort by both countries to improve their surprisingly weak economic relations as neighbouring G20 economies in the face of increasing geopolitical uncertainty. As share of trade, no two G20 neighbours trade as little as Australia and Indonesia do[10]. Indonesia's share of Australia's total trade has stagnated at around 2 percent over the past two decades while Australia's overall trade with the Indo-Pacific has increased[11]. Investment numbers are equally uninspiring. Australia's investment in Indonesia is less than 1 percent of its outward flows, and accounts for 1.5 percent of Indonesia's inward investment.

The new approach to bilateral economic ties is a focus on value chain creation using IA-CEPA and RCEP.

The new architecture of IA-CEPA and RCEP will help improve bilateral economic ties. However, it necessitates the adoption of a new way of understanding the future of Australia-Indonesia economic relations. A focus on value chain creation using the combined instruments of IA-CEPA and RCEP will be the new approach. In a region defined by the economic geography of value chains, understanding and supporting the trade and investment connectivity of a partner becomes important[12].

Australia and Indonesia are at different stages in their connections with the regional economy. Australia is an open economy heavily dependent on trade. It has eschewed protectionism for decades. It is already a member of multilateral trade agreements, including one with New Zealand and all 10 ASEAN countries (AANZFTA), the 11-member CPTPP, and RCEP. Indonesia is relatively early in its foray into the regional trade architecture. Japan is its only other G20 partner with which it has a bilateral agreement currently in force. An Indonesia-South Korea agreement is now forthcoming after a hiatus in negotiations between 2014 and 2018, and an agreement with the EU is under negotiation.

IA-CEPA and RCEP are important steps forward for Indonesia's economic diplomacy. Indonesia played an important role in supporting and completing RCEP negotiations. IA-CEPA can be viewed as an exercise in preparing Indonesia for its next steps in establishing economic integration with other advanced economies in

the Indo-Pacific. IA-CEPA is the first of several subsequent agreements that Indonesia is finalising or negotiating with advanced partners and many of its provisions could serve as a useful template going forward.

IA-CEPA and RCEP also constitute the primary mechanisms in the economic pillar of the Indonesia-Australia Comprehensive Strategic Partnership, which frames their bilateral cooperation. Signed in August 2018, before both trade agreements were completed, the joint declaration stated that both countries were committed to the completion of these agreements and were viewed not only as purely economic but as strategic instruments to diversify trade relations.

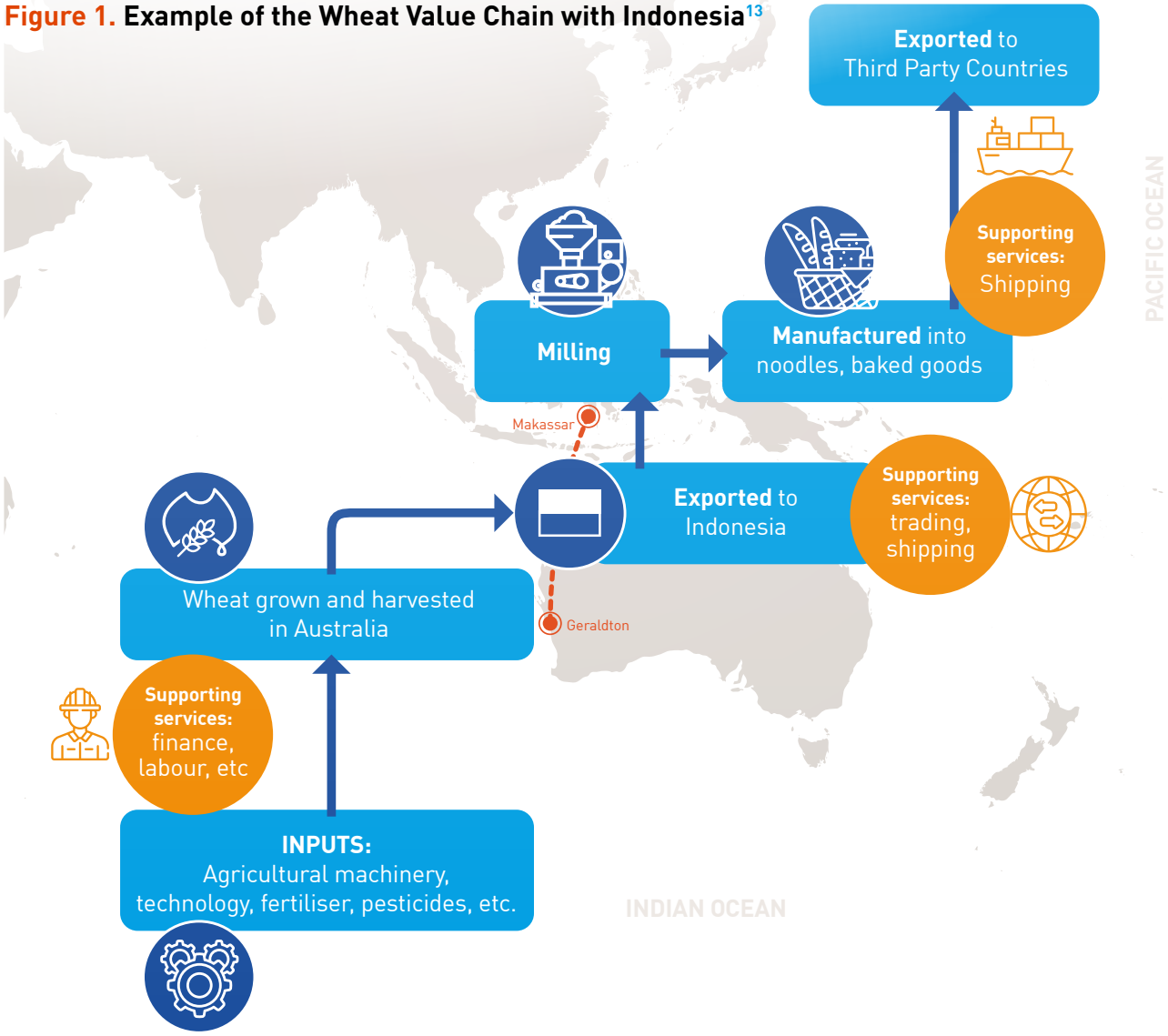
Port of Soekarno-Hatta, a seaport in Makassar, Indonesia

4 Agriculture and Food Security: From commodity trade to value chain integration

Following the value chain trend, the production of food and other agricultural products is no longer concentrated in one country, but across multiple. Even primary products such as grains and live animals are exported for further processing or value-added stages in other countries. Primary production is also supported by a range of inputs and services which may have direct or indirect links to other countries, such as machinery and financial services.

