

By: Herald van der Linde and Prerna Garg

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SPOTLIGHT

Advantage Indonesia

Taking a thematic approach

Indonesia offers one of the best growth and investment stories in Asia

We show where the next equity opportunities are










This report uses HSBC's Nine Themes to examine the long-term prospects for this market



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Summary

	Automation	4
Indonesia's big push to revitalise the manufacturing sector will come with rising demand for downstream warehouses. Ongoing industrial upgrading should drive automation in logistics.		
	Demographics	7
The population is young and urbanising rapidly. As households get smaller and more women join the labour force, Indonesia is set to become a bigger player in the global consumer market.		
	Digital Finance	13
About 100m of the population of 278m are unbanked, providing a large untapped market opportunity. Traditional and digital banks are likely to play an important role in meeting the financial needs of the public.		
	Disruptive Technology	17
Indonesia's e-commerce industry is at an early stage of development and the sector contributes to just 3.9% to GDP (China: c11%). However, young demographics, low organised retail penetration, and growing internet penetration should accelerate the growth of digital platforms.		
	Energy Transition	21
Renewable power accounts for just 14% of total power capacity in Indonesia, less than half of the ASEAN average. Abundant solar and geothermal resources (40% of global reserves) are likely to play a key role in energy transition.		
	Future cities	25
Growth in Indonesia is concentrated – the island of Java accounts for over 60% of the total population and 55% of GDP. Investment in infrastructure should reduce logistic costs and attract foreign investment; with this we expect more growth to come from outside Jakarta.		
	Future Consumer	30
Household incomes are rising and affluent consumers are increasingly willing to spend more on better-quality products. Indonesia will have the fourth biggest consumer population on the planet by 2030.		
	Future Transport	33
Indonesia accounts for the largest nickel reserves in the world. With supportive regulation and foreign investments, the market is on track to become a big player in the global EV supply chain.		
	Lower for longer	37
Low debt levels and demographic trends will support growth despite vast investment commitments in the near future. Against this backdrop, we believe "lower for longer" is not yet applicable to Indonesia's bond market.		
	ESG in Indonesia	41
Palm oil exports, coal-fired plants, and vast nickel reserves offer economic opportunities, but also drive the need for decarbonisation.		

Facts and figures

USD30bn

Foreign direct investment into Indonesia's metal segment over the past five years

40%

Proportion of the world's geothermal reserves in Indonesia

Only 1 of the 27 planned industrial parks is on the main island of Java

1,800km

Length of toll roads built since 2014

50%

Population that are millennials or Gen Z

50%

Unbanked population

50%

Economic activity that comes from Java

97%

Palm oil exports to the EU, US, and UK that come from companies with zero-deforestation commitments

Refined nickel supply has grown to 1,183mt in 2022, up from 42mt in 2015

23.5%

Indonesia's logistic costs as a proportion of GDP

2.6m

Number of Indonesians moving from rural areas to cities every year

Executive summary

Advantage Indonesia

Indonesia is in a sweet spot. Substantial investments in roads, ports, railways, and airports have made it easier to get around cities and islands on this huge archipelago, opening up access to different consumer markets. As Indonesians go digital and shop online, big-name stores are becoming more popular than the local mom-and-pop stores you see everywhere. Indonesia is also hugely underbanked, offering growth opportunities for banks and online payment firms alike.

At the same time, Indonesia's huge nickel deposits are in great demand from electric vehicle battery producers everywhere, which is good news for local mining companies. This also means that a significant amount of money is being invested in the country, strengthening the currency and lowering interest rates.

Still, there is a lot of catching up to do. Internet penetration remains relatively low, smartphone penetration is better but could improve, certainly if Malaysia's levels are any guide, and car ownership is only a fraction of what it is in China. There is plenty growth left in this economy.

We use HSBC's Nine Themes to understand the shifts and changes taking place across Indonesia, from new technological developments and energy supply to e-commerce to demographics. Ultimately, these themes are the bedrock of the Indonesian story – and will continue to be so in the years to come.

Numbers at a glance

	Indonesia	Thailand	Philippines	Malaysia	mainland China
Population (m)	274	72	114	34	1426
Median age	29	39	24	29	37
Urbanisation rate	56%	51%	48%	78%	66%
Women labour force participation	52.7%	58.7%	46.0%	52.7%	61.1%
GDP per capita	4,798	7,115	3618	12,450	12,745
FDI 2022 (USDbn)	22	10	9	17	189
Internet penetration	61%	85%	83%	97%	72%
Smartphone penetration*	83%	92%	68%	90%	81%
Size of digital economy (2022), USDbn	77	35	20	21	6,900
Passenger vehicle sales '000	783	343	88	642	23,600

Note: *Proportion of total mobile phones.

Source: CEIC, Google, Temasek and Bain, GSMA, HSBC

Automation

- ◆ The 'Making Indonesia 4.0' initiative will benefit manufacturing and downstream sectors as Indonesia moves up the value chain
- ◆ Automation has yet to take off in logistics, providing a significant untapped opportunity to increase productivity
- ◆ Indonesia has the second-largest data centre market in ASEAN and is well positioned to capture data needs from industrial upgrading

Joy Wang*
Head of ASEAN Equity Research
and ASEAN Property
The Hongkong and Shanghai
Banking Corporation Limited,
Singapore Branch

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'Making Indonesia 4.0' – Indonesia's fourth industrial revolution

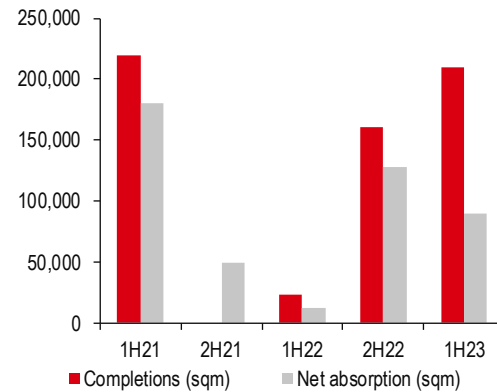
In an attempt to revitalise Indonesia's manufacturing sector, the government in 2018 rolled out a 'Making Indonesia 4.0' roadmap. This is aimed at catapulting the country into one of the top 10 largest economies globally by 2030 while pushing up the industry net export rate to 10%, doubling the productivity-to-labour cost ratio, and allocating 2% of GDP to R&D. As Industry 4.0 involves, harnessing technologies such as the Internet of Things, AI, robotics, and sensor technology, this is expected to support Indonesia in its climb up the manufacturing value chain.

In fact, Indonesia has been trying to scale the manufacturing ladder ever since it decided to put in place a ban on unprocessed nickel ore exports. The majority of investments made so far are aimed at using the existing auto value chain in the region (from nickel to components) and the incentives provided by respective governments with the ultimate goal of exporting finished products using free trade agreements to which ASEAN countries are a party. Indonesia has attracted a wave of investment into the EV supply chain, including the construction of smelters and the electric vehicle (EV) supply chain domestically. We have seen over USD15bn of investments in this segment over the past two years. Today, new capacity continues to enter the market, and value-added manufacturing and processed metal exports have risen over time.

Reaping efficiency gains as logistics enter the age of automation

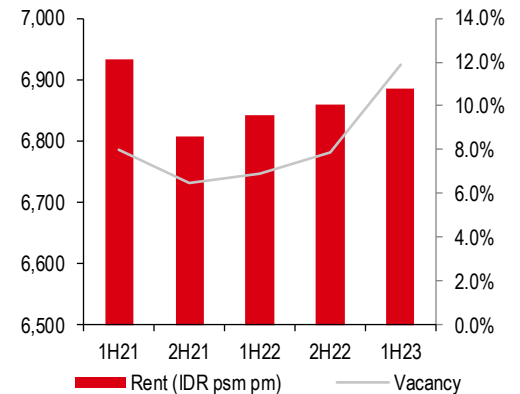
As Indonesia jostles to become a global hub for the EV sector, this has increased the demand for downstream logistics warehouses. Indonesia's logistics warehouse sector has been growing rapidly at a CAGR of 13% from 2018 to 2022, led by both the growing EV sector as well as e-commerce companies – Tokopedia, Lazada, Shopee Indonesia, and BukaLapak – which have been expanding their geographical reach in Indonesia. According to JLL, the total GFA of warehouses reached 2.3m sqm in 2022.

Exhibit 1.1: Greater Jakarta logistics demand-supply



Source: JLL

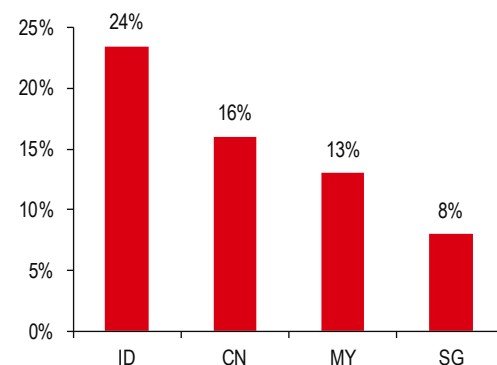
Exhibit 1.2: Greater Jakarta logistics rent and vacancy



Source: JLL

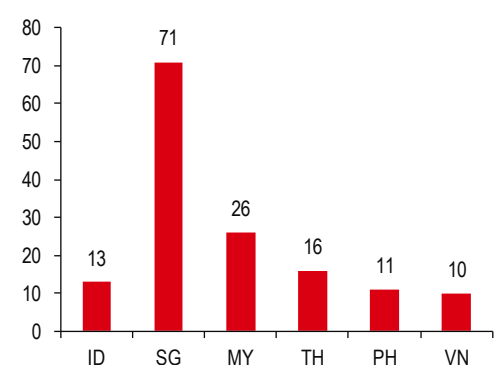
However, as an archipelago with thousands of islands, Indonesia's logistics sector is marked by inefficiencies, evidenced by the relatively high logistics costs (23.5% of GDP in 2022) compared to other countries in the region. This is further compounded by a low adoption rate in digital and automation technology, which is reflected in its low labour productivity.

Exhibit 1.3: Logistics cost (% of GDP)



Source: PwC Indonesia

Exhibit 1.4: ASEAN labour productivity (GDP output per hour worked)



Note: Measured in real GDP (international dollar) per hour worked. An international dollar has the same purchasing power over GDP as the US dollar has in the United States. CN = mainland China.
Source: OECD, The Conference Board

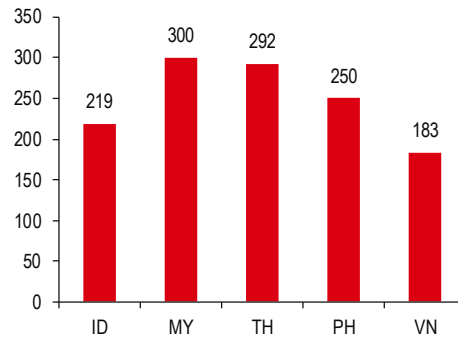
However, it is only a matter of time before technological adoption becomes increasingly prevalent in the logistics sector as Indonesia embarks on its industrial upgrading journey. Still, we believe two factors stand in the way: (1) costs; and (2) a talent shortage.

Labour costs tend to be much lower in emerging-market Asia, which translates into longer payback periods for the upfront capex spent on automation technologies. As such, logistics warehouses tend not to spend heavily on capex, and industrial robots are estimated to account for less than 1% of Indonesia's total imports of automation equipment, according to various studies. Nevertheless, JLL estimates that the cost of automated guided vehicles and autonomous mobile robots, two of the most widely used automation technologies in logistics warehouses, will fall c60% by 2025e from 2017 levels, which makes automation technologies increasingly viable.

Secondly, Industry 4.0 requires better trained staff. The majority of Indonesia's workforce do not possess advanced/tertiary education, and there is huge demand for highly-skilled talent who are

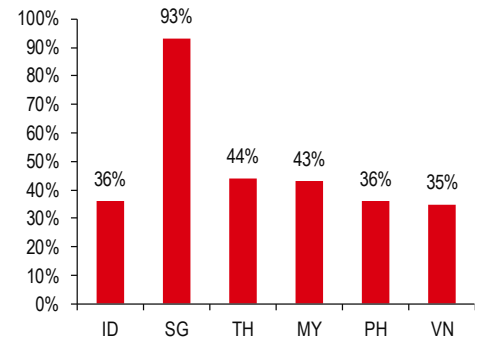
well equipped to deal with the technologies involved in Industry 4.0. Without sufficient human capital, companies are likely to be deterred from investing in advanced technologies.

Exhibit 1.5: ASEAN minimum wage (USD/month)



Note: Singapore does not have a minimum wage policy. CN = mainland China.
 Source: Philippines National Wage and Productivity Commission, HSBC estimates.

Exhibit 1.6: ASEAN tertiary enrolment (%)



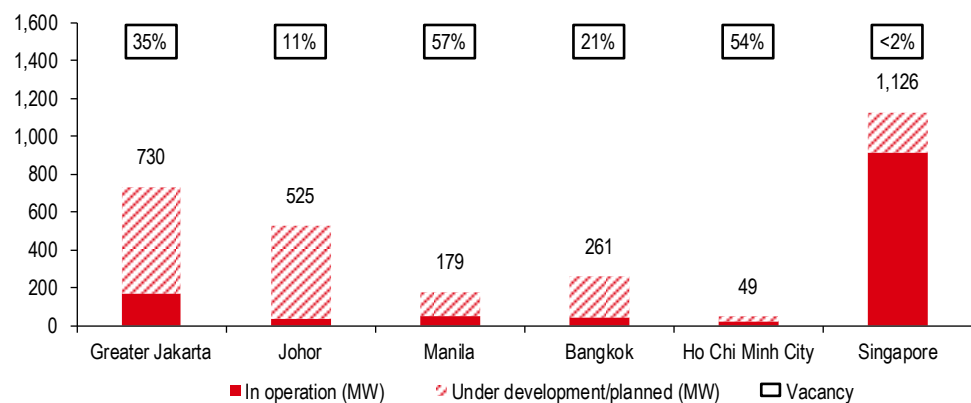
Source: World Bank

Largest data centre market in emerging ASEAN

Over 90% of Indonesia's data centre market is concentrated in Greater Jakarta with c170MW of data centre capacity in operation and c560MW under construction/planned, according to Cushman & Wakefield. Nevertheless, as the adoption of data-intensive technologies underpinning Industry 4.0 has yet to become widespread in Indonesia, vacancy rates of data centres stand relatively high at 35%.

The availability of data centres with sufficient storage capacity will be essential to support Indonesia's 4.0 vision, as industrial upgrading and automation necessitate better data storage. The government continues to build data centres with tier-4 certifications, which offer the highest resistance against natural disasters, power outages, and equipment failure, alongside plans to ease data centre regulations to support data centre growth and attract foreign investment. We believe that Indonesia's data centre market is well positioned to capture the structural tailwinds from data storage needs and spill-over demand in the region.