An existing example of an agricultural value chain involving both countries can be found in wheat (See Figure 1). Wheat is grown in Australia using inputs such as fertiliser, fuel, machinery, and technology from other countries. The wheat is grown and harvested in Australia. It is then exported to Indonesia, where it is milled and turned into noodles or baked goods. These are in turn sold in third markets within the region or outside. Another element to this value chain is the services that support it along the way such as agricultural labour, finance, trading, and shipping.

Figure 1. Example of the Wheat Value Chain with Indonesia[13]



IA-CEPA and RCEP open up new opportunities for the development of agriculture value chains. IA-CEPA establishes Australia as Indonesia's preferred food security partner. RCEP, through harmonising rules of origin throughout the Indo-Pacific, creates a new incentive for Australian and Indonesian agriculture products to be used in regional agriculture value chains. It also reduces tariffs on a number of agricultural goods across its membership[14].

Agriculture is a heavily protected sector in Indonesia, and through IA-CEPA's tariff rate quotas (TRQs), Australia secures market access for seven agriculture product lines with value chain potential (see Table 1 below). A conventional trade policy instrument, TRQs formalised into a trade agreement such as IA-CEPA are nevertheless a first for Indonesia. Under the TRQs, Indonesia agrees to allow imports of an agreed amount, or quota, at a zero or reduced tariff. All imports outside the quota are subject to a higher tariff. Before the TRQs were introduced under the agreement, Indonesia's quota numbers fluctuated, especially for Australian live cattle exports, creating uncertainty for exporters[15]. Firms that participate in regional value chains depend on consistent supply and quality and the TRQs afford the certainty needed for the development of these links[16]. TRQs better position these products to undergo value-added processing and their subsequent products to be competitive in other markets.

Table 1. Agriculture Tariff Rate Quotas (TRQs) in IA-CEPA

TRQ	Product	Details
1	LIVE CATTLE 	0% Tariff within a 575,000 quota, quota increasing 4% per year reaching 700,000 in year 6; tariff outside the quota is set at 2.5%.
2	POTATOES 	10% tariff in-quota to reduce to 5% in year 6. Quota increases from 10,000 tonnes to 12,500 in 6th year of agreement and grows at 2.5% each year after.
3	CARROTS 	12.5% tariff in-quota will reduce 10% in year 6 before being eliminated in year 11. Out-of-quota tariff is 12.5 percent and will reduce to 10 percent in year 6.
4	FRESH ORANGES 	Duty free access for 10,000 tonnes in year one, 5% annual growth in volume thereafter.
5	MANDARINS & CLEMENTINES 	10% in-quota will reduce to 5% in year eleven before being eliminated in year 16. Out-of-quota tariff is 18.75%, quota rate will be reduced to 10% in the year 11 and further reduced to 5% in year 16.
6	LEMONS AND LIMES 	Duty free access for 5,000 tonnes in year one; 2.5% annual growth in volume thereafter.
7	WHEAT, BARLEY, AND SORGHUM FOR ANIMAL FEED 	500,000 tonnes may be imported in year 1; increased to 775,664 tonnes by year 10 after entry into force.

Source: DFAT (2021), IA-CEPA Appendix 2-A.1: Tariff Rate Quotas, https://www.dfat.gov.au/trade/agreements/in-force/iacepa/iacepa-text/Pages/iacepa-appendix-2-a-1-tariff-rate-quotas

RCEP has features that will support the development of agriculture value chains. The agreement's membership is comprehensive and includes major agriculture importers such as China and Japan[17]. It has cooperation and consultation mechanisms to address "behind the border" non-tariff measures which hurt the agriculture trade. RCEP helps establish more transparent procedures for product quarantine and customs standards.

Investment is an important element to the development of agriculture value chains. IA-CEPA's Chapter 14 on Investment and the Investor State Dispute Settlement (ISDS) mechanism will give investors more confidence to move capital between both countries[18]. While RCEP does not include ISDS, its investment rules will also facilitate more investment in this sector. RCEP's Chapter 10 on investment commits its members to transition to a so-called 'negative list' approach to investment restrictions. In this approach, RCEP members open all sectors to foreign investment unless otherwise specified. The fact that all 15 members have agreed to this approach will promote more cross-border investment in agriculture value chains[19].

There are existing examples of how investment partnerships can solidify trade in specific agricultural commodities which predate these pro-investment frameworks. The wheat trade has long been supported by the Interflour joint venture which has helped establish wheat as a top export to Indonesia. Interflour is a partnership between Australian farmers' cooperative CBH and Indonesian conglomerate Salim Group to build grain port and milling infrastructure in Indonesia and other locations throughout Southeast Asia.

Taking the agriculture sector forward with more bilateral investment partnerships would create a strong agricultural powerhouse. In the live cattle and beef trade, it exists where Australian companies have invested in feedlots in Indonesian cities such as Medan and Lampung. This in turn drives demand for Australian live cattle imports. A timely development would see investment going the other direction, where an Indonesian feedlot invests in Australia by purchasing a cattle station. Australia's other partners in Southeast Asia have set a precedent. In a deal finalised in 2020, a Vietnamese investment company with links to a major dairy producer bought three cattle stations in northern Australia from Consolidated Pastoral Company (CPC)[20].

Box 1. Bilateral Value Chain Opportunities in Agriculture[21]

GRAINS

The Australia-Indonesia Grains Partnership, a technical assistance program, is a platform for technical and capacity building in milling, feed grains, livestock nutrition, and upskilling the workforce. By developing Indonesia's capability and competitiveness in value-adding and food processing, it can increase export opportunities. It is designed to help Indonesia become a part of a regional agricultural value chain, which also drives demand for Australian grain and Indonesian value-added products.

BEEF AND LIVE CATTLE

The Red Meat and Cattle Partnership is a project to build a bilateral powerhouse that integrates Indonesia into a value chain that drives demand for Australian cattle and increases Indonesia's trade. This partnership runs until 2024 with $60 million in funding. Phase two of the program is focussed on investment, supply chain, capacity building, innovation and export, and communication. It is supported by IA-CEPA's TRQ 1 on live cattle.