Exhibit 1.7: ASEAN data centre market



Source: Cushman & Wakefield

Demographics

- ◆ Indonesia is young and rapidly urbanising; ageing is not yet a concern
- ◆ Improving female labour participation could have a significant impact on raising the country's economic growth potential...
- ◆ ...while expanding the cohort of middle-class consumers could provide compelling opportunities

Herald van der Linde*, CFA
 Head of Equity Strategy, Asia Pacific
 The Hongkong and Shanghai Banking Corporation Limited

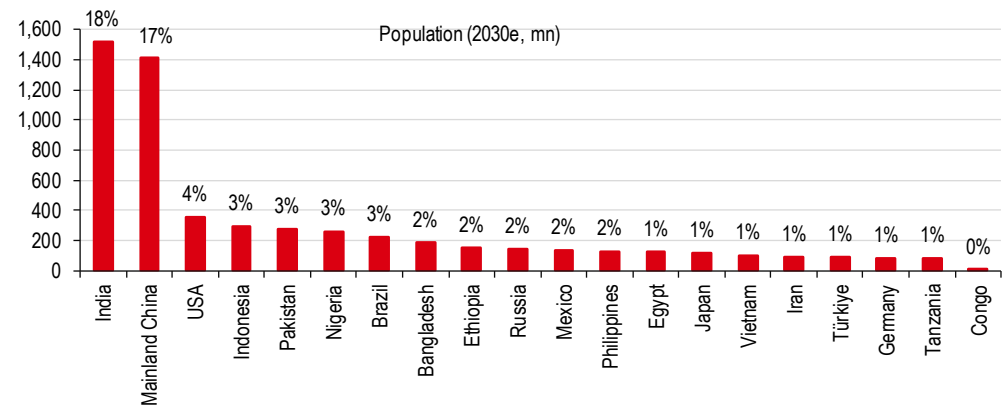
Prerna Garg*
 Associate, Equity Strategy
 The Hongkong and Shanghai Banking Corporation Limited

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Young and urban

Indonesia is young and rapidly urbanising, making it one of the fastest growing consumer markets around. It is the fourth-most populous country globally and by far the most populous in ASEAN, with an estimated population of 275m.

Exhibit 2.1: Indonesia is the fourth most populous country, making up 3% of the world's population



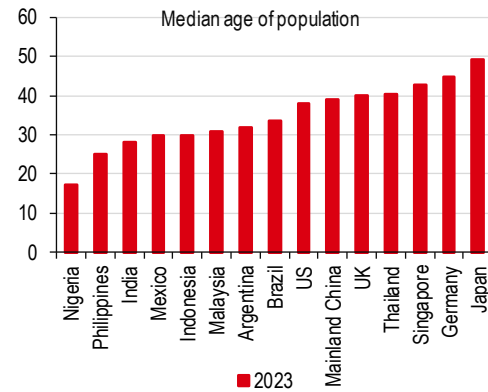
Note: Numbers above columns show the proportion of World population formed by each country.
 Source: UN World Population Prospects estimates, HSBC

To understand Indonesia's demographics, we start by looking at some key trends, such as age profiles, urbanisation, education levels, and household composition.

Indonesians are young

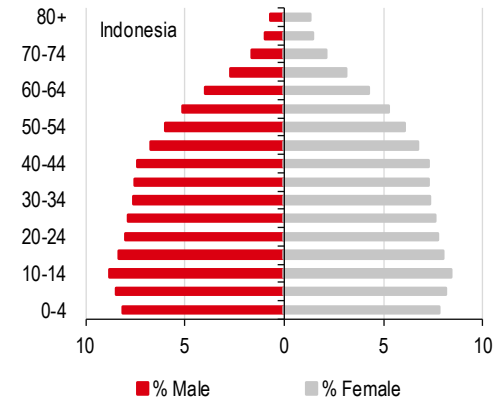
- ◆ The population is young, with a median age of 30 years, making it one of the world's youngest nations, although the UN estimates it will rise to 36 years by 2050. Just over a quarter of the population is below 15 years of age; c50% of Indonesia's population consists of Millennials and the Gen Z generation, that is, people born between 1981 and 2012.

Exhibit 2.2: Indonesia is young with a median age of 30 years



Source: UN Population Prospects 2022 estimates, HSBC

Exhibit 2.3: c50% of Indonesia's population consists of Millennials and the Gen Z generation

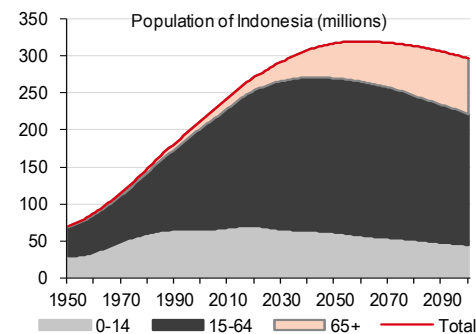


Source: UN Population Prospects 2022, HSBC

About 1.6m new job seekers are added every year...

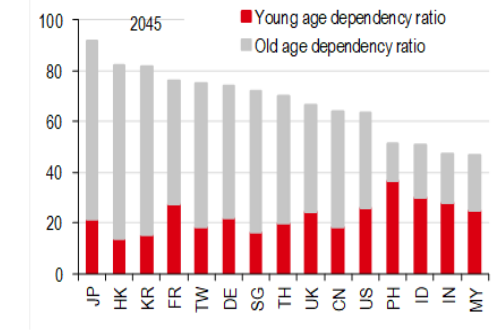
- There are lots of job seekers and Indonesia's working population is rising faster than dependents. About 1.6m are added to the labour markets every year this decade. The working age population is expected by the UN to continue to rise until the 2040s when Indonesia is expected to have 208m people in this age group – exceeding the population of all of Western Europe by then. In short, job creation is essential.

Exhibit 2.4: Working age population is expected to continue to rise until the 2040s



Source: UN Population Prospects 2022 estimates, HSBC

Exhibit 2.5: Unlike in Europe and East Asia, old age dependency is not a concern yet

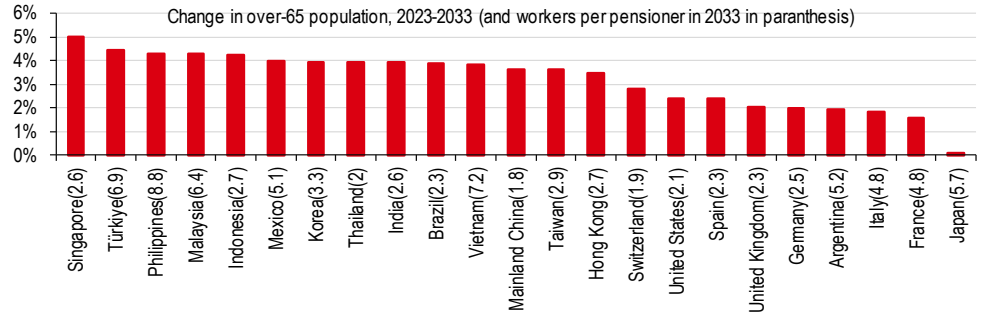


Note: CH refers to mainland China.
Source: Population Prospects 2022 estimates, HSBC

...and these workers can take care of the elderly that don't work

- Looking after old age family members is still not a major concern as the old age dependency ratio is small at just 10%. Still, this cohort will grow with time – the proportion of Indonesians aged over 65 years of age is estimated to rise to 14.6% in 2045e. But even then it is much smaller compared to Europe and East Asia. In short, ageing is not a major issue yet.

Exhibit 2.6: The old age population is rising fast but their dependency on those working is limited



Source: UN Population Division estimates, HSBC

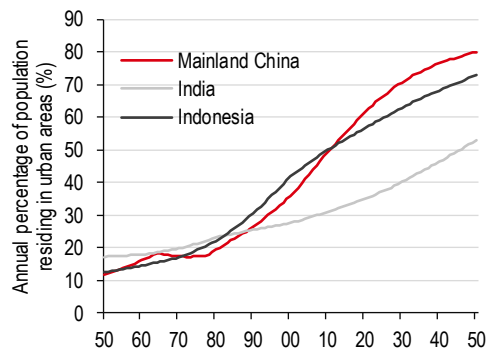
About 2.6m flock to cities every year

Large parts of Asia are still non-urban. The UN estimates that the average urbanisation ratio in Asia is 53% (with ASEAN at 52%) compared with 76% in Europe and 83% in the US. And in mainland China, it is one of the highest at 65%.

Indonesia has urbanised rapidly over the past few decades. Between 1990 and 2020, the urban population in Indonesia grew at an annualised rate of 3.5%, compared to just 2.6% in India and 2.8% in Asia overall. 59% of the country's population lives in cities and the UN estimates this to reach 70% by 2040e. That means about 2.6m will move from rural areas to cities every year.

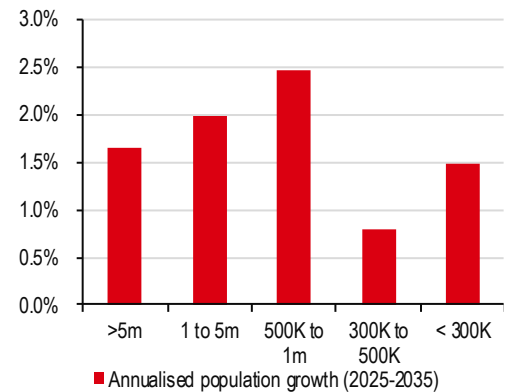
The period between 1980 and 2000 was the era of urbanisation in Indonesia. This has increased the number of cities with a population of over 300,000 from 17 in 1980 to 33 now.

Exhibit 2.7: Indonesia has urbanised as fast as China, and much faster than India



Source: World Urbanization Prospects estimates, HSBC

Exhibit 2.8: Small-to-medium size cities (population of between 500,000 and 1m) are expected to grow the fastest



Source: World Urbanization Prospects estimates, HSBC



Indonesia has urbanised just as fast as China

Small-to-medium sized cities are growing faster than large cities like Jakarta

Typically, Indonesian

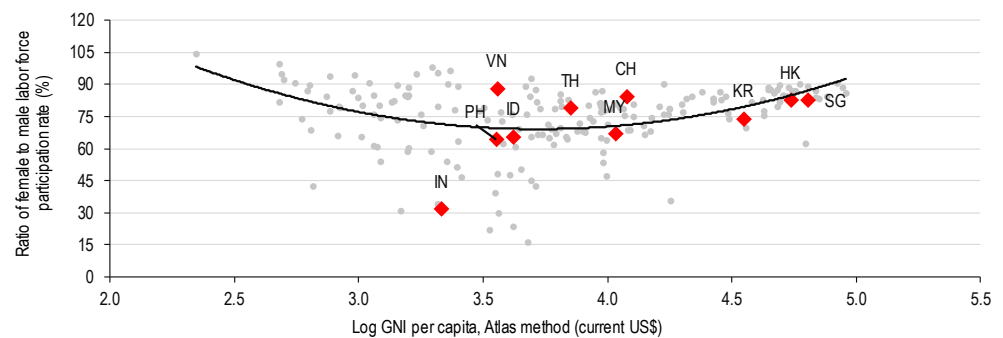
One characteristic of urbanisation in Indonesia is its high regional concentration. Although the population is spread across thousands of islands, more than 55% of the population lives on the island of Java. A total of 15 out of the 33 urban cities (including Jakarta, Bekasi, Depok, Surabaya, and Bandung) in Indonesia are located on Java. Sumatra, another island, accounts for another 20% of the population.

The second characteristic is that small-to-medium sized cities (with a population of between 500,000 and 1m) are growing faster than large cities like Jakarta. This includes cities like Banjarmasin, Balikpapan, Pontianak, and Jambi. These are the cities where potential demand in the coming years will come from. A lot of this has to do with government policies that are focussed on more inclusive development.

Indonesian women

Women globally are becoming more educated and having fewer children. Although women in Indonesia have literacy rates comparable to that of men, just slightly more than half are working, a number that has changed little over the past few decades. There are 64 women for every 100 men in the labour force, lower than some neighbours like Vietnam and Thailand.

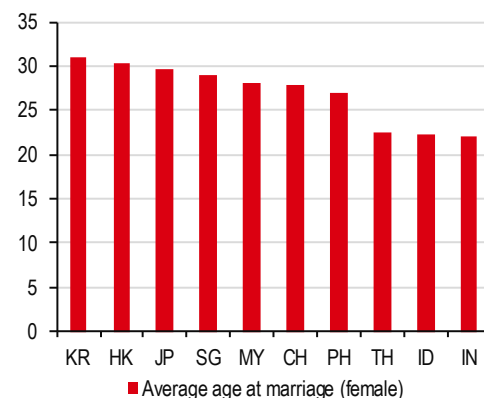
Exhibit 2.9: Indonesia would grow faster if more women were in the official labour force



Note: CH refers to mainland China.
Source: UN Population Prospects 2022, HSBC

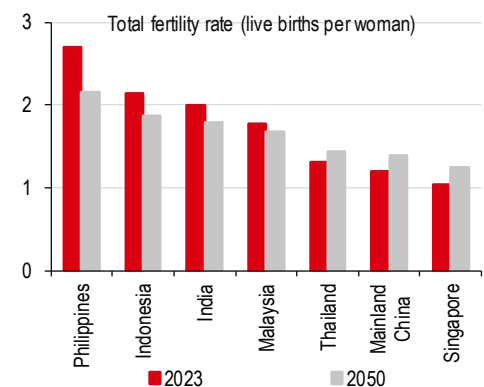
In Indonesia, women tend to marry early and have a relatively high number of children, which might explain the low female labour participation rate. However, this is changing fast as fertility rates are falling.

Exhibit 2.10: Many women marry young in Indonesia...



Note: CH refers to mainland China.
Source: National sources, HSBC

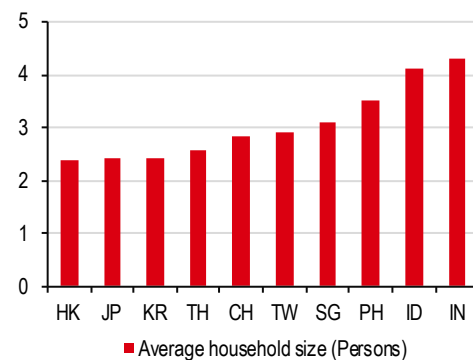
Exhibit 2.11: ...and have on average of two children



Source: UN Population Prospects 2022 estimates, HSBC

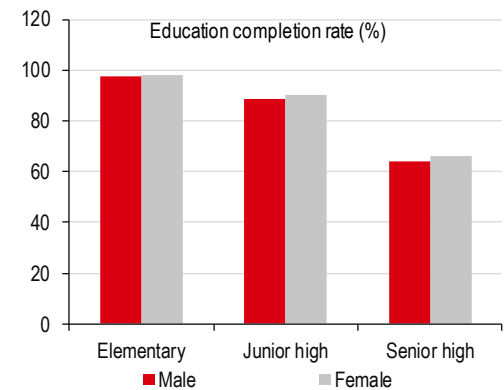
The good news is that gender doesn't influence education levels. Indonesia has broadly achieved gender parity in education. Men enjoy a literacy rate of 98.9% compared to 98.1% for women. This suggests that women are as employable as men. This could be a driver of growth in the country.