CITRUS

IA-CEPA establishes three TRQs for Australian citrus. A notional value chain would see Australia grow oranges, pack them, and export them to Indonesia. There, they would undergo value added processes such as juice extraction and concentration, and then be repackaged for export to third party countries. Extracted juice and concentrates can also be used in the production of secondary goods such as confectionery, either in Indonesia or further along the value chain.

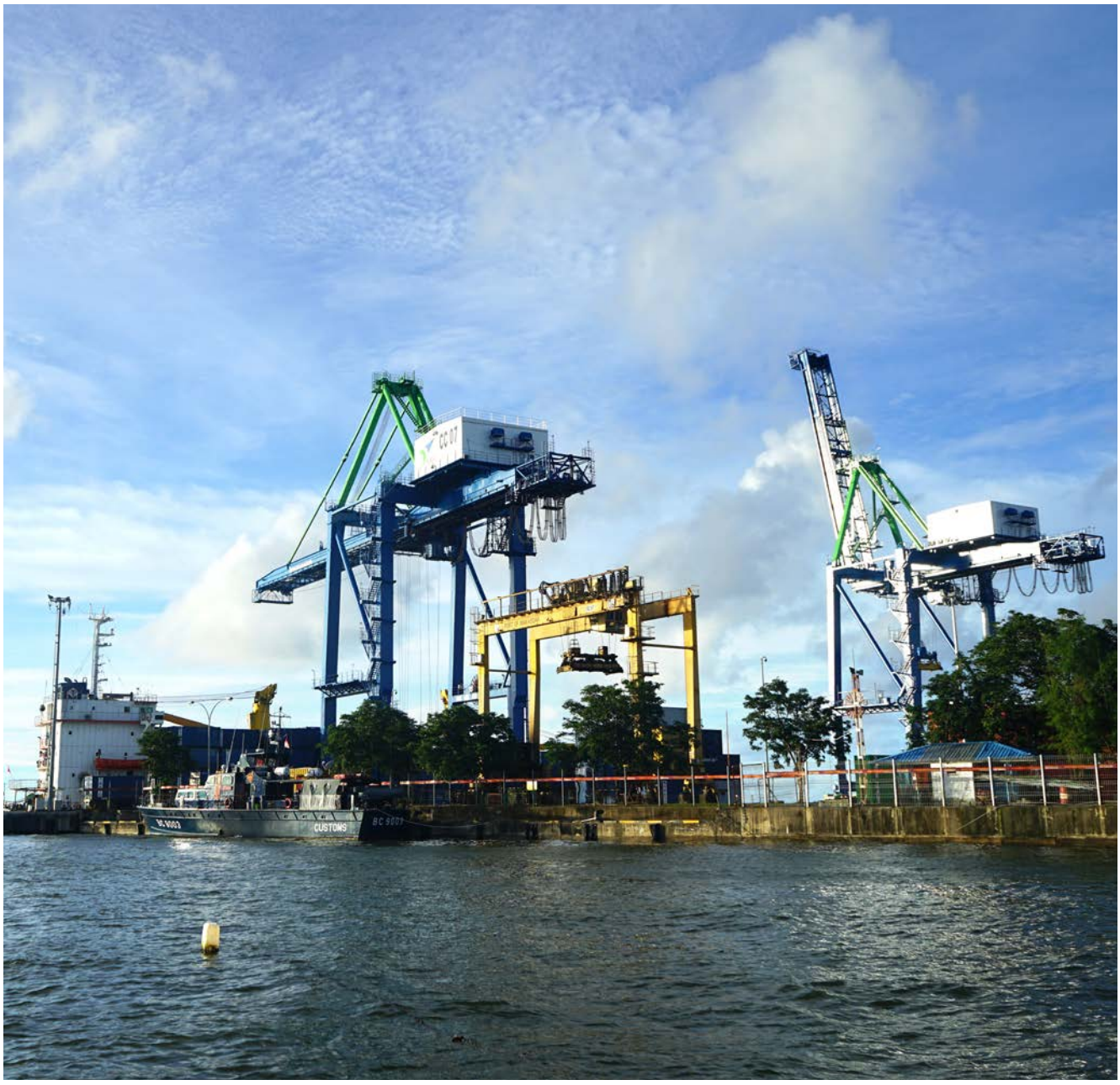
PESTICIDES AND HERBICIDES

Australia has liberalised tariffs on Indonesian-manufactured pesticides and herbicides, allowing its farmers easier access to Indonesian inputs earlier in the value chain. In 2017, on the sidelines of IA-CEPA negotiations, Australia agreed to eliminate a five percent tariff on Indonesian pesticides and herbicides. Australia used the in-force AANZFTA to immediately apply the tariff elimination (4). Greater value chain integration can drive demand for these Indonesian products in Australia.

These partnerships show what is possible within the existing framework. Under the umbrella of IA-CEPA and RCEP, Australia and Indonesia will need to pursue the next phase of their agricultural cooperation: finding market-driven drivers for deeper agriculture business and economic cooperation. In the COVID-19 era, a focus on quality and food safety will be an important consideration and product selling point.

For agriculture value chains to develop, the region needs to take steps to recover from COVID-19-related trade disruptions. Unprecedented cessation of economic activity, travel restrictions, and social distancing measures have hindered international supply chains. Reduced worldwide logistics capacity has slowed the movement of goods. The live export industry encountered problems finding crew for their ships as early as March 2020[22]. Prolonged trade disruptions are a risk for Australia which exports 70 percent of its agriculture produce[23], and for Indonesia, which must import food to stabilise its domestic food prices. IA-CEPA and RCEP provide a platform to re-build value chains and enable Australia and Indonesia to work towards recovery.

Advancing infrastructure development will also support the development of agriculture value chains. Indonesia's infrastructure problems are also Australia's. Transport costs has overtaken tariffs as the single biggest barrier to trade in the region[24]. Indonesia is no exception. If Indonesia can lower transport costs and improve infrastructure, it would emerge a more efficient and competitive economy with the ability to speed products within the country and to other economies in its periphery. Building better infrastructure in Indonesia, including advances in cold chain storage and more efficient ports would only serve to accelerate potential powerhouse advantages.