Exhibit 2.12: Households are still relatively large, so there's more mouths to feed for a breadwinner



Note: CH refers to mainland China.
 Source: Statistics Indonesia, HSBC

Exhibit 2.13: Indonesia has high levels of upper-secondary education levels and a low gender parity gap



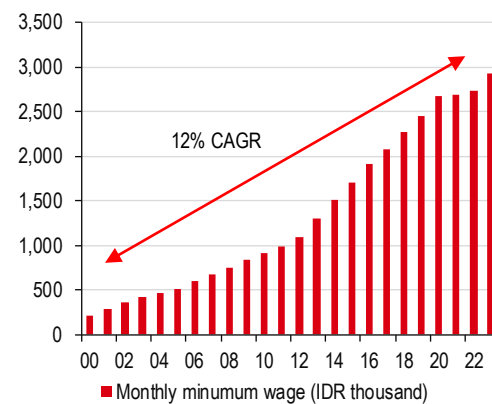
Source: Statistics Indonesia, HSBC

At the moment, none of Asia's top 100 universities are in Indonesia¹. This does not bode well for long-term efforts to increase the quality of its exports, and to move from low-skilled labor-intensive industries to high-skilled, capital-intensive exports.

The fourth largest consumer market on the planet by 2030

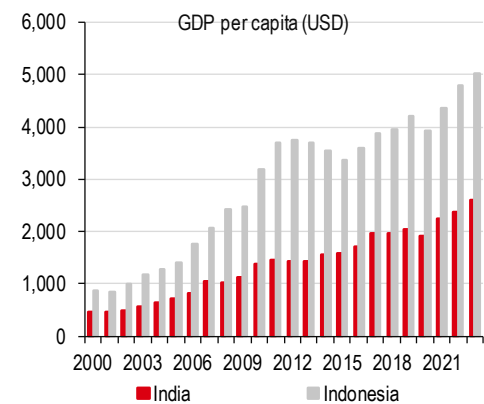
With falling fertility rates, the number of people in each household has been declining, increasing the per capita amount available to spend. The GDP per capita data gives a clear perspective of that. The country has had steadily rising GDP per capita, which stands at more than USD5,000 per capita, more than double that of India, at the end of 2022.

Exhibit 2.14: Indonesia has seen a steady increase in wages...



Source: CEIC, HSBC

Exhibit 2.15: ...and its GDP per capita is almost double that of India's



Source: IMF World Economic Outlook Database

¹ Times Higher Education Asia University Rankings 2013

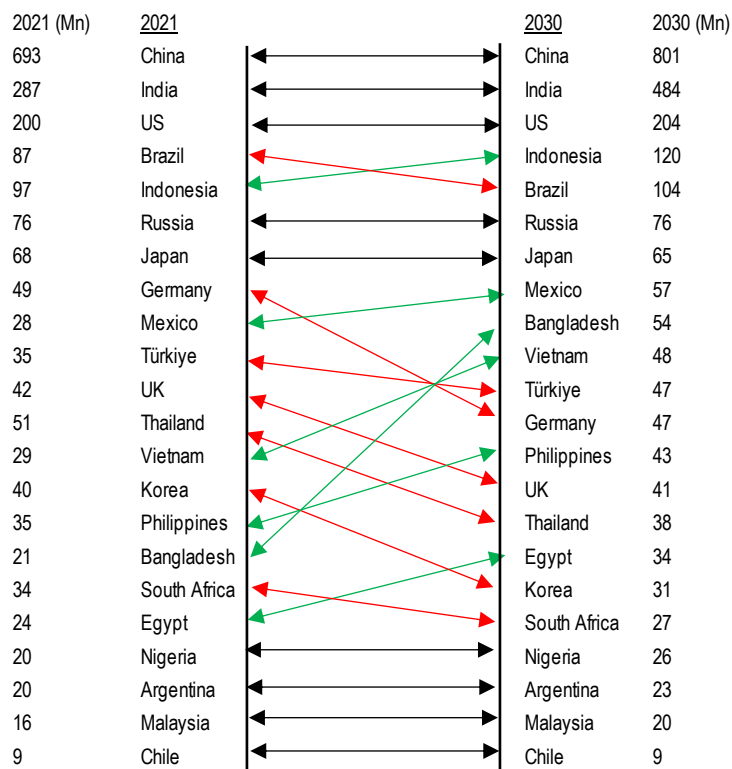
The upper-middle class is expected to grow by an average of 13% p.a. by 2030e

In Indonesia the upper-middle class (individuals earning between USD50-USD110 per day) is expected to grow by an average of 13% p.a. by 2030e. It is set to become a bigger player in global consumer markets. Indonesia will overtake Brazil in the next decade to be the fourth biggest consumer market. We define consumer size by the number of people that have a daily income of more than USD20/day.

Additionally, Indonesian households are not as leveraged as many of their regional peers.

Exhibit 2.16: Indonesia's is set to become the fourth largest consumer market by 2030e

2021 vs 2030, population (Mn) with daily income of more than USD20 (2011 PPP)



Source: HSBC estimates



The fourth largest consumer market globally by 2030e

Digital Finance

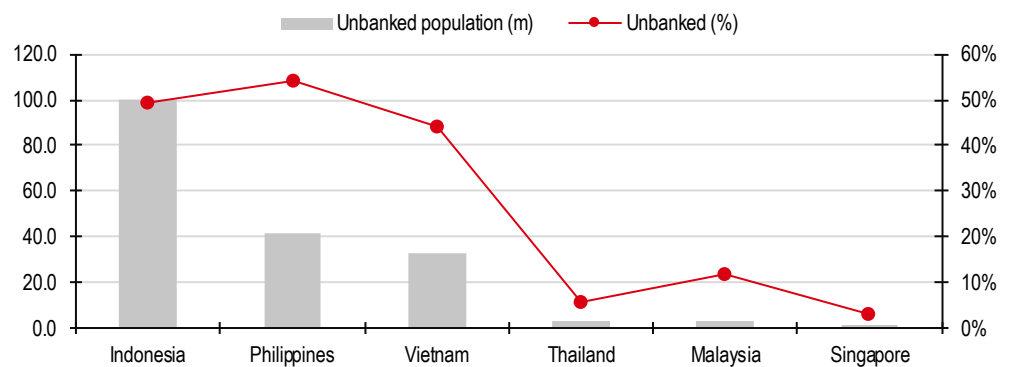
- ◆ Indonesia has c100m unbanked, the largest opportunity in ASEAN
- ◆ Digital finance meets unmet needs with payment and credit services
- ◆ Traditional and digital banks are thriving with enough growth for all

Weldon Sng*, CFA
 Analyst, ASEAN Financials &
 Digital Finance
 The Hongkong and Shanghai
 Banking Corporation Limited,
 Singapore Branch

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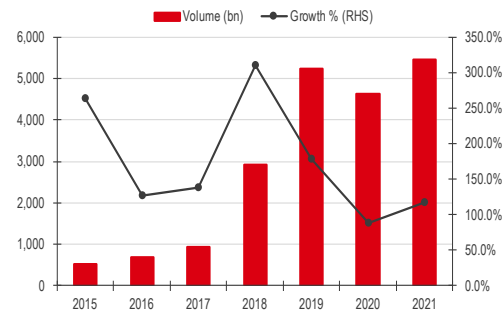
Digital finance

Exhibit 3.1: Unbanked % of population

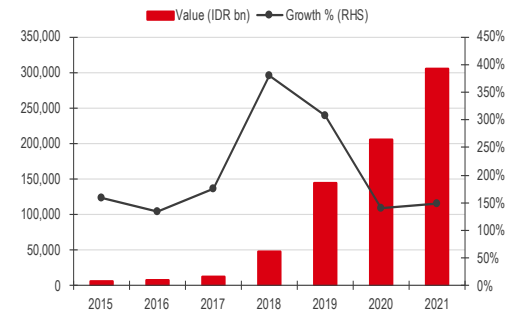


Source: World Bank, HSBC

- ◆ **Largest unbanked opportunity in ASEAN:** About half of Indonesia's population is unbanked, representing c100m people and the largest unbanked opportunity in ASEAN. With relatively high mobile penetration rates, technology has an important role in meeting the financial needs of these people by reaching them effectively and at a lower cost. For instance, e-wallet accounts can be opened using just an active mobile phone number, and can be used for many basic financial activities like holding balances, paying bills, and paying merchants.
- ◆ **Reasons why people are unbanked:** The main issues are poverty and a lack of knowledge and demand, rather than access. That being said, there's still a small proportion of the unbanked who cite distance as a barrier to being banked.
- ◆ **Digital identity is an enabler:** In 2011, Indonesia launched the e-KTP programme, which is an identity card that can help verify identity and speed up know your customer (KYC). The chip on the e-KTP card stores bio data, a signature, a passport photo, and two fingerprints. This is slightly less than the full data captured on e-KTP enrolment, which for biometric data includes iris data, facial data, and ten fingerprints – data that's stored in the "Dukcapil" database. Organisations such as financial institutions (FIs), e-wallets, and P2P lending platforms can sign a memorandum of understanding to get access to Dukcapil for e-KYC and authentication.

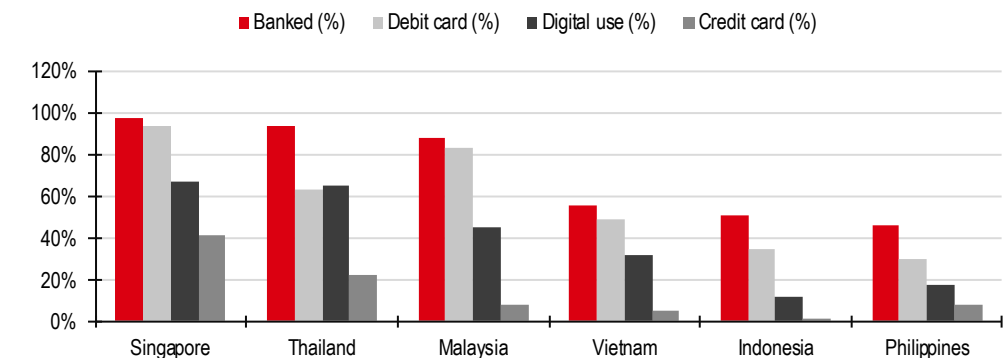
Exhibit 3.2: Bank Indonesia (BI) e-money volume


Source: BI, HSBC

Exhibit 3.3: BI e-money value


Source: BI, HSBC

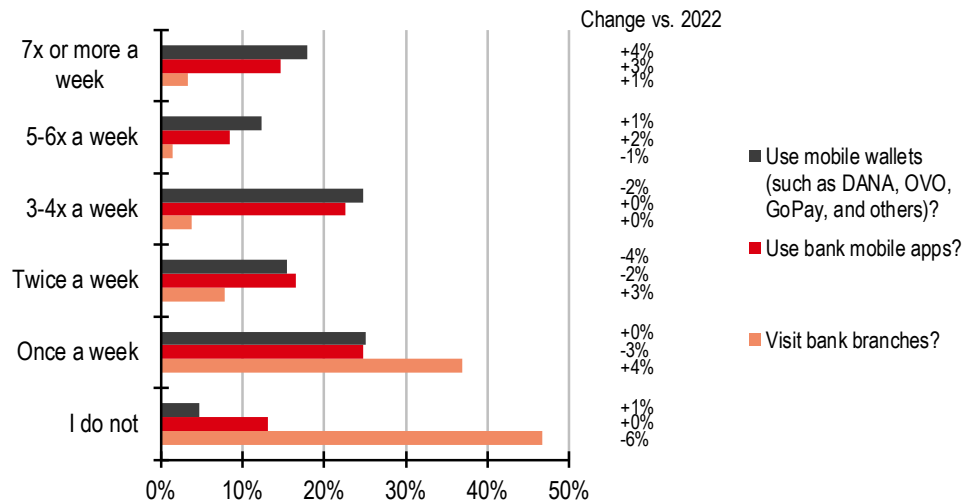
- ◆ **Digital payments:** BI launched the Indonesia Payment Systems Blueprint 2025 in 2019, which includes initiatives to digitalise the payment systems, such as through open banking and payments infrastructure development. As part of the blueprint, BI-Fast (a payment infrastructure to facilitate faster payment transactions with lower charges) has been rolled out and has seen strong uptake by consumers.

Exhibit 3.4: Banked, debit card, digital use, and credit card (% of population)


Source: World Bank, HSBC

- ◆ **Opportunities are also on the credit side:** Besides, a low bank account penetration rate, Indonesia has a noticeably low credit card penetration rate at c3%. This is a result of both demand (i.e. low bank account penetration to begin with), and supply side dynamics (i.e. needing employment documentation, which some people don't have, or banks' risk aversion). Instead, digital finance companies and banks have provided Buy Now Pay Later products, which use alternate data sources for credit scoring and can be integrated with different apps in the ecosystem such as e-commerce and ride-hailing apps.

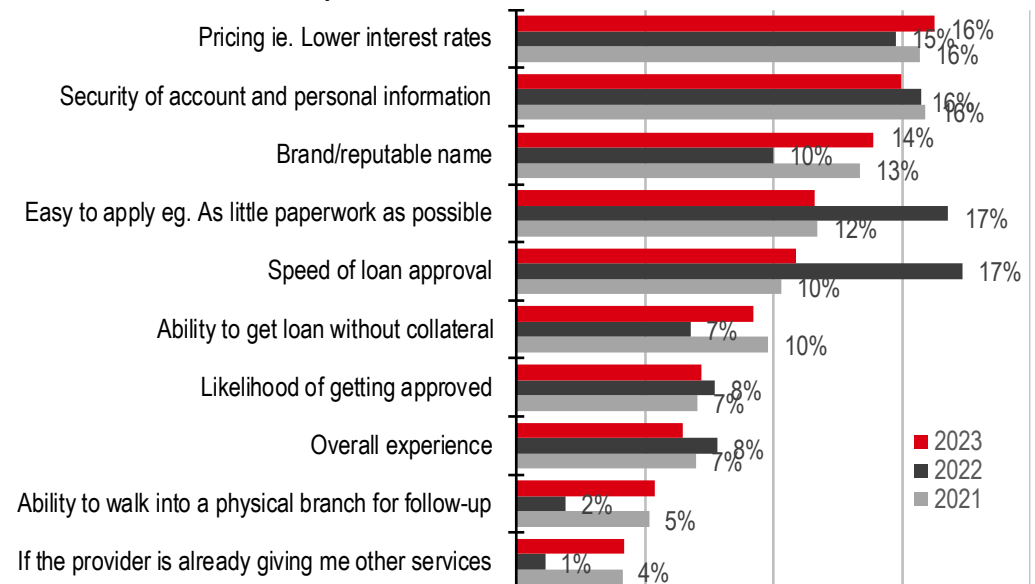
Exhibit 3.5: Use of mobile wallets, banks' mobile apps, and bank branches



Source: World Bank, HSBC.

- ◆ **Banks and tech firms work synergistically, given abundant growth:** Our 2023 consumer digital finance survey shows that usage levels across mobile banking apps and e-wallets are both improving, with both e-wallets and bank mobile apps seeing an increase in usage in the highest frequency bucket (i.e. 7x or more a week). This supports our view that growth opportunities are abundant in ASEAN's largest unbanked market of c100m people. Banks and tech firms are working together synergistically. For instance, banks can provide the savings account that top up e-wallets, while e-wallets provide a level of convenience and accessibility banks cannot.

Exhibit 3.6: What's most important for loans



Source: World Bank, HSBC

- ◆ **What's most important for loans:** Pricing, security, and brand are the top three factors that influence the choice of a loan provider. This suggests that between banks and other service providers, banks are likely to continue to have an advantage in disbursing loans. Compared to new entrants, banks have a cost of funds advantage due to their deposit franchise, likely more stringent security, and likely more established brands.

Exhibit 3.7: First preference – consolidated vote share

Total	BBCA	BBRI	BMRI	BBNI	Bank Jago	GoPay/Gojek	Shopee Pay	Grab/Ovo	Dana	LinkAja	Bank Neo	Kredivo	TAF/FIF
Deposits and transactions													
For deposits or e-wallet storage of cash	20%	9%	10%	8%	4%	8%	7%	8%	15%	2%	7%	1%	1%
For offline payments	8%	4%	4%	2%	1%	25%	19%	13%	18%	3%	2%	1%	0%
For online payments	6%	3%	4%	2%	1%	18%	31%	14%	17%	2%	2%	1%	0%
For transfers to other people	15%	8%	6%	5%	2%	11%	8%	10%	26%	4%	5%	1%	0%
Credit products													
For Buy-now-pay-later loans	3%	3%	2%	1%	0%	16%	48%	6%	6%	1%	4%	10%	0%
For mortgage loans	13%	22%	10%	17%	1%	5%	8%	3%	6%	2%	4%	7%	1%
For 2 wheeler/4 wheeler loans	15%	15%	8%	9%	1%	7%	5%	6%	6%	1%	3%	6%	19%
Others													
For insurance or investments	23%	11%	11%	11%	5%	7%	5%	9%	11%	3%	5%	1%	1%

Source: World Bank, HSBC

Banks gaining share in payments & BNPL; customers open to larger loan products from tech firms

- ◆ **Payments:** Banks are increasing customers' mindshare for both offline and online payments as well as P2P transfer, likely the result of the banks' investments in mobile bank apps and digital capabilities over the past year.
- ◆ **BNPL:** Banks are gaining mindshare in BNPL as well, having launched their own versions of the product later than tech firms to target the customer tier below traditional credit cards.
- ◆ **Loan products:** Customers appear open to 2-wheeler/4-wheeler and mortgages from tech firms. While we think this is unlikely to actually happen over the near term due to cost of funds and scale disadvantages for tech firms, it shows customers are open to new entrants and that banks can't rest on their laurels.

Digital banks in Indonesia

- ◆ **Digital bank regulation:** A digital bank can be established by: (1) creating a new commercial bank with IDR10trn of capital (this also applies to setting up a regular commercial bank); or (2) converting an existing commercial bank into a digital bank, and fulfilling regular commercial bank capital requirements.
- ◆ **Ecosystem proposition:** There are now many digital banks in Indonesia, with some part of a larger ecosystem. For example, Bank Jago is part of the GoTo ecosystem and is integrated with GoPay such that an upgraded GoPay account would become a Bank Jago account. In response, Indonesia's conventional banks are remarkably collaborative within the wider digital finance ecosystem, perhaps the most in ASEAN. This is likely because there are sufficient innovative fintechs due to a large addressable market that has underserved pockets. While Indonesian banks are themselves digitalising and in some cases launching similar products to fintechs (e.g. Mandiri Paylater), they often collaborate through channelling or co-customer acquisition.

Disruptive Technology

- ◆ Favourable demographics, growing internet users, and shifting consumer behaviour is leading to a rise in digital use cases
- ◆ While digital penetration remains low the growth outlook is robust as user penetration is rising and user engagement deepening
- ◆ Challenges: high logistics costs, high usage of cash, shortage of talent and intense competition leading to challenging unit economics

Piyush Choudhary*, CFA
Head of ASEAN Internet and
Telecoms
The Hongkong and Shanghai
Banking Corporation Limited,
Singapore Branch

Rishabh Dhancholia*
Analyst, TMT
HSBC Securities and Capital
Markets (India) Private Limited

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**Rise of internet users and
shift in consumer behaviour
led to disruption and rise of
digital use cases**

Indonesia's digital economy continues to thrive

Indonesia's digital economy grew to USD77bn in 2022 from USD8bn in 2015 (source: Google, Temasek and Bain, e-Conomy SEA 2022). This is primarily driven by the rise of internet users, more digital merchants, and a shift in consumer behaviour, which led to increasing digital use cases including e-commerce, food/grocery delivery, ride hailing, and fintechs. Indonesia's digital economy got a further boost with COVID-19. Brands and merchants need to embrace the digital economy and adapt their business models to meet consumer expectations. Indonesia's digital economy mainly consists of the following services:

- ◆ **E-commerce:** The country has a robust e-commerce ecosystem with leading marketplace platforms (like Shopee, Tokopedia, and Lazada) and social e-commerce platforms (like Facebook, Instagram, and TikTok). E-commerce forms the largest pie of the digital economy with the total addressable market growing due to the rise in the internet user base, a better shopping experience thanks to a wide range of products on offer, and an increasing number of merchants/brands embracing e-commerce platforms to expand their customer reach.
- ◆ **Ride hailing:** Given Indonesia's archipelagic geography and its underdeveloped public infrastructure, on demand transport services have increased. This type of service connects consumers with drivers offering various options like two-wheelers and four-wheelers.
- ◆ **Food and grocery delivery:** With rapid urbanisation and a growing working population, demand for ready-to-eat meals and grocery delivery has been growing significantly.
- ◆ **Digital financial services:** A country's large unbanked and underbanked population is helped by digital remittances. The proliferation of pure fintechs and the rise of consumer-tech firms have fuelled the adoption of products and services like Buy Now Pay Later, insurance and investments.
- ◆ **Others:** Indonesia's growing digital economy includes other services like gaming, digital advertising, video/music on demand, online travel, edtech, and healthtech.

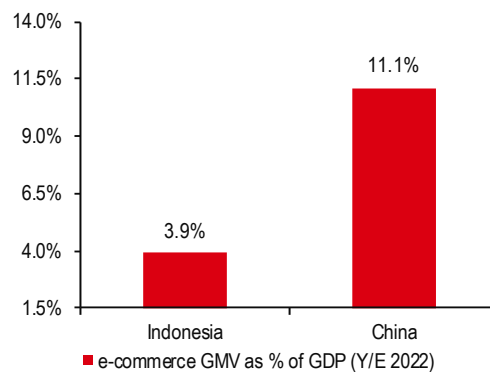
Robust growth outlook as penetration is low across categories

With the digital penetration rate low in Indonesia (vs the US and China), this offers a robust growth outlook across categories.

Indonesia's e-commerce penetration is low and significantly lags China

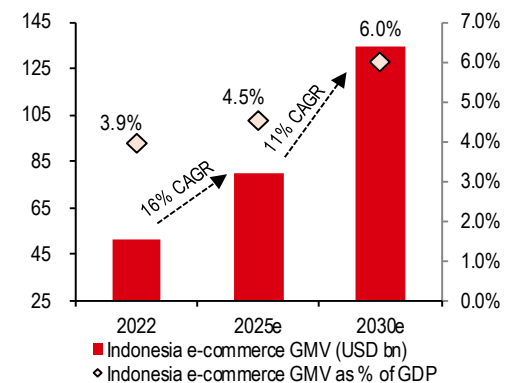
E-commerce penetration is low in Indonesia. The e-commerce industry was 3.9% of Indonesia's GDP in 2022. This significantly lags China e-commerce penetration, which stood at c11% of GDP in 2022. We see several structural growth drivers in Indonesia as seen in China during its high growth phase: i.e. low organised retail penetration, a young population, rising urbanisation, rising internet users, and a digital savvy population. Thus, we expect Indonesia's e-commerce penetration to rise to 4.5% of GDP by 2025e and to 6% of GDP by 2030e.

Exhibit 4.1: Indonesia's e-commerce penetration significantly lags China...



Source: HSBC estimates, China Internet Watch and World Bank

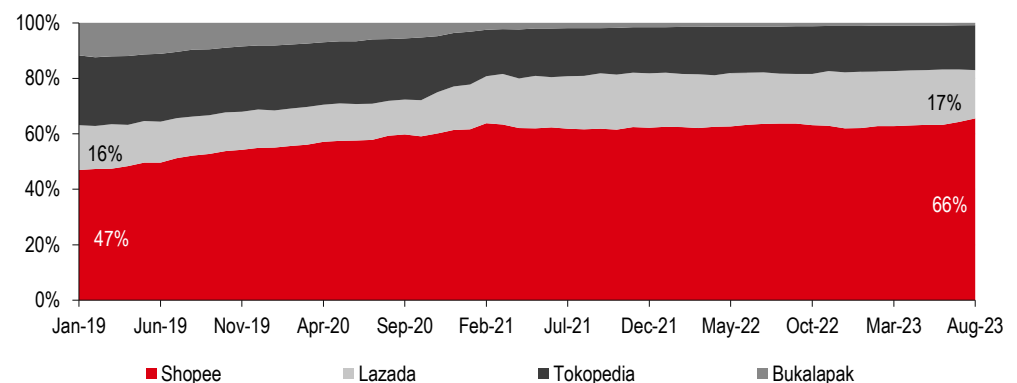
Exhibit 4.2: ...and we expect e-commerce GMV to expand at a CAGR of 16% over 2022-25e



Source: HSBC estimates, China Internet Watch and World Bank

Competition is intense in the e-commerce segment as TikTok Shop is able to leverage live-streaming users

Exhibit 4.3: Shopee is the market leader in e-commerce by monthly average user (MAU) market share



Source: Sensor Tower

Ride hailing and food delivery penetration is lower than the US and China

Ride hailing is likely to grow given the challenges faced by consumers looking to get around such as an underdeveloped mass transportation system and low car ownership rates due to affordability. Also, the traditional taxi industry has not been able to fully take advantage of technological advances, leading to a poor consumer experience like long wait times, taxis only accepting cash and a lack of fare transparency. Thus, we expect ride penetration rates to rise as it offers a better consumer experience compared to the traditional taxi industry and can offer better safety as it is centrally monitored.

Exhibit 4.4: Mobility GMV as % of personal consumption expense on land mobility

	2019	2020	2021	2022
ASEAN	4.9%	2.7%	2.2%	2.9%
USA			5%	
China			11%	

Source: Company filings and HSBC estimates

We think **food delivery** user penetration will also rise driven by rising urbanisation, the expanding middle class, and changing lifestyle preferences. It is also driven by a greater number of dual-income families, longer working hours, busier daily routines, and higher disposable incomes. For consumers who prefer to cook at home, **grocery delivery** caters to this changing lifestyle and spending power.

Exhibit 4.5: Food delivery GMV as % of personal consumption expense on prepared meals

	2019	2020	2021	2022
ASEAN	3.7%	9.8%	14.1%	13.7%
USA			23%	
China			28%	

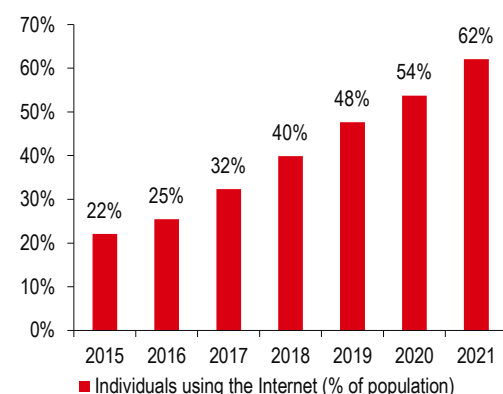
Source: Company filings and HSBC estimates

Factors which enable the rise of the digital economy

- ◆ **Youth, urbanisation, and a digital savvy population:** Indonesia has a young population with a median age of c30 years and is digital savvy leading to rapid adoption of mobile apps and online services. Further, the urbanisation rate rose to 59% of the total population in 2022 (from 53% in 2015).
- ◆ **Rise of internet users:** The number of internet users (as a % of the total population) rose to 62% in 2021 (from 22% in 2015). This was driven by: (1) a rise in smartphone penetration due to the proliferation of affordable handsets; (2) 4G network expansion, which led to faster speeds and a better quality of service; and (3) affordable mobile data pricing. We think the rise in internet users in semi-urban and rural areas will continue to drive higher adoption of digital services. In addition, time spent by users on the internet in Indonesia is 16% higher per day vs the worldwide average – which bodes well for the adoption of digital services.

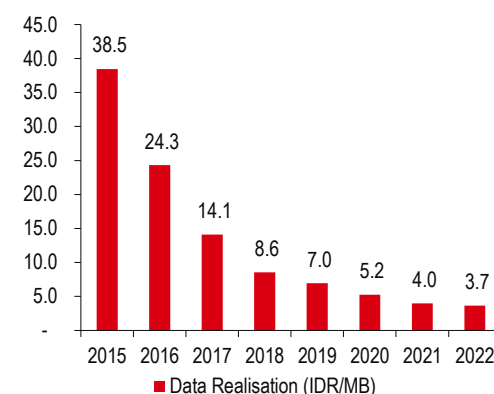
Favourable demographics (youth, rising urbanisation, and a digital savvy population) and a rise in internet users are key structural growth drivers

Exhibit 4.6: Indonesia's internet penetration reached 62%



Source: World bank

Exhibit 4.7: Data prices have become more affordable



Note: we have taken Telkomsel and XL Axiata data realisation as a proxy for Indonesia's mobile data realisation.
Source: Company data

- ◆ **Highly unorganised retail, an underdeveloped offline retail sector and uneven accessibility to goods:** Indonesia's organised retail penetration is low due to the lack of big-box stores (such as Walmart, Home Depot, and Best Buy). Hence there is still a high reliance on small mom-and-pop stores, called 'Warungs', for different products. Moreover, the geographic challenges in Indonesia has caused an imbalance in the accessibility of goods between those living in small towns vs those in metros. E-commerce continues to play a key role as it has grown the addressable market for merchants and helped to improve product accessibility for consumers.

- ◆ **Reliability and security:** In a fragmented market like Indonesia where micro, small, and medium enterprises (MSME) contribute the majority to GDP (c61%) – centrally controlled and digitised platforms help customers gain access to authentic goods and services. For instance, e-commerce platform Shopee has a detailed screening process for both sellers and products listed on its platform. The company also runs a “Shopee Guarantee” mechanism, where it holds payments made by buyers until the ordered products are received or deemed to have been received by the buyer. Again, mobility offerings like Grab and Gojek provide a sense of security as the rides are tracked by GPS and have emergency/SOS alert services.
- ◆ **Supportive regulatory environment:** Indonesia’s regulatory environment has largely been supportive of the digital economy with the regulators encouraging the adoption of digital services and platforms. A large part of the country’s employment is informal and thus regulators have largely been pro the so-called gig economy as it helps to generate employment opportunities.