Port of Soekarno-Hatta, a seaport in Makassar, Indonesia

5 New energy opportunities: batteries and electric vehicles

The emerging battery and electric vehicle value chain is one industry in which an increase in demand and Australia-Indonesia complementarities can combine to form a "powerhouse" opportunity. Renewable energy, new transport and industrial technologies, and increasing concerns about climate change are driving increased global demand for these products. The governments and businesses of Indonesia and Australia have identified the battery industry as an important future domestic industry[25], while Indonesia has also identified electric vehicle (EV) production as a priority industry[26].

Minerals critical to the production of batteries for EVs and other applications include cobalt, graphite, lithium, nickel, rare earth minerals, and vanadium[27]. With significant reserves of many of these minerals, Indonesia and Australia are present in the existing battery value chain. Australia sits within it in two stages: first, as a major upstream supplier of battery minerals (predominantly lithium, but also a supplier of nickel), and second as end-user of batteries[28]. Likewise, Indonesia's place in this chain is primarily as an upstream supplier of battery minerals. Indonesia is a major supplier of nickel, an essential element in the composition of cathodes for lithium ion batteries (Li-ion). Indonesia has emerged as a dominant supplier of nickel, having doubled its mine production between 2017 and 2019[29]. Its nickel reserves are its primary resource contribution at this stage and Indonesia will need to form international partnerships to secure other battery minerals.

Indonesia needs to form partnerships with Australia to secure minerals for its domestic battery industry.

Figure 2. Six Battery Minerals

Cobalt

Used in cathodes in NiMH and Li-ion batteries

Graphite

Used in anodes in Li-ion batteries and future graphene-based technologies

Lithium

Used in cathodes in Li-on batteries (either as Li-iron phosphate or lithiated mixed metal oxide)

Nickel

Used in electrodes in NiMH batteries, and NMC/NCA cathodes for Li-ion batteries

Rare earth minerals

Used in electrodes in several battery chemistries

Vanadium

Used in electrolytes in VRFB batteries

Australia is Indonesia's ideal battery minerals partner. Australia accounts for 60 percent of world production of lithium[30], a mineral missing from Indonesia's domestic resource endowment. Australia has capability to supply Indonesia with lithium concentrates and is building capability to supply lithium hydroxide in the near future[31]. Indonesia's nickel industry will also need to transition from production of nickel matte, an intermediate product also used in stainless steel, to the nickel sulphate needed for lithium-ion batteries. Australia has technical and industrial capabilities in battery-grade nickel sulphate[32]. Through a hypothetical investment and technical assistance partnership, Australia is in a position to help its neighbour develop nickel sulphate production capability. This kind of partnership would build on existing bilateral cooperation in the nickel industry for stainless steel (see case study 1).

CASE STUDY 1.

Australia-Indonesia Cooperation in the Nickel Industry[33]

Even though Indonesia protects its domestic industry with policy instruments such as ore export bans, cooperation with Australia in this industry is still viable. One example is centred in Central Sulawesi, at Morowali Industrial Park (IMIP) on the coast and at the nearby Hengjaya Mine. Nickel Mines Ltd, an Australian company, holds an 80 percent interest in the share capital of Hengjaya Nickel Mine, while an Indonesian partner holds the remaining 20 percent. The company also holds an 80 percent interest with partners Shanghai Decent in two smelter projects located at IMIP.

Most nickel produced from these projects is ferronickel or "nickel pig iron" which is used mostly in the production of stainless steel. However, the Indonesian government approved in early 2020 environmental impact studies allowing battery-grade mineral processing at Morowali.

Depending on the specific chemistry of the battery being produced, other minerals are needed in small amounts, including rare earths, cobalt, and vanadium. Australia can potentially supply Indonesian producers with all of these. International partnerships with countries such as Indonesia to develop the battery mineral industry is a policy priority in Australia. A number of policies and programs at the state and commonwealth levels promoting battery industry development include trade support and incentives for international collaboration[34].

Supporting the development of this industry in Indonesia is Presidential Regulation No. 55 signed by President Joko Widodo in August 2019. This regulation covers areas including government incentives (fiscal and non-fiscal), charging infrastructure, electricity tariffs for EVs, technical standards and requirements, and environmental protection.

The fiscal incentives, covered in Article 19 as they relate to the battery value chain include:

- Tax reductions or exemptions at the central government and local government levels;
- Customs relief, including import duty incentives to facilitate the importation of machinery, goods and materials in the context of investment;
- Incentives for import duties facilitating imports of raw materials and/or supporting materials used in the EV or EV battery production frameworks;
- Fiscal incentives for research, development and technological innovation activities as well as vocational components of the battery industry;
- Financial support for battery charging infrastructure development;
- Product certification and or technical standards for the EV manufacturing companies and the related component industry;
- Export financing incentives.[35]

A number of additional regulations were issued throughout 2020 to further clarify the incentives and policies Presidential Regulation No. 55/2019 outlines (see Table 2 below).

Table 2. Regulatory changes supporting the EV and battery industry in Indonesia

Policy Focus	Policy Changes
TAXATION[36]	Reduces luxury sales tax on EVs. Changes in calculation of domestic taxes imposed on motor vehicles.
CHARGING INFRASTRUCTURE[37]	Sets requirements for the supply/type of charging facilities, licensing, and safety regulations. Determines tariffs levied on EV charging.
TECHNICAL STANDARDS[38]	Sets standards and regulations for the testing and functional safety of EVs prior to sale in Indonesia.
LOCAL CONTENT VALUE REQUIREMENTS[39]	Sets out specifics and guidelines for the development of domestic components within EV and battery production as well as the calculation for the total value of domestic component levels.
IMPORTATION OF PARTS FOR EVS AND USED LITHIUM BATTERIES[40]	Sets out requirements and procedures for importing components of EVs including full or partial components of batteries. New provisions for businesses importing recycled or used lithium batteries.

These regulations have attracted international interest (see Box 2). But more reforms are needed to attract the trade and investment needed to support Indonesia's integration into the EV and battery supply chain. Ore export restrictions are a policy tool that will impact Indonesia's participation in value chains. Indonesia introduced a ban on raw ore exports in January 2014, ostensibly to move value-added smelting operations to Indonesia. It prohibited the export of nickel and 13 other minerals[41]. Exports had to meet domestic processing requirements before the government would allow the minerals to be shipped. Since 2014, the ore export ban has been revised numerous times by amendments to Indonesia's mining law and government regulations. These government interventions have sent the global mining industry into disarray and have only served to further complicate the already challenging mining business environment in Indonesia[42].