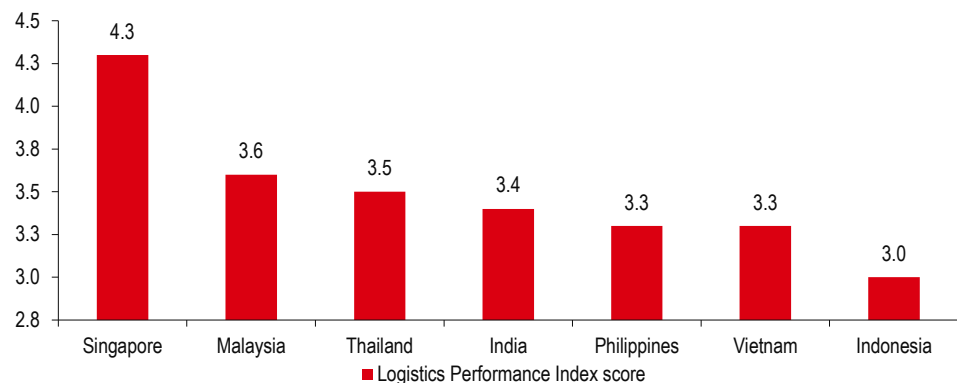
To understand Indonesia’s consumer preferences on e-commerce, food delivery, and ride-hailing, we also conducted a proprietary survey in September 2023.

Challenges for growth in a digital economy

- ◆ **Logistical challenges:** Indonesia is an island nation and its difficult topography pose logistical challenges in terms of supply, timely delivery, and from the high cost of delivery. This may require additional investments in the supply chain such as warehouses and dark stores.

The high cost of logistics and high usage of cash remain key challenges

Exhibit 4.8: Indonesia has the lowest Logistics Performance Index score among regional countries



Note: LPI Score is computed by analysing online survey of logistics professionals from multinational freight forwarders and the main express carriers. The World Bank’s Logistics Performance Index (LPI) analyses countries through six components: (1) The efficiency of customs and border management clearance; (2) the quality of trade- and transport-related infrastructure; (3) the ease of arranging competitively priced international shipments; (4) the competence and quality of logistics services; (5) the ability to track and trace consignments; and (6) the frequency with which shipments reach consignees within the scheduled or expected delivery time.
Source: World Bank

- ◆ **High cash usage:** A significant part of the Indonesian population is unbanked/ underbanked. Only c51% of the population (age 15+) has an account in a financial institution and only c13% have used a debit/credit card (source: Global Findex database 2021). This means cash is used widely. A high use of cash is a challenge though as it leads to: (1) higher costs to serve customers; and (2) a higher return rate or order cancellation for e-commerce.
- ◆ **Counterfeits and poor quality products:** Consumer confidence can be hurt with a bad experience. Thus, digital platforms need to build trust with users, develop detailed screening processes for enlisting sellers and have a prompt grievance system.
- ◆ **Talent:** Industry needs the right talent with deep capabilities in specialised disciplines like engineering, data science, cloud technology, and artificial intelligence.

Energy Transition

- ◆ Because it is rich in fossil fuel, Indonesia has lagged behind ASEAN peers in terms of energy transition
- ◆ Existing policies mean renewable energy is set to double capacity by 2030e, despite some challenges that may hinder this progress
- ◆ Renewable resources look abundant, especially in solar and geothermal; cost reductions and policy support to help development

Evan Li*
Head, Asia Energy Transition
Research
The Hongkong and Shanghai
Banking Corporation Limited

Zoey Zhou*
Associate, Asia Energy Transition
The Hongkong and Shanghai
Banking Corporation Limited

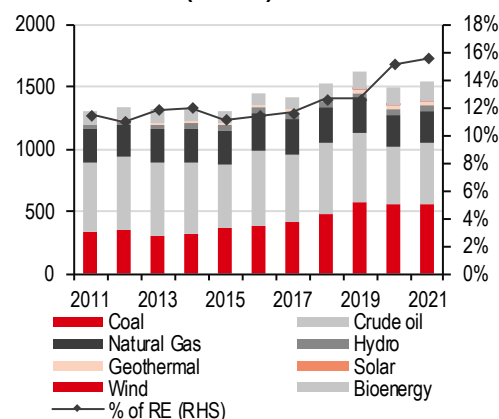
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Fossil fuels still dominate energy consumption in Indonesia

Indonesia has traditionally been a large producer and user of fossil fuels, making up 84% of its primary energy supply in 2021, although this was down from 88% in 2011. We also highlight that the contribution from coal has seen a substantial increase from 25% to 36% over the same period, replacing the reliance on crude oil whose contribution dropped from 43% to 32%.

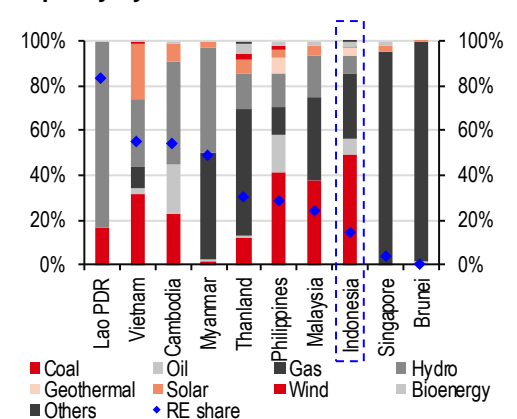
A rich endowment in fossil fuels seems to have hindered Indonesia's progress in energy transition compared with its ASEAN peers. In 2020, renewable power capacity accounted for 14% of total power capacity in Indonesia, less than half of the ASEAN average (34%) and putting Indonesia only ahead of Singapore and Brunei.

Exhibit 5.1: Primary energy supply by source in 2021 (mBOE)



Source: MEMR, HSBC

Exhibit 5.2: ASEAN installed power capacity by source in 2020



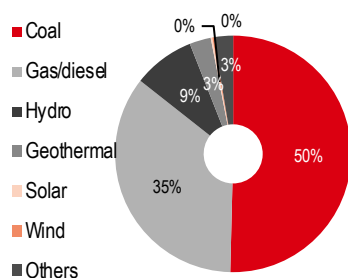
Source: ASEAN Centre for Energy, HSBC

The 2030 vision is optimistic and challenging

PLN, the state-owned electricity distributor in Indonesia, released a ten-year plan for the country's electricity supply in October 2021, known as RUPTL 2021-2030. According to this plan, 20.9GW of renewable energy capacity will be added during 2021-30, which represents about 52% of total planned capacity. Of the planned capacity for renewable energy, hydropower accounts for nearly 50%, followed by solar (22%), and geothermal (16%). Wind contributes less

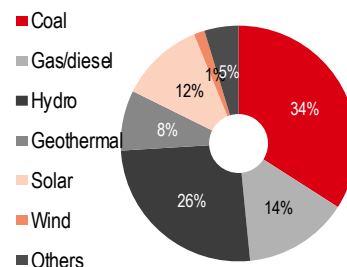
than 3% of planned additional renewable capacity. No more coal-fired plants will be added to the system except for the 13.8GW of capacity that is already in the pipeline. That means coal's share of total capacity will decline from 50% in 2020 to 45% in 2030, whereas renewable energy will increase from 14% to 28% over the same period.

Exhibit 5.3: Total installed electricity generation capacity in 2020



Source: MEMR, HSBC

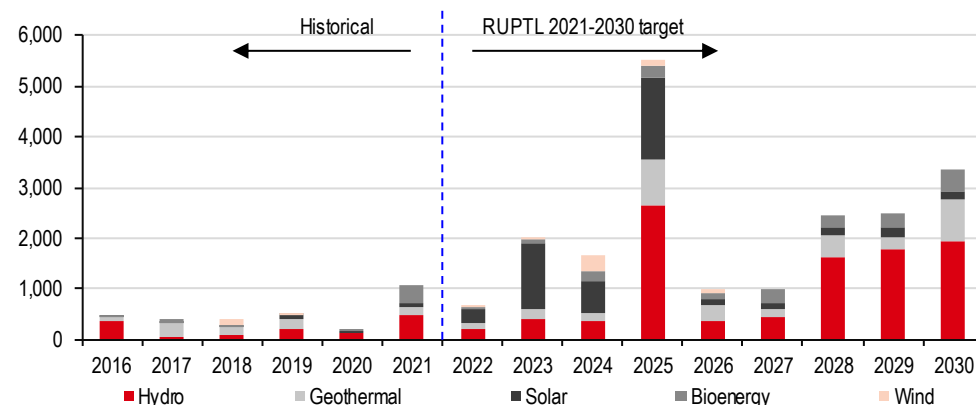
Exhibit 5.4: Planned capacity additions between 2021-30, according to RUPTL



Source: MEMR IRENA estimates, HSBC

However, based on historical data, the RUPTL 2021-2030 target appears to be aggressive and may face some delays. In 2012-2021, total renewable energy capacity of 6.4GW was added to Indonesia's electricity sector, which was only 30% of what was targeted in the latest RUPTL 2021-2030 plan. The progress in solar energy has been the laggard with only c220MW added over the past decade whereas RUPTL 2021-2030 targets to add another 4.7GW by 2030e.

Exhibit 5.5: Additions of power plant installed capacity, historical vs RUPTL 2020-2030 targets



Source: MEMR, PLN, Baker & McKenzie estimates, HSBC

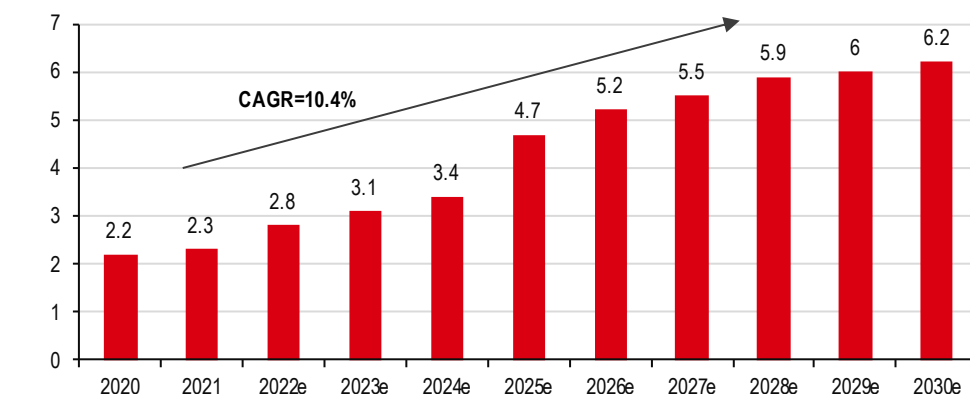
Geothermal energy serves as an ideal source of supply for baseload demand

Geothermal energy is one of the key renewables in Indonesia's electricity sector to date, along with hydro and biomass. It is a low-carbon source of energy. And unlike solar and wind power which are intermittent and may pose a threat to the reliability of the electricity grid, geothermal energy can offer a stable baseload power supply similar to coal and gas at a competitive price.

Sitting on the "Pacific Ring of Fire", Indonesia is endowed with abundant geothermal resources. Per World Bank estimates, Indonesia accounts for around 40% of the world's geothermal

reserves. However, according to Wood Mackenzie, less than 10% of the geothermal resources in Indonesia are in operation by end-2021, which leaves significant potential for further exploitation. Geothermal power generation capacity in Indonesia is further forecast to grow at a CAGR of 10.4% during 2020-30e.

Exhibit 5.6: Forecast geothermal power generation capacity (GW) in 2022-30e



Source: Wood Mackenzie estimates, HSBC

Solar PV plays a key role in energy transition

Another rich yet underexplored energy resource in Indonesia is solar energy. According to IRENA analysis, the solar energy potential of Indonesia could be as high as nearly 3,000GW. However, total installed solar power generation capacity only reached 190MW (excluding solar-powered public street lighting and energy saving lamps) at the end of 2021, according to the Ministry of Energy and Mineral Resources (MEMR), far behind the General Plan for National Energy (RUEN) target of 5.5GW by 2025 or the RUPTL 2021-2030 target of 4.7GW by 2030e.

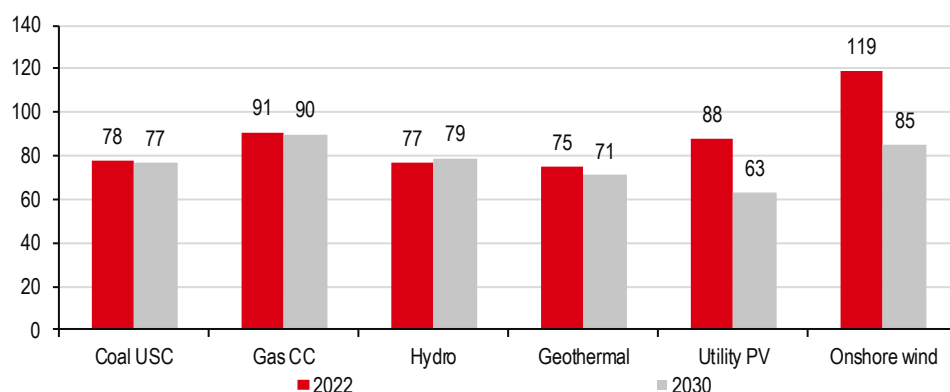
Exhibit 5.7: Estimated potential of renewable energy in Indonesia

	Total estimated potential (GW)	Total installed capacity 2021 (GW)	Share deployed in 2021
Biomass	43	1.9	4%
Geothermal	30	2.1	7%
Hydro	95	6.1	6%
Ocean	18	0.0	0%
Offshore wind	589	0.0	0%
Onshore wind	20	0.2	1%
Solar	2,898	0.2	0%
Total	3,692	10.5	0%

Source: IRENA, HSBC

Historically, the expensive cost of solar PV projects has hindered growth in Indonesia's solar capacity. According to the IEA, the capital costs of solar PV projects in Indonesia average above USD1,000/kW, higher than peers in the same region, such as India and Thailand.

However, data based on recent projects suggests capex for utility scale solar PV projects have declined to USD800/kW, with certain projects falling as low as USD650/kW. According to Wood Mackenzie, the levelised cost of energy (LCOE) of utility PV, a measure of price at which the generated electricity should be sold for the system to break even at the end of its lifetime, could decline by 30% to USD63/MWh by 2030e, making it the most cost competitive even compared to certain coal-fired power plants. This view is consistent with our view on the global solar supply chain, which we believe is set to see a structural decline in costs.

Exhibit 5.8: Comparison of average LCOE for Indonesia for 2022 and 2030e (USD/MWh)


Note: Coal USC = Ultra Supercritical Coal Fired Power, Gas CC = Gas Combined Cycle.
 Source: Wood Mackenzie estimates, HSBC

Favourable policies to support the development of renewable energy

In September 2022, President Regulation No. 112 of 2022 on the Acceleration of Renewable Energy Development for Power Supply (PR112) was issued with the aim of accelerating the establishment of large-scale renewable energy plants. PR112 prohibits construction of new coal-fired power plants with the exception for national strategic projects while it mandates an acceleration in the termination of existing coal-fired power plants operated by PLN and independent power producers (IPPs). Under PR112, the ceiling tariff for renewable energy will depend on the type of renewable energy and the location of the power plants, and is no longer benchmarked to PLN's average generation cost, known as BPP, for non-renewable energy such as coal, which is cheaper. In order to streamline the process of purchasing renewable energy, PR112 also allows for the direct appointment and direct selection besides competitive auctions and tenders. Fiscal and non-fiscal support including income tax facilities, import duties, land and building tax facilities, financing or project guarantees by state-owned companies are also provided.