Indonesia's export bans have exerted enough pressure to force more value-added downstream processing to Indonesia, with smelters being built close to mining activity such as the Indonesia Morowali Industrial Park (IMIP) in Central Sulawesi. But the export bans have also compounded the existing problems of supply security among battery minerals. The early announcement of an early implementation of the export ban was behind a sharp increase in nickel prices in 2019[43]. Even though export bans have impacted the upstream processing industry in China, Indonesia's other economic partners have felt the ripple effects of Indonesia wielding such a strong policy instrument.

Australia is prioritising international partnerships to enter the battery value chain.

battery-related projects in Indonesia (See Box 2) and create a powerful opportunity to drive demand for Australian minerals in an Indonesian value-added industry.

Box 2. Anticipated Investments in Indonesia's EV & Battery Industry[46]

SOUTH KOREA – LG ENERGY SOLUTION

The LG Group (LG Energy Solutions) signed a memorandum of understanding (MoU) with Indonesia in 2020, detailing a US$9.8 billion EV battery investment agreement. The agreement includes investments in upstream and downstream along the EV value chain, which would integrate Indonesia's battery industry from mining to producing lithium batteries for EVs. Integration would include mines, smelters, precursor chemicals, cathodes and recycling facilities (1). The site for the proposed project is in North Maluku and Central Java provinces.

SOUTH KOREA – HYUNDAI MOTORS

Hyundai Motors has begun the development of an EV manufacturing plant in Delta Mas, Cikarang, West Java. The continued development of the factory will bring in investment valued at US$1.55 billion until 2030 and is expected to begin producing EVs by the end of 2022 (2). The factory is projected to have a production capacity of 150,000 cars by the second half of 2021, before expanding to 250,000 by 2022.

CHINA – CONTEMPORARY AMPEREX TECHNOLOGY (CATL)

CATL plans to invest US$5.1 billion into developing integrated lithium battery plants in Indonesia. Although locations have not been disclosed, ground will be broken in 2021, with production expected to begin by 2024 (3). CATL is China's largest producer of automobile battery packs and is integral to the global value chain. CATL produces batteries for major EV manufacturers including Tesla's 'Model 3'. In 2020, CATL signed a business deal with an Indonesian state-owned mining company for nickel. It stipulated that 60 percent of the nickel would be processed domestically for battery production.

USA – TESLA MOTORS

Indonesia has pursued Tesla for investment opportunities into Indonesia's EV battery industry. Following a series of phone calls in late 2020 between Tesla CEO, Elon Musk, and President Joko Widodo, Tesla submitted an investment proposal in February 2021 to build a lithium-ion battery plant and a facility for an Energy Storage System (ESS) (4). Discussions are still in progress at the time of writing.

Australia is using different policy instruments to attempt to boost its participation in the battery value chain. One is leveraging Australia's network of trade agreements to foster international partnerships, of which Indonesia is now a well-integrated participant[44]. In Australia, all resource projects related to the battery value chain are international partnerships with countries such as Japan, Korea, the United States, and China[45]. Many of these partners are in the early stages of establishing EV and

IA-CEPA positions Indonesia to benefit from Australian consumers as end-users once the industry is established. The agreement eliminates Australia's tariffs on hybrid and electric vehicles from Indonesia[47]. As the projects outlined in Box 2 suggest, Indonesia is becoming a production hub for EVs and battery cells. This is a future trade opportunity which demonstrates how IA-CEPA aligns with Indonesia's goal to establish itself as a base for EV production and provides a mechanism to secure access to Australia's battery minerals.

IA-CEPA is a liberalising tool allowing for the tariff-free movement of many goods related to battery and EV manufacturing (See Table 3). Their joint manufactures will then be eligible to qualify as regional goods under RCEP's rules of origin chapter. This allows their products move throughout the RCEP bloc to potential markets such as China, South Korea, and Japan with favourable tariffs and customs regimes. RCEP creates an incentive for Indonesia to use Australian inputs, and for other RCEP countries to use value-added products from both countries.

RCEP creates favourable conditions for Indonesia to use Australian inputs in their battery industry.

The EV and battery materials value chain sits outside of Australia and Indonesia's established patterns of bilateral trade and investment. Better coordination between both countries is needed before they can enter this value chain together. A number of platforms exist to better coordinate their policies and industries. IA-CEPA's institutional provisions (Chapter 18) stipulate that the trade minister-level Joint Committee can appoint sub-committees to examine emerging trade opportunities such as this. An appointed committee with a mandate to engage with industry and explore establishing a bilateral powerhouse in the battery value chain is one possibility.

Another approach is coordinating with the companies in other countries planning significant investments in Indonesia and Australia's battery-related industries. South Korea stands out as one possible 'trilateral partner' with existing investment in Australian lithium mining projects[48] and Indonesia-based production capability. With the emergence of geo-strategic competition and the risk profile of battery materials, these industries are no longer seen simply as matters of economic policy, but as strategic assets that governments must take steps to secure. A more resilient battery value chain, where Australia sits downstream in extraction and initial processing before shipping to Indonesia for further processing and cell production is one possibility under a South Korean investment partnership.

Table 3. Indonesian Tariffs on Australian Battery Minerals under Existing Frameworks

Battery Mineral	Australia's global production rank	Description	Tariff
Cobalt 	3rd	Cobalt oxides and hydroxides	0.0%
		Ores and Concentrates	0.0%
		Cobalt chlorides	0.0%
Lithium 	1st	Lithium oxides and hydroxides	0.0%
		Lithium carbonates	0.0%
Nickel 	6th	Ores and concentrates	0.0%
		Nickel sulphates	0.0%
Rare-Earth Elements 	2nd	Rare-earth metals	0.0%
		Compounds or mixtures of rare-earth metals	0.0%

Source: IA-CEPA Annex 2-A, Indonesia's Tariff's Schedule https://www.dfat.gov.au/sites/default/files/iacepa-annex-2-a-indonesias-tariff-schedule.pdf; Jeffrey Wilson and Kirsten Martinus (2020), The Governance of battery value chains: security, sustainability and Australian policy options, Perth: Future Battery Industries Cooperative Research Centre and Perth USAsia Centre, https://perthusasia.edu.au/getattachment/Our-Work/The-governance-of-battery-value-chains/PU-141-Energy-Report-WEB.pdf.aspx?lang=en-AU

6 The digital economy and services integration

The digitisation of Indonesia's economy is advancing at a dramatic pace. Since 2015, its digital economy is growing at 49 percent per year, led by online shopping and e-commerce[49]. The travel, transportation, digital media, and entertainment sectors are also all rapidly digitising. Digitisation is driven by Indonesia's rapid rate of internet and smartphone penetration, the uptake of digital payment platforms by consumers previously under-serviced by traditional banking, and the benefits of digital communications given Indonesia's geographically fractured archipelago[50]. Indonesia has already generated five "tech unicorns" (start-ups achieving a USD 1 billion valuation) and its tech sector is forecast to reach $128 billion by 2025.