In addition to the above, PR112 also offers specific incentives to geothermal energy development which includes a risk sharing mechanism between the developer and the government for exploration risk and costs, and possible escalation of geothermal energy tariffs, which is not permitted for other types of renewable energy.

Future cities

- ◆ Poor infrastructure has long been a challenge for the archipelago
- ◆ Better connectivity is likely to reduce logistic costs and in return can attract foreign investment, boost manufacturing, and improve trade
- ◆ With development so far highly concentrated within the main islands, there are untapped opportunities across other, laggard regions

Herald van der Linde*, CFA
 Head of Equity Strategy, Asia Pacific
 The Hongkong and Shanghai Banking Corporation Limited

Prerna Garg*
 Associate, Equity Strategy
 The Hongkong and Shanghai Banking Corporation Limited

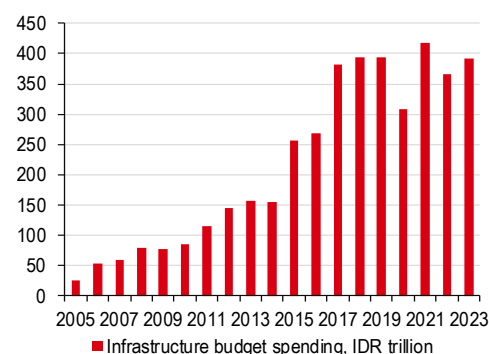
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Infrastructure push

Stagnant infrastructure spending has been a big problem for Indonesia in recent decades. A World Bank² report estimates that Indonesia has lost at least 1% of economic growth each year over the past decade as a result. Still, infrastructure is now on the up as it's been one of the key areas for President Jokowi over the past nine years of his tenure, with a focus on investment in sectors like roads, railways, ports, airports, economic zones, and dams.

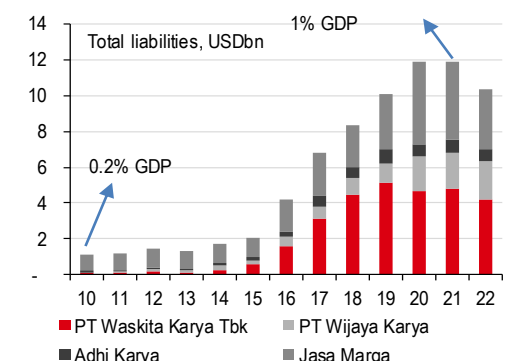
Infrastructure spending has more than doubled between 2014 and 2019 with record levels seen in 2021, exceeding IDR400trn. The government has identified over 200 national strategic projects (PSNs) across 37 priority sectors and has established a Committee for the Acceleration of Priority Infrastructure Delivery (KPPID) to oversee progress of these projects. We think development of infrastructure can help to reduce high logistics costs, make Indonesia more competitive in exports, and attract further foreign investment.

Exhibit 6.1: Infrastructure spending has more than doubled between 2014 and 2019



Source: CEIC, HSBC

Exhibit 6.2: Construction SOE assets and liabilities have grown rapidly as they take on projects



Source: CEIC, HSBC

² Indonesia's Rising Divide, The World Bank

As per government estimates, total infrastructure investment of IDR6,445trn is needed between 2020 and 2024e for infrastructure development annually to help GDP growth reach an average of 6.2%, with 37% of it provided by the government and the remainder by the private sector and foreign participants. The PPP scheme encourages private sector participation to help overcome financing challenges. The government created Indonesia Investment Authority (INA) in 2021, a sovereign wealth fund to attract foreign investment develop infrastructure. It was created with the aim of deleveraging SOE construction companies by taking over their assets (projects) and alleviating their debt burden. The fund has attracted investments from global pension funds, sovereign funds, and insurance companies.

In the past, infrastructure investment has largely been limited to Java island, which accounts for more than half of Indonesia's population as well as economic activity. However, now the focus is on developing other regions. This includes a plan to shift the capital from Java to Borneo.

Building up connectivity

As per a study from Boston Consulting, Jakartans spend an average of 22 days a year in traffic³. Toll roads are being built to improve infrastructure, increase interregional connectivity, and reduce logistic costs, which in turn should boost manufacturing and trade. The country has built about 1,800 km of toll roads since 2014, taking the toll network to 2,650km; this is expected to increase to 3,455km by 2024e.

Trans Java Toll Road is one such project that became operational in 2018 and has improved transport efficiency. The toll road spans more than 1,100 km from Merak in the northwest to Probolinggo in the east and connects up all the major cities in Java. This has reduced the travel time between Jakarta and Semarang from 12 hours to around six. Central Java is now well connected to the west and east, attracting investment into these regions. According to a study, investment in Central Java has increased 11%⁴. The Trans Sumatra Toll Road (JTTS) is another road project in the pipeline.



Toll roads have halved the travel time on the island of Java

A high speed train project to connect Jakarta and Bandung is set to become operational in October, the first in ASEAN, which is expected to reduce the train time from three hours to just 30 mins, and there are plans to extend the line further to Surabaya in East Java. However, these projects are not limited to just the islands of Java and Sumatra.

New cities

Java is the fifth largest island in Indonesia, accounting for over 60% of the total population and 55% of GDP. More than half of the country's c138 (as per the UN) industrial estates are located on the island, making it the centre of economic activity. Within Java, the main manufacturing hubs are located in the provinces of West Java, Central Java Province, East Java, and Banten. Logistics and infrastructure are more developed here than on any other island in Indonesia.

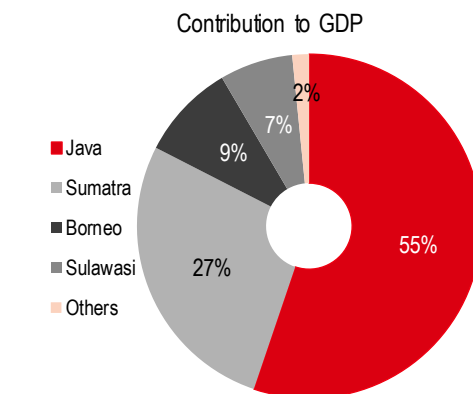
After Java, the biggest contributor to Indonesia's GDP is the island of Sumatra at 27% and Borneo at 9%, with thousands of other islands making up the remaining 9%. Due to Indonesia's geography, these smaller inlands lack critical infrastructure and, as such, they remain far less developed than the other main islands.

³ Jakartans spend 22 days in traffic jam per year: Survey – The Jakarta Post, November 2017

⁴ Three Years After the Inauguration of the Trans-Java Toll Road – KOMPAS, December 2021

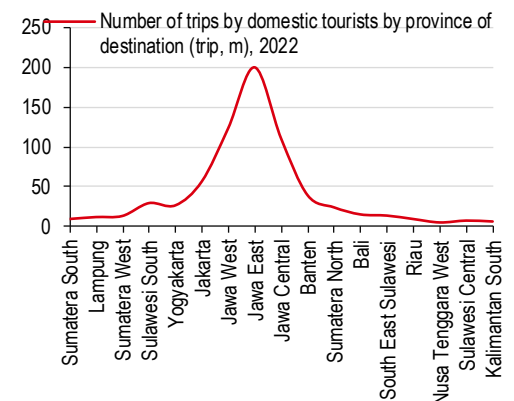
According to the World Bank⁵, the cost of shipping a 40 foot container from Padang on the coast of West Sumatra to Jakarta is three times its shipment cost between Jakarta and Singapore. And, because of this, the difference between the price of the same goods between islands can be as high as 90%.

Exhibit 6.3: More than half of economic growth comes from the island of Java



Source: CEIC, HSBC

Exhibit 6.4: Weak infrastructure has restricted the growth of other islands, along with limiting tourism



Source: CEIC, HSBC

Government policies are focussed on ensuring more inclusive economic development within Indonesia by reducing economic disparity. These policies involve the development of isolated regions and the removal of price inequality between islands by improving their connectivity and infrastructure.

For example, the Sea Toll Program launched in 2015 aims to improve connectivity across Indonesian ports and optimise the distribution of goods. Java and Papua, a province in the east, have been directly connected by adding a new sea route called T-30 that links the Port of Tanjung Perak in East Java, to the Port of Kaimana in West Papua. Similar to the regular toll road, the Sea Toll Program intends to improve the economy of other islands and ensure more even development.

The government has also sought to diversify industrial parks away from the island of Java. 27 new industrial parks are expected to be developed in Indonesia between 2021 and 2024 with just one planned in Java (source: Ministry of Industry). The development of the Indonesia Morowali Industrial Park (IMIP) in Central Sulawesi Province of Indonesia is an example of how a joint venture between a Chinese firm and an Indonesian firm has brought large economic benefits to a once small fishing village located outside Java. The dormant city is now well connected by ports, roads, and airports, to other parts of Indonesia; and has attracted migrant workers from other parts of Indonesia. The city now actively hosts companies engaged in nickel, iron, and stainless steel-related industries and has boosted the export share of Central Sulawesi Province. Similarly, the government is focussed on bringing development to many other outer islands including Tanimbar Islands District in the Maluku Province and Saumlaki City.

New capital in Nusantara

After securing his second term, the government announced its plan to move the capital city from Jakarta to a new city named Nusantara on the island of Borneo. The relocation of Indonesia's

⁵ Food market integration and price differential across provinces in Indonesia, World Bank, March 2019

capital city is as much driven by environmental challenges as congestion ones, with much of Jakarta expected to be underwater by 2050 as the city is sinking by roughly seven inches per year.

President Jokowi believes that moving the capital away from Java should also help spur more equitable development across the archipelago. The location of the new capital is in one of the relatively less-developed regions, and is more centrally located than Jakarta.

The new capital is expected to cost cIDR475trn, or cUSD32bn. However, this is not expected to place much of a burden on the budget – with only c20% of total funding expected to come from public funds. The majority of the financing will come from private investments (including FDI and foreign sovereign wealth funds). The government has revealed a wide range of incentives to lure investment into this project, including tax cuts for companies that move their headquarters to Nusantara. However, investors such as Softbank withdrew from the project in March 2022.

The construction of the capital started in mid-2022 and is currently estimated to be 14% complete⁶. The government plans to relocate the capital to this new island in 2024. Although a lot of this is dependent on whether the government is successful on securing funding from foreign investors, it offers investment opportunities in sectors ranging from renewable energy, ports, and railways to tech and real estate.

Smart cities

Globally, governments are spending more and more to make their cities smarter to help cope with rising urbanisation levels and environmental challenges. The Indonesian government announced the development of smart cities in 2017 with its digitalisation plan “Movement towards 100 Smart Cities” by 2045, an effort to address urbanisation issues by using more digital solutions and green transportation.

⁶ <https://thedi diplomat.com/2023/03/indonesia-unveils-incentives-for-investors-in-new-capital-city/>

Thinking local: Why the spirit of Jakarta's kampung spirit can save the city

Jakarta can leave its mark on visitors in many ways – its sheer size, outrageous traffic jams, imposing landmarks or the variety of its colonial architecture. Reading apocalyptic newspaper articles about Jakarta's floods, its suffocating traffic congestion or how it is slowly sinking into the mud, one might wonder if this city has any future at all. To add insult to injury, its crown position as Indonesia's capital and crowning glory will soon be passed over to a yet-to-be constructed city, Nusantara, in far-off Kalimantan. To have a future, Jakarta has to face up to the formidable challenges of flooding ("banjir"), subsidence that threatens northern parts of the city, and overpopulation.

Over the centuries Jakarta had to struggle with these issues – when the Dutch arrived and constructed a castle in the 1620s, it soon sunk into the soggy soil. Waterworks have always been important and the Manggarai floodgates, built in 1919, still regulates the delivery of water from the River Ciliwung to parts of Jakarta. By extension, the floodgates dictate which parts of the city will be under water and which will remain dry.

One solution relies on the initiative of each citizen. Just as *recehan* (leftover pennies and dimes) can accumulate into a substantial amount of money over time, small changes at the individual level can also make a big difference. If one house is designed to be environmentally friendly, others can too, and a million such houses will create a greener, cooler city. If one house offers a public space to others, then multiply that decision by a million and ... you get the picture.

This idea *recehan* puts the onus back on the people. The constant flooding, congestion, and subsidence has given birth to an awareness amongst residents that something needs to be done and that everybody needs to contribute. Grassroots green movements have sprung up and architects, city-planners, constructors, journalists, artists, and financiers have joined in. And if there is anything this city has in abundance, it is human ingenuity. To make the city greener, Jakartans have initiated tree-planting projects; one is specifically focused on encouraging couples to plant a tree on their wedding day. Others use social media to shame companies that pollute rivers. Elsewhere, residents post on X (formerly Twitter) to confirm the flood situation in their neighbourhood or *kampung*, helping to map the situation across the city in real-time, a useful tool for emergency services and commuters. Meanwhile, kampung recycling projects collect organic waste to be sold elsewhere.

There is hope for this enormous, unruly urban sprawl. Politicians, architects, bankers, and engineers must rise to the formidable challenges that the city faces. Subways, canals, roads and tunnels will be needed. But equally important are the many small changes that take place across the city, from tree planting schemes, community cleaning, to recycling organic waste. It is these small improvements made by these people in the many kampung around the city that, just like collecting dimes and pennies, can accumulate to something meaningful and valuable. Jakartans have an ingenuity and dexterity that has repeatedly enabled them to turn a bad situation into a much better one and that is what will determine the future of this city.

Future Consumer

- ◆ We expect the persistence of 'Arisan' and diverging growth profile to persist into the future
- ◆ However, we are likely to see several thematic changes in the future: the entry of Chinese companies is likely to drive competition
- ◆ We also expect growth outside of Jakarta to be faster than in Jakarta; consumers are more willing to pay for convenience

Selviana Aripin*, CFA
Analyst, ASEAN Consumer
The Hongkong and Shanghai
Banking Corporation Limited,
Singapore Branch

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The importance of 'Arisan'

What is 'Arisan'? In Indonesia, Arisan is an informal gathering of a trusted circle of friends, usually women, who agree to contribute a fixed amount regularly (usually monthly). This money (or sometimes it is goods such as an air purifier or a standing mixer) will be given to a rotating group from within the circle, drawn by lot. As such, Arisan is an informal self-help financial scheme or a saving mechanism for the consumer. It allows the consumer to buy discretionary items, to save for a vacation, or pay the entrance fee (which is typically substantial and has to be paid upfront) for a child's school. However, beyond that, Arisan is also a social event allowing friends to catch up on gossip or news. It is also a social support network allowing the members to show care to one another, such as when a member's child is hospitalised.

Given that a lot of Indonesian consumers, particularly those in the lower end, are living hand-to-mouth, buying food and spending only when their salary comes in or when they are working, Arisan is a way to both save and draw down on discretionary funds. Given that Arisan is intertwined with consumer lifestyles, we expect this feature to persist into the future.

Diverging growth profile

Over the past decade, we have seen a diverging growth profile for the Indonesian consumer. Products that are targeted at middle-to higher-income groups have grown at a faster pace than products targeted at lower income groups. For this group of consumers, affordability has been a big factor. While behaviour is different across different product verticals, these groups of customers are often willing to switch brands because another brand is priced more economically. At the other end of the spectrum, the affluent consumer is able to enjoy a combination of rising household income growth and is increasingly willing to spend more on better-quality products.

More recently, COVID-19 restrictions have generally hit people who are on day wages a lot harder than people in the upper income brackets. Consumers on day wages often saw a cut in their income. For the consumer in the upper income bracket, things are generally better. A lot of them were able to work as normal. Some have also saved extra money from not traveling and socialising during the pandemic years. When the economy recovers, the consumer in the upper income bracket has seen a faster economic recovery as they see businesses come back faster. However, it may be some time before the consumer in the lower end is re-hired and is able to rebuild their savings or pay off their debt.

We expect their growth profiles to remain divergent with products and services targeted at the middle-to-higher income group growing at a faster pace than those targeting the lower end.

Emerging structural trends themes

Entry of Chinese corporates into Indonesia

In our previously published report titled *ASEAN Next: Consumer: China's entry turns up the heat* dated September 2023, we note that Chinese companies have entered into various ASEAN countries. We expect Indonesia to be the key battleground given that it has the largest population within ASEAN, which is still growing, rising household income, and increasing internet penetration levels. It helps that there is a high percentage of “unorganised” markets dominated by mom-and-pop stores – like shops selling footwear, electronics, and even beauty products – which provides opportunities for new online players. The entry of Chinese companies into the consumer space is already underway in Indonesia, including in food services (Mixue, Luckin Coffee), ice cream (Yili, Aice), yoghurt (Mengniu), sportswear (Li-Ning), and autos (Wuling).

We also mentioned that it is not all doom and gloom for the local players. We think Chinese brands are likely to find success in categories where there is a uniform experience and expectations (such as air purifiers), or where products are not sufficiently differentiated (ice cream), or where customers are looking for novelty factors (like in quick service restaurants), gifting or variety products (like toys or mobile phone holders), or where the Chinese have a pricing advantage (autos), or where the environment is loosely regulated.

However, we believe Chinese brands will find it harder to penetrate into categories where consumers have certain expectations (such as the flavour of instant noodles) or where local knowledge is required (convenience stores and grocery retailing), or where the Chinese have no competitive edge (such as insecticide in a tropical country, which is very different from that needed for a more temperate region) or where it needs to navigate local regulations.

Lifestyle changes

We think a combination of lifestyle changes are likely to drive changes in consumer behaviour. These lifestyle changes include better education levels, a higher participation rate for women in the labour workforce, delayed childbearing among women, and lower fertility rates. As a result, we expect consumers to increasingly demand better quality products. In particular, we think better education levels are likely to result in a more discerning group of customers who will demand more transparency around product ingredients or methods of production. As consumers have higher purchasing power, they are likely to pay a premium to have more convenience and be more willing to buy variants of product, which tackle specific needs. We think that companies need to be at the cutting edge of technology to be able to deliver value-added products. Increased female participation means that consumers are more likely to buy time-saving solutions, which has implications in particular for packaged food products and appliances.

Faster growth outside Jakarta

The building of infrastructure projects has been the hallmark of President Joko Widodo's term as the President of Indonesia as he set out to boost economic growth, reduce poverty, create jobs, and minimise inequality. These projects include toll roads, ports, reservoirs, and airports both in Java and more importantly outside Java. The last point is significant because areas outside of Jakarta have historically been under-developed. Furthermore, since 2016, state-owned company, Pertamina, has rolled out its one-price oil programme, which is expected to continue to 2024. Effectively, this means that a customer buying a litre of petrol in Jakarta will be paying the same price for a litre of oil as a customer based in Irian Jaya. This is significant given that historically the difference in the petrol price has hampered growth outside of Java.

Companies under our coverage have registered better growth outside of Jakarta and in some cases outside of Java

In recent times, companies under our coverage have registered better growth outside of Jakarta and in some cases outside of Java. For example, Ace Hardware Indonesia's revenue contribution from Jakarta declined from 25% in 2019 to 20% in 1H23. Going forward, we expect growth from outside of Jakarta to surpass that of Jakarta as corporates search for new pastures outside of Java.

The search for convenience

One of the changes in behaviour, which has persisted post pandemic, is consumer's search for convenience. What is even more interesting is that consumers are more willing to pay for delivery post-pandemic: customers often weigh up transportation expenses and their time spent against the delivery fee and decide that it makes sense to pay for convenient delivery services. This is especially so in places like urban areas where traffic jams are often an issue. Consumers are often prepared to pay more to access goods or services if it means they can avoid traveling.

These changes in behaviour have been supportive of e-commerce platforms, food delivery, convenience stores (CVS), and digital sales for brick-and-mortar companies. As such, we expect omni-channel sales to grow even though we may likely see a normalisation of digital sales when measured on a percentage of sales basis.

Haj and Umroh

In Islam a pilgrimage to Mecca is regarded as preferable to undertake, as long as people possess the financial means to do so (and are in a physical condition that allows them to travel). This pilgrimage is called the Haj. Alternatively, Muslims can do what is called the "Umroh", which is also a pilgrimage but while the Haj takes place during specific days within a designated Islamic month, the Umroh can be performed at any time throughout the year. For many Indonesians it is an easier and more cost-effective means to travel to Mecca.

The cost of an Umroh starts around IDR20m for the most basic travel (basic accommodation, cheaper flights) and can go up multiple times depending on the quality of hotel, food, and the price of tickets. To compare, the 2023 minimum wage in Jakarta stands at IDR4.9m/month and in East Java at IDR2.0m/month. Most provinces have a minimum wage that falls anywhere in between. Thus, an Umroh trip can cost as much as 5-6 months on a minimum salary. This is big business for Indonesian travel agents, as nearly 1m Indonesians travelled to Mecca for an Umroh in 2019.

This impacts consumption. As incomes rise, households tend to spend more on discretionary and luxury goods. In Indonesia, this also happens but the process of this will be different in Indonesia. Most households will spend a considerable amount of their savings on Umroh first and on luxury bags later.

Future Transport

- ◆ Indonesia has one of the largest nickel reserves in the world – a key constituent of batteries
- ◆ Supportive regulation has driven significant investment into the EV battery supply chain
- ◆ Penetration of BEVs currently remains low but that has not deterred auto manufacturers from investing given the long-term potential

Rahul Bhatia*, CFA
 Analyst

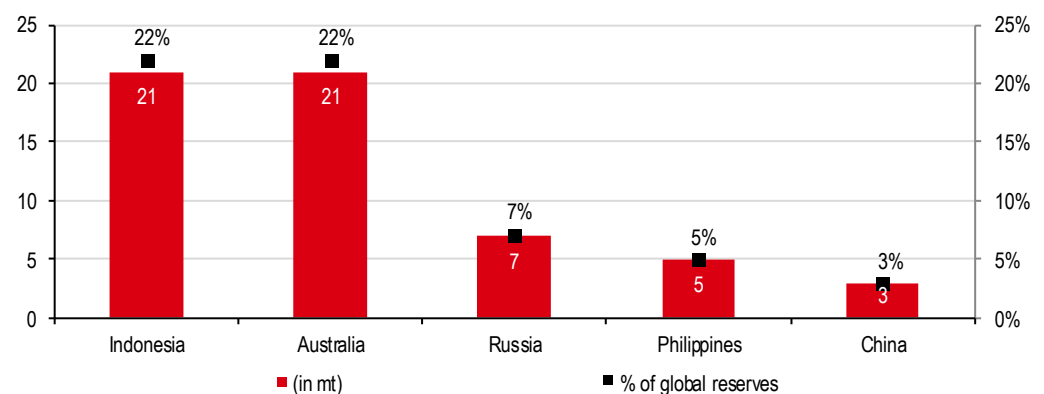
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Nickel – Indonesia's leverage

Indonesia has the largest nickel reserves in the world. The government recognises the importance of this and has developed policies to support the development of the EV battery supply chain in the country. These policies range from a ban on the export of nickel ore to encourage the production of domestic value-add products, to tax holidays for local investments. The country continues to attract global players in the auto industry, ranging from original equipment manufacturers (OEMs) to battery manufacturers. The Indonesian government aims to become a key global player in EV/battery production and has set a target to reach 140 GWh of EV battery production capacity as well as to create production capacity equivalent to 600,000 four-wheeler EVs and 2.5m e-motorcycles by 2030e.

Exhibit 8.1: Nickel reserves, by country (mt)



Source: Company data, USGS.gov

Given the abundance of nickel reserves (Exhibit 8.1) and supportive regulation (Exhibit 8.2), Indonesia is well placed to become a global EV supply chain hub.

Exhibit 8.2: Strategic initiatives to support the development of the EV battery supply chain

2014	<ul style="list-style-type: none"> • Nickel ore export ban • Indonesia first announced a nickel ore export ban in 2014 to take control of natural resources and encourage the production of domestic products
2017	<ul style="list-style-type: none"> • Nickel ore export ban relaxation • Ban was relaxed in 2017 to a quota, following a budget deficit in 2016, with plans to fully re-impose in 2022
2019	<ul style="list-style-type: none"> • Nickel ban reinstated • In September 2019, the Indonesian Energy and Mineral Resources Ministry announced the reinstatement of the ban on nickel exports starting on 1 Jan 2020, 2 years earlier than planned
2020	<ul style="list-style-type: none"> • Drawing Investors • Indonesia effectively stopped shipments of unprocessed nickel, which attracted onshore investments from major Chinese companies
2022	<ul style="list-style-type: none"> • Progressive Export Tax on Nickel Products • Indonesia's investment minister is considering imposing a progressive export tax on low content nickel products (NPI and Ferronickel) to further encourage downstream investments

Source: Company data

The missing link in Indonesia's EV supply chain – converters and HPALs

Broadly, there are two types of nickel deposits: sulphide ore and laterite ore. Indonesia's nickel reserves are composed of laterite ore, which has a relatively low nickel content. Laterite ore is generally refined into Class 2 nickel, which is used for creating nickel pig iron or ferronickel (by using smelters), the primary use case of which is stainless steel production. Lithium ion batteries (EV batteries), however, are produced using Class 1 nickel, the feedstock of which is typically sulphide ore (found in Russia, Canada, and South Africa, among others). Class 1 nickel is a component of nickel sulphate, which is used in EV batteries.

Exhibit 8.3: Classification of nickel

Class I	Class II	Intermediate products
Refined nickel products with nickel content of at least 99.8%	Nickel products with less than 99.8% nickel	Nickel intermediate products
These include:	These include:	These include:
Electrolytic nickel	NPI – low-grade ferronickel typically grading 6-16% nickel	Nickel ores and concentrates produced by mines – these are sold to smelters for processing
Pellets	Ferronickel (FeNi) – typically 14-22% nickel content, but potentially exceeding 50%	Mixed hydroxide precipitate (MHP) and mixed sulphide precipitate (MSP) which often contain nickel and cobalt
Briquettes	Nickel oxide sinter and nickel oxide – can range between 75-98% nickel content and comes in a variety of shapes or forms	Nickel matte (30% to over 75% Ni) which is sold by smelters to refiners or nickel sulphate producers
Granules	Nickel chemicals and salts – these include nickel sulphate and chloride and typically grade between 21.5-24% nickel	
Rondelles		
Powder/flakes		
Usage:	Usage:	Usage:
In stainless steel production, batteries, superalloys, plating	Generally restricted for use in stainless steel production (except for chemicals) when processed using traditional processing routes With new processing routes, NPI and matte can be used for nickel in batteries	MHP and high-grade nickel matte can be used to produce nickel sulphate

Source: Company data

While the change in regulation meant more investment in the country, it was initially for smelters – i.e. to produce nickel pig-iron (NPI) to be used in stainless steel production. As such, the refined nickel supply from Indonesia increased from 42mt in 2015 to 1,183mt in 2022. The majority of nickel produced is in the form of NPI or FeNi.

Laterite deposits can, however, also be a source of nickel for batteries. Laterites can be processed into Class 1 nickel by using the high pressure acid leach (HPAL) process or using converters (for smelters). A converter produces high-grade nickel matte while HPAL produces MHP. Both of these are a nickel intermediary, which can be used for the production of nickel sulphate and subsequently precursor manufacturing, which is one of the important feedstock used in EV batteries.

As such, Indonesia is now seeing investments into HPALs, repurposed NPI lines and also nickel sulphate production.

Exhibit 8.4: Recent Indonesian nickel investments

Project	Status	Location	Companies	Process	Output (kt Ni)	Capex (USDm)
Obi	Construction	Obi Island	Ningbo, Harita	HPAL	45	700
QMB	Construction	Morowali	Tsingshan, GEM, CATL	HPAL	50	1,500
Huayou Cobalt	Construction	Morowali	Huayou, Tsingshan, Woyuan	HPAL	60	1,830
Pomalaa	Possible	Pomalaa	Sumitomo/PT Vale	HPAL	40	2,000
PT Persada Lygend	Construction	Obi Island	Lygend	HPAL	60	1,500
PT Ceria	Construction	Kolaka	Ceria Nugraha Indotama	FeNi	56	952
Weda Bay	Operating	Weda Bay	Tsingshan	RKEF	90	1,620

Source: Wood Mackenzie

Transition to BEVs

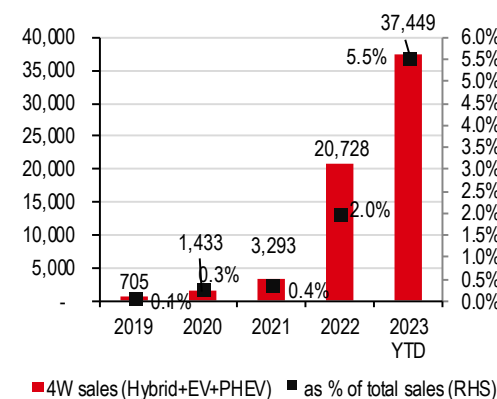
A slow start but it has not deterred investments

The current state of EV infrastructure (or lack of it) and high prices of BEVs means that BEV adoption remains low in Indonesia despite government subsidies (though limited). This, in turn, has driven the purchase of hybrids rather BEVs in Indonesia – we expect this to continue over the near term.