Indonesia needs to attract a highly skilled and educated workforce in order to maintain this rapid pace of digital economy growth and expand beyond their large domestic market. IA-CEPA's investment provisions should draw Australian investors' attention to the scale and potential of Indonesia's internet start-ups.

Comparatively, Australia's digital economy is estimated to be worth AUD126 billion, or 6.5 percent of GDP[51]. Digital exports already equal to Australia's fourth-largest export sector in 2017, worth AUD6 billion[52]. Technology companies such as Afterpay, Canva, and Atlassian number among Australia's 'tech unicorns'. While an advanced economy, Australia has a relatively small population and its technology companies need easy access to large markets to widen their user base and scale their businesses. Indonesia's proximity to Australia and its large population of early technology adopters makes it an ideal partner for Australian start-ups.

CASE STUDY 2.

Afterpay's acquisition of EmpatKali[53]

Australian financial technology company Afterpay in August 2020 purchased the Singapore-based Setelah Bayer Pte Ltd, which holds a subsidiary company PT EmpatKali Indonesia, a "buy-now-pay-later" application operating in Indonesia. Afterpay's CEO Anthony Eisen explained his company saw an opportunity in EmpatKali's "established, albeit very early-stage position in Indonesia" as a vehicle for expansion into a prime market. The sizable Indonesian market offers huge potential for investors with EmpatKali's co-founder Jamie Camidge recognising that "Southeast Asia, especially Indonesia is massive and a fast-growing market, and it represents a unique opportunity for both firms to growth together". A business strategy was developed with a locally-based management team and an Indonesian Business License should be granted by September 2021.

Figure 3. **Indonesia's top 5 tech unicorns**

Australian start-ups need access to large markets such as Indonesia to grow their user base and scale their business.

The Indonesian government recognises the need to access foreign skilled labour to keep growing their digital economy at pace and foster new start-ups. In January 2021, the Jokowi administration introduced a draft Presidential Regulation as part of the sweeping Job Creation Law 11 of 2020, known as the Omnibus Law, to make it easier for Indonesian start-up companies to hire foreign workers[54].

Another important regulation, Presidential Regulation No. 10/2021 took effect in March 2021 to exempt start-ups which have set up operations in special economic zones (SEZs) from foreign investment limits[55].

Together these regulations will pave a pathway for Indonesia to access Australia's highly skilled workers, either via remote work or in-person once COVID-19 travel restrictions ease. There is already an increased number of Australian freelancers and entrepreneurs establishing themselves in Indonesia, which is expected to continue as "provincial governments [in Indonesia] pursue this market and the creative economy"[56]. Furthermore, many Indonesian start-ups are reportedly not waiting for the pandemic to end and are employing foreign workers remotely[57].

Creating a bilateral digital "powerhouse" can also help Australia become a more competitive exporter of technology services. Despite an impressive global skill ranking, Australian exports are dominated by low complexity products such as minerals and agriculture[58]. Combining professional services and telecom, computer and information services account for only 2.3 percent of Australia's top 25 exports. Meanwhile iron ore, coal, and LNG account for 42 percent[59,60]. Nearly 56 percent of exports are classified as 'raw materials' with limited value-add[61].

This belies the fact that Australia's resource industries are supported by world-class high-technology capabilities, boosting the country's productivity and competitiveness in this sector. For example, 60 percent of global mining software is developed in Western Australia alone[62]. Silicon Valley has the world's greatest agglomeration of engineers, but major energy and resource-focussed cities such as Perth are not far behind, with 22.3 engineers per 1000 employed people in the city[63]. The engineering and technology skills Australian workers possess are transferable to an array of new digital enterprises underpinned by the internet economy.

To link their advantages, opportunities exist for Australia's software firms to leverage Indonesia's abundance of young, creative, and relatively affordable technology workers. By outsourcing time-consuming, creative, and modular components of technology projects to Indonesian freelancers and firms, Australian businesses can focus on business development and project management. This high-tech service value chain will foster a stronger, higher paid, and more highly skilled Indonesian technology workforce.

Indonesia's participation in a high-tech service value chain will foster a highly skilled workforce.

Sub-contracting opportunities also exist with Indonesian graphic designers, digital artists, video editors, computer generation specialists, and web designers. Sub-contracting allows Australian companies to take on more work at a lower cost, increasing their profit and competitiveness. A focus on the development of mining software and advanced technology for mining exploration and extraction of more valuable minerals for the EV battery industry is one specific area where Indonesia and Australia could take advantage of their symmetries.

Indonesia has no shortage of creative and tech-savvy talent. There are seven times as many active internet users in Indonesia than the entire Australian population. The country's capabilities are growing and the Jokowi administration has spent six years and hundreds of millions of dollars building digital literacy and expanding training programs. For example, in 2020 Indonesia's Ministry for Communication and Information (KOMINFO) doubled its Digital Talent Scholarship program to 50,000 recipients using an expanded budget of AUD39 million per year[64]. Increased bilateral tech-business ties with Australia align well with the Jokowi administration's aim to give Indonesia's technology workers access to higher paying work and boosting their profile and skills.

The disruptions of COVID-19 travel restrictions notwithstanding, accessing and working between Australia and Indonesia has never been easier. Indonesia's fast-expanding financial technology industry now has an array of safe payment methods for cross-border services over the internet. There are also many online marketplaces to match demand to supply and project-manage the delivery of digital services, such as the websites Projects.co.id, Upwork, and Sribulancer.[65] These sites aggregate thousands of Indonesian freelancers and small agencies offering digital services like graphic design, mobile applications and web development, marketing, accounting, and other services. These platforms also tend to facilitate bilingual communication using Google Translate, allowing English and Indonesian speakers to engage and do business without shared language.

By collaborating over the internet, Australia and Indonesia can minimise many of the typical barriers to doing business across their borders. Not long ago, Australian companies would have needed months in Indonesia to make the right contacts and frequent return trips to maintain connections. Now, most of this can be done online, as businesses have already built online systems because of COVID-19 travel restrictions.

President Jokowi has focussed on deregulating the tech industry, removing many daunting restrictions.

President Jokowi's focus on deregulation of the tech industry is another reason digital collaboration is more possible now than ever before. In recent years, Indonesia's government has reduced some of its more daunting regulatory barriers. The long-standing obligation for all companies doing business in or with Indonesia to house their data and computing systems in-country was ended by Government Regulation No. 71/2019 (GR-71). This means most private companies can now locate their computing systems and data outside of Indonesia. However, provisions remain that grant the government "supervisory" access to data categorised as "strategic," with both terms being left fairly undefined. GR-71 lists eight sectors which may have strategic implications. This includes data, but adds a catch-all "and other sectors such as stipulated by the President." A recent implementing regulation for GR-71 from KOMINFO, Ministerial Regulation No. 5/2020 (MR-5), raises additional concerns that foreign companies will need to register locally or set up a physical office to sell services into the Indonesian market.[66] However, there appears to be no limitations on foreign companies purchasing services over the internet from Indonesia.

Table 4. Digital economy policy settings in Indonesia

Policy Focus	Policy Changes
ELECTRONIC SYSTEMS AND TRANSACTIONS[67]	Removal of obligations for private companies to locate their data and disaster recovery centres in Indonesia, but includes a "supervisory" clause enabling the government to demand access to data on an ad-hoc basis.
E-COMMERCE REGULATION[68]	Moves regulation of electronic trading systems under the jurisdiction of the Ministry of Trade taking cues from conventional trade-in-goods. Tax and operational implications for all organisations conducting business online in Indonesia, even those not located in-market[69].
PAYMENT TRANSACTION PROCESSING[70]	Cap on foreign ownership at 20 percent for companies involved in many payment services Mandates domestic processing of payment transactions and the use of Indonesian Rupiah for these transactions.
NATIONAL PAYMENT GATEWAY REGULATION[71]	To capture more domestic value, there are obligations to localise payments via a national payment gateway, including debit card, credit card, financial technology, and electronic bill invoicing payments[72].
FINTECH REGULATION[73]	Legal standards for peer-to-peer lending across financial technology platforms, among other requirements[74].
E-MONEY REGULATION[75]	Establishes Bank Indonesia's licensing regime and financial restrictions for electronic money providers. Limits foreign ownership to a maximum of 49 percent for e-money organisations[76].

IA-CEPA and RCEP both include a focus on facilitating digital and e-commerce economic activity[77]. IA-CEPA's Chapter 13 aims to smooth cross-border digital transfers, increase interoperability, and build a framework for deeper digital cooperation. One of the bolder elements of the agreement is Article 13.12.2. It states, "Neither party shall require a covered person to use or locate computing facilities in that Party's territory as a condition for conducting business in that territory, except where such a measure exists at the date of entry into force of this Agreement". This may exempt Australian businesses from MR-5's local incorporation requirements and any lingering data-localisation concerns in GR-71. RCEP's Chapter 12 on e-commerce does not include an exception for existing measures[78], but includes a clause that allows a party to adopt a measure "to achieve a legitimate public policy objective"[79].

Through IA-CEPA and RCEP Indonesia and Australia are well-poised to collaborate business-to-business over the internet. Both countries stand to gain from each other's comparative advantages and can leverage each other to on-sell to third-party markets. This mutual exchange can be deepened with stronger education and training ties, another emerging domain of cooperation.

7 Educational value chains and Indonesia's skills development

Education and workforce training is another sector where Australia and Indonesia can apply complementarity to become greater than the sum of their bilateral parts. However, this is a sector suited to more traditional bilateral cooperation: a simple equation of balancing Australian supply with Indonesian demand. No less, bilateral cooperation in education has region-wide benefits. Cooperation in education and workforce training will enhance the kind of people-to-people ties that underpin the development of businesses with a global and regional focus.

As the world's fourth-most populated country, Indonesia's basic education apparatus is impressive. One fifth of the AUD160 billion state budget is earmarked for education every year, and there are more than 50 million students currently attending over 250,000 schools[80]. The tertiary education system is smaller with eight million students enrolled in 4,600 institutions graduating a quarter million students per year; meaning there is only one tertiary graduate for each K-12 school per year.[81] While Indonesia's primary and secondary education system excel at access and enrolment rates, it falters in quality outside of the few major cities on Java and Sumatra.

In Indonesia there are more than 50 million students attending over 250,000 schools.

Indonesian elementary school students with red and white uniform saluted at ceremony of Independence Day of Indonesia in Jakarta, Indonesia

The tertiary education system suffers both from lower enrolment rates as well as quality problems, particularly outside of the few prestigious national universities. These weaknesses contribute to a serious skill deficit which constrains Indonesia's economic growth and competitiveness. The Jokowi administration aims to address this by upskilling the country's large pool of young people under the age of 25, a demographic that accounts for 43 percent of Indonesian's population[82]. The government aims to add more than 57 million skilled workers to the economy by 2030, which would almost double the current amount[83].

To achieve such an ambitious goal, the Indonesian government needs support from countries such as Australia. This explains why its government has begun to re-shape the policy landscape around foreign education providers, ending long-standing regulatory barriers to foreign participation in the education and training sector. For example, Ministry of Education Regulation No. 53 of 2018 (MR-53) makes it legal for external entities to establish a university in Indonesia, though only under strict conditions. The foreign entity can only establish universities within special economic zones, it must be not-for-profit, and it must rank within the top 200 global universities as determined by the Indonesian government[84]. In short, Indonesia's large and under-serviced market for education and training is starting to open, but serious barriers remain for most foreign institutions interested in establishing in Indonesia.

CASE STUDY 3.

A first for Indonesia: Monash University's Campus[85]

The Indonesian Ministry of Education and Culture has granted a license to Monash University to establish and operate a university campus. Registering as a *yayasan*, or foundation, Monash University Indonesia will be the first international, foreign-owned university to operate within Indonesia.

Scheduled to open in 2021 in Bumi Serpong, Damai City, Southwest of Jakarta, Monash Indonesia will offer research-intensive postgraduate masters and PhD degrees. The presence of the campus enables research collaboration with other Indonesian universities and industry. The location of the campus is close to Jakarta's industrial parks and other universities, giving the students and the university greater access to employers, industry leaders, and opportunities to commercialise research.