The contribution of non-ICE cars to 4W sales remains low overall

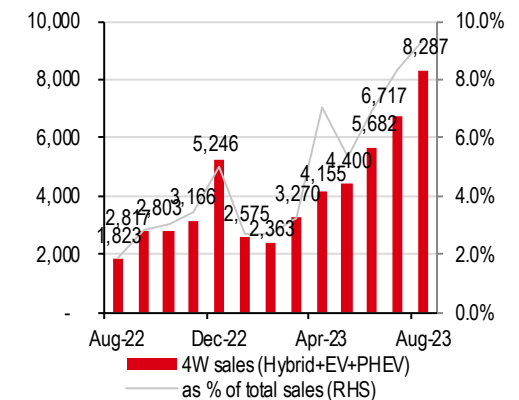
However, on an absolute basis, it continues to increase

Exhibit 8.5: Non-ICE car sales trend (units)



Note: ICE stands for Internal Combustion Engine.
Source: Gaikindo, HSBC

Exhibit 8.6: Non-ICE car sales trend by month (units)



Note: ICE stands for Internal Combustion Engine.
Source: Gaikindo, HSBC

c78% of EV sales in 2023 y-t-d are from hybrids in Indonesia

Exhibit 8.7: EV sales by type

	2019	2020	2021	2022	2023 YTD
BEV	-	317	759	10,364	8,234
Hybrid	685	1,110	2,499	10,354	29,110
PHEV	20	6	35	10	105
Total	705	1,433	3,293	20,728	37,449
BEV	0%	22%	23%	50%	22%
Hybrid	97%	77%	76%	50%	78%
PHEV	3%	0%	1%	0%	0%

Note: BEV stands for Battery Electric Vehicle. PHEV stands for Plug-in Hybrid Electric Vehicle.
Source: Gaikindo, HSBC

However, that has not deterred investment in the country from global OEMs, which are getting ready to participate once Indonesia follows the global structural trend of transition to BEVs. For instance, we already have Hyundai and Wuling assembling BEVs in Indonesia while NETA and BYD (both from mainland China) are likely to invest as well. Other brands from mainland China like Chery, MG, Great Wall Motors were also present at recently concluded 2023 Gaikindo Auto show in August 2023.

Pranjul Bhandari
 Chief Economist India and
 Indonesia
 The Hongkong and Shanghai
 Banking Corporation Limited,
 Singapore Branch

Aayushi Chaudhary
 Economist
 HSBC Securities and Capital
 Markets (India) Private Limited

The Saudi Arabia of EV metals?

It's good to have a dream, especially if it can be backed up by ability. Indonesia has the world's largest nickel reserves and government policy has been helpful as well. A ban on nickel ore exports has triggered domestic investment in smelters and the electric vehicle (EV) value chain. Already value-added manufacturing and processed metals exports have risen. The hope is that, over time, potential growth rises as well.

We estimate that some of the growth pay-off from graduating from mining ore to processing metals has already come through. USD30bn of realised foreign investment in the sector has likely raised growth by 0.15ppt. Indonesia's annual potential growth currently stands at 5.3%.

A bigger growth pay-off for the next five-plus years is lurking around the corner. We find that an additional USD30bn of investment intentions in processed metals over the next five years can raise growth by another 0.15ppt. The government intends to extend the ore export ban to bauxite and copper, though the pay-off there may not be as effective as in the case of nickel. If about half of those ore exports graduate to processed metals, GDP growth could be higher by 0.1ppt. And, finally, there is the EV ecosystem. Bringing together investment intentions across batteries and autos, we estimate a growth pay-off of 0.2ppt. Adding the three sources, we believe **GDP growth will rise by 0.5ppt to 5.8% by 2028.**

Similarly, we estimate that the current account (C/A) deficit has already fallen by 1% of GDP in real terms over the past five years, led by an improved trade balance in metals, particularly related to nickel. More benefits are likely to come, across the three sources outlined above. Indonesia's **structural C/A deficit** stood at 3% of GDP on the eve of the pandemic. It **could fall by 2ppt to 1% of GDP by 2028.** Stronger external finances mean more monetary policy freedom from dollar dominance. Already we have seen that Bank Indonesia (BI) did not raise rates in step with the Fed over the past year. This independence could increase, allowing BI to focus more on domestic considerations in monetary policy making.

However, for all of this to materialise, **some important conditions need to be met.** The process of making nickel suitable for EV batteries has a high carbon footprint, which needs to be addressed (more on this in the chapter on ESG). Continued technological innovation and maintaining a stable macro environment are other important conditions for success.

Lower for longer

- ◆ 'Lower for longer' is not yet applicable to Indonesia
- ◆ Low debt levels and demographic trends will support growth despite vast potential investment in the near future
- ◆ Structurally lower bond yields indeed come with proactive management and an improving credit outlook

Steven Major, CFA
Global Head of Fixed Income Research
The Hongkong and Shanghai Banking Corporation Limited

Dhiraj Narula
Associate, Credit Research
The Hongkong and Shanghai Banking Corporation Limited

Pin Ru Tan
Head of Asia Pacific Rates Strategy
The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch

Louisa Lam, CFA
Credit Analyst, Asia Pacific
The Hongkong and Shanghai Banking Corporation Limited

Net zero and a new capital city will be expensive

Debt overhang could be offset by productivity gains

'Lower for longer' not yet applicable to Indonesia

The 'lower for longer' theme has been built out by HSBC Global Research over the past 11 years. It is based on a number of structural explanations for low longer-run real equilibrium interest rates (aka *r-star*). These include ageing populations, inequality, elevated debt levels, and poor productivity, amongst others.

Indonesia's bond market does not fit into this category, given that debt levels are low and demographic trends should support growth. That being said, we outline below how structurally lower bond yields could come with an improving credit outlook.

Measuring up against the key determinants

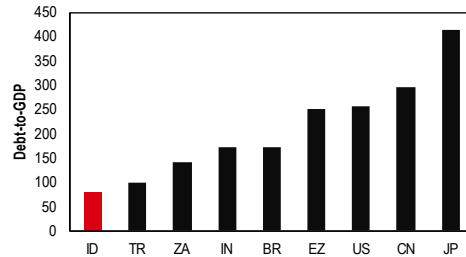
Total debt levels in Indonesia are still much lower than large EM and DM peers (Exhibit 9.1). The excessive build-up of leverage – as evidenced by markets such as Japan – can be unproductive and divert cash flow away from consumption and investment, weighing on growth and hence equilibrium rates. Indeed, we have found that in the past, more debt is often associated with lower yields for many large bond markets. Given that Indonesia's total non-financial debt stands below annual GDP, there is no evidence of a debt overhang, but we are nonetheless wary of longer-term themes that may contribute to rising levels of borrowing.

Firstly, significant investment will be needed to fund a transition to net zero. In 2021, the Ministry of National Development Planning (Bappenas) projected that the cost of achieving Indonesia's net zero target by 2060 could require up to USD200bn per annum in the coming decade, and well over USD1trn in the decades thereafter (source: Nikkei Asia, 20 October 2021). With respect to debt financing in particular, our previous work has estimated that borrowing needed to fund the energy transition could amount to above 30% of annual GDP. In turn, we found that – if previous relationships held – this amount of additional debt would apply downward pressure on Indonesia's real equilibrium interest rate – although concerns over elevated debt could also raise the credit risk premia in bond markets.

Moreover, the cost of funding the relocation of the capital city from Jakarta to Nusantara will also entail sizeable investment. 20% of the investment will be funded by the government (source: CNBC, 27 August 2023). Future debt increases may impact the longer-run interest rate direction, but a number of additional factors may also come to play. For example, while rising debt levels over the past decade have not translated to material improvements in growth (Exhibit 9.2), a new capital city could attract foreign investment and improve bureaucratic efficiency, which can boost longer-run growth. The impact of investment into energy transition may also boost productivity via novel technologies. And, as outlined in a previous section on demographics, Indonesia's

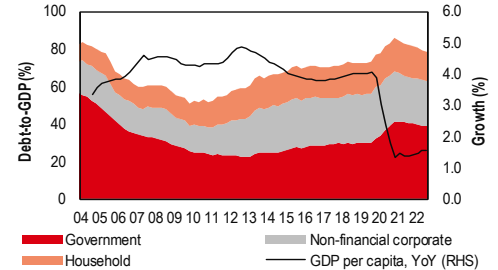
demographic trends are favourable for longer-run growth given a young population and potential for increased female participation.

Exhibit 9.1: Total debt levels still benign...



Note: End-22 non-financial debt levels. ID = Indonesia, TR = Türkiye, ZA = South Africa, IN = India, BR = Brazil, EZ = Euro area, CN = mainland China, JP = Japan. Source: BIS, HSBC

Exhibit 9.2: ...but more debt is not always productive



Note: GDP growth is a 3Y moving average using quarterly data. Source: Bloomberg, BIS, HSBC

Compression of risk premium in Indonesia government bonds

Indonesia's government bond yields have declined steadily, with the average 10yr government bond yield at 7% over the past five years, compared with 7.70% over 2013-18, and 8.3% from 2008-13. The positive re-rating of the sovereign is obvious, when one looks at the spread between 10yr Indonesia government bond yield and 10yr US Treasuries, which has compressed from 600bp at the start of 2008 to just 230bp as of August 2023 (Exhibit 9.3). The lower yields and compressed spreads have come about due to positive policy changes, which have reduced the risk premium investors seek on local bonds.

Reduced inflation volatility has been instrumental

If we had to pin down the most instrumental change, which mattered to the government bond market, it would be reduced inflation volatility.

The government has shown a strong commitment to ensuring price stability

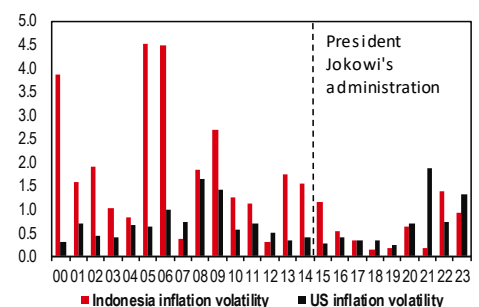
Indonesia experienced high inflation volatility in the 2000s, which increased the challenges of monetary policy making and led investors to seek additional risk premium on the bonds. Inflation volatility has, however, receded notably since President Joko Widodo took office in 2014 (Exhibit 9.4). Inter-agency policy coordination has been enhanced via the Central Inflation Control Team meetings, which are attended by Bank Indonesia, the Ministries of Finance, Transport and Agriculture, the national logistics bureau as well as the statistics agency. As a reflection of the administration's razor-like focus on price stability, the central bank manages a website where the public can monitor daily food prices across the nation. This has resulted in

Exhibit 9.3: 10yr IndoGB-UST spread has tightened to new lows



Source: Bloomberg, HSBC

Exhibit 9.4: Indonesia's inflation volatility has structurally receded



Source: Bloomberg, HSBC

Prudent fiscal policymaking has been well received by investors

better-anchored inflation. Accordingly, investors' expectations for the policy rate and bond yields have become much more stable.

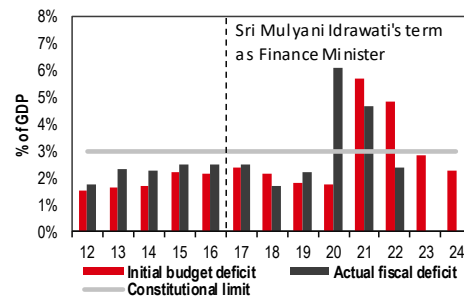
Increased fiscal certainty is a positive development

Indonesia's fiscal deficit consistently surprised on the upside from 2012 to 2016 (Exhibit 9.5). However, since 2017, after Finance Minister Sri Mulyani Indrawati took office, the larger surprises have been in the direction of lower-than-expected fiscal deficits, except for 2020, when the pandemic hit. The pace of post-pandemic fiscal consolidation has been impressive, as the country is reaping the tax revenue benefits of consistent policy efforts to increase value-added production in the commodities and manufacturing industries. Due to the fiscal improvement in recent years, government bond investors find themselves more often contemplating the probability of bond auction cancellations. This is a sharp departure from the past, when investors used to fret about upsized bond issuance plans.

That being said, the lower for longer theme establishes that increased deficits either have no correlation or a negative one versus yields (both level and change). For Indonesia the deficit level correlation has been very low over the past 20 years, and has even been negative over the past five years, whilst for the deficit change there is no correlation for both time periods (Exhibit 9.6).

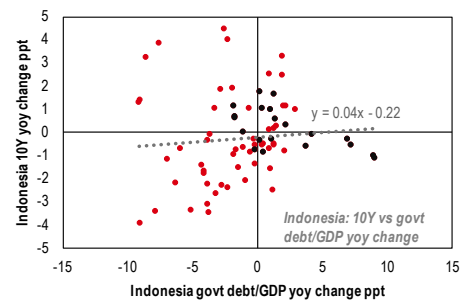
While some investors may rightly question if the impending general elections in 2024 could uproot the positive policy changes seen in Indonesia, it is likely that the policy experiences of the past decade have led to a structural improvement in institutional strength, placing the sovereign in a stronger position for future challenges.

Exhibit 9.5: Post-pandemic fiscal consolidation has been faster than expected



Source: Budget estimates, CEIC, HSBC

Exhibit 9.6: Fiscal deficit levels have had no impact on bond yields



Note: data begins in 3Q04. Last 5Y in black.
 Source: BIS, Bloomberg, HSBC

Indonesia made a turnaround from the Asia Financial Crisis and got into the IG rating club

The improving credit story

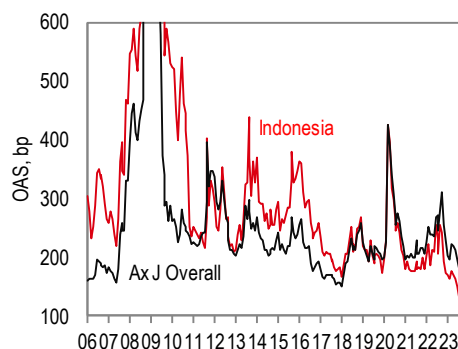
The better macro picture has also benefited the country's offshore USD financing. Years after the Asia Financial Crisis, the country made a successful turnaround and secured an investment-grade (IG) "BBB-" credit rating in 2011 and "BBB" rating in 2017 (both by Fitch). Its improving credit fundamentals have turned the Indonesian USD bond market into an outperformer since 2015, from an underperformer in 2013-14. Most importantly, that helped to lower the issuers' USD bond financing costs. The average spread of Indonesia USD bonds has been on a declining trend over the past 10 years and has tightened relative to Asia peers (Exhibit 9.7).

Indonesia is now the second largest US dollar bond market in Asia and the sixth largest in global emerging markets. 93.5% of the USD bond issuers are IG-rated and most of them are sovereign and state-owned enterprises (SOEs). The latter group, coming from a diversified list of sectors, is of strategic importance to the government in terms of economic and social values.

The improving credit profile is also seen in SOEs

The improving credit story is also reflected in the SOEs' operation and financial profiles. Indonesian SOEs, which play an important role in public services and economic development, have taken on quite a large quantity of debt in the past along with rapid economic development. Further reliance on debt-funded operations and expansions became unsustainable. The Ministry of SOEs (BUMN) initiated SOE transformations in 2020 to enhance the corporates' capital structure and corporate governance. It introduced a financial 'traffic light' system (Exhibit 9.8) demanding more disciplined financial management from the SOEs as well as restructured and consolidated SOEs for synergies and better management. The number of SOEs has been reduced to 41 in 2022, from 142 in 2020.

Exhibit 9.7: Average spread of Indonesia USD bonds have gradually come inside of their Asia peers



Source: iBoxx Axl USD Bond indices

Exhibit 9.8. BUMN's "traffic light" system in SOE financial management

Cash Flow Operating	EBITDA	Debt to EBITDA (x)	Financial management direction
Positive	Positive	<5x	Accelerate production, investment, and marketing
Positive	Positive	>5x	Manage cash flow, maintain