The establishment of the campus aims to deepen cross-border research initiatives between Australia and Indonesia. It will support the research exchanges and the flow of students and scholars. This in turn underpins the links that lead to greater business partnerships which support participation in regional value chains.

Indonesia's Minister for Education and Culture, Nadiem Makarim, who also founded one of the country's most successful startups, said Monash University's establishment "... will help accelerate the strengthening of our education system and deepen the social, economic and technological links between Australia and Indonesia."

Australia enjoys certain advantages that position it well as an early entrant into the education market. IA-CEPA is the first trade agreement Indonesia has signed which offers preferential access to its education and training market, covered under IA-CEPA's Annex II. The agreement includes provisions for Australian organisations to establish majority-share ownership of up to 67 percent in Indonesian training institutions, and it allows for Australian trainers' qualifications to be recognised in Indonesia[86]. It also boosts several bilateral exchanges, visas, and workplace placement programs[87]. The agreement is progressive and designed to reduce barriers between the two country's education sectors over time.

Indonesia's under-serviced market for education is opening up and Australia has advantages as an early entrant.

Melbourne's Monash University is the first to take advantage of this and is set to open their Jakarta campus doors in late 2021. The process took several years and was closely supported by the Australian embassy (see Case Study 2)[88]. The University of Newcastle Australia is partnering closely with Binus University in Jakarta to offer joint-degrees and transfer options[89]. More Australian providers are expected to follow, including some considering vocational education and training campuses or facilities with curriculum and training foci which align closer with the Jokowi administration's workforce goals for strengthening vocational education and access to quality science, engineering, agriculture, research, and health education[90,91].

Setting up campuses in Indonesia aimed at workforce development is a new business model for Australian education providers, but it is a promising one. Australian universities rely on proximity, quality, and a strong reputation in Southeast Asia to attract well-resourced and high performing students[92]. Through partnerships and branch campuses in Indonesia, Australian institutions can now access a new and much broader pool of students: the next generation of skilled workers. The attractiveness of this prospect will be growing for Australian institutions struggling to fill seats at home following the COVID-19 pandemic. Since 2019, Australian universities have lost AUD1.8 billion in revenue and 17,300 jobs. It is not yet clear when international students will return in similarly large numbers[93]. Now is the time for these institutions to establish themselves in-country in the Indo-Pacific rather than assuming students in the Indo-Pacific will come to them.

Now is the time for Australian institutions to establish themselves in-country, rather than assuming students will come to them.

While on the surface it appears that education and training is strictly a bilateral play, we need to recognise that there are also longer-term regional benefits for Indonesia and Australia. Leveraging Australia's multi-billion-dollar vocational education and training (VET) sector can produce several downstream effects for Indonesia's position in the region. The more skilled technical labour Indonesia develops, the more it will be able to integrate into regional and global manufacturing value chains. A robust VET industry in Indonesia would also help accomplish one of the more ambitious goals agreed upon by the Association of Southeast Asian Nations (ASEAN): the formation of a "Common Space for Higher Education" by harmonising 6,500 institutions across 10 member countries[94]. With established Australian VET providers in Indonesia, there is an opportunity to draw students from other ASEAN countries, increasing student mobility into Indonesia. Currently there are only about 220,000 intra-ASEAN students in Indonesia[95].

The regional benefits for Australia are indirect but have long-term potential. The more successful Indonesia is at adding 57 million skilled workers by 2030, the more prosperous it will become,

and the more opportunities Australia will have for economic cooperation and activity. There is similar thinking behind Australian overseas development assistance (ODA) in Indonesia, for example, which spent AUD322 million in 2020 on large multi-year economic advisory programs such as PROSPERA and MAHKOTA. The Australian Department of Foreign Affairs and Trade says this spending is for regional health security and stability as well as a mutual economic recovery from COVID-19[96]. An advanced education sector in Indonesia will likewise indirectly benefit Australia, supporting stronger regional economic development and stability.

Students in Banjarmasin carry out computer-based national exams, April 2019

8 Steps for building Australia-Indonesia value chain connections

With IA-CEPA in force and a completed RCEP, framing Australia-Indonesia trade and investment relations simply in the terms of their bilateral relations is no longer a useful approach. A narrow bilateral definition will miss what is possible for an economic partnership which sits in the context of a rapidly-changing region. A region where value chains are galvanising and geopolitics are redefining economic objectives creates new opportunities for business growth and government policymaking.

The bilateral business paradigm must shift from *what do they need that I have?* to *what does the world need that we have?* This collaborative approach is made possible by the enabling instruments of IA-CEPA, RCEP, and digital technology which are breaking down previous barriers to business. Resources, skills, and comparative advantages across both countries can now be considered collective where enabled by these instruments and where strong bilateral connections already exist.

The authors make the following recommendations as Australia and Indonesia begin to develop a "powerhouse" within global and regional value chains:

- Recognising that a newfound need to diversify economic partnerships and to develop more resilient value chains can help drive closer economic ties between Indonesia and Australia.
- Business and government support for implementation of existing trade agreements is important in a region where trade and investment patterns will be re-shaped by value chains. Expanding the trade connections of economic partners will open more business opportunities in trade and investment.
- If Indonesia and Australia are to become closer value chain partners, they must take steps to address the infrastructure gaps which constrain movement of goods and access to markets. Improved infrastructure in northern Australia and in eastern Indonesia will accelerate potential powerhouse advantages.
- IA-CEPA's TRQs open opportunities for new business partnerships to diversify the well-established agriculture trade and RCEP enables them to link to the food demands of the broader region.
- Australia has materials Indonesia needs to achieve an integrated production base for electric vehicle batteries. IA-CEPA provides a framework to establish a sub-committee to examine how Australia is able to support Indonesia's efforts to develop this industry and create a stable and secure supply chain.
- Indonesian and Australian business are better-positioned to collaborate over the internet given technology advancements, deregulation, and IA-CEPA's focus on facilitating digital and e-commerce economic activity. Both countries stand to gain from each other's comparative advantages in the digital economy and work together to on-sell technology applications to other markets.
- Indonesia and Australia can contribute to a more prosperous region with the kind of people-to-people ties and skills development that help build global value chains through education and workforce training.

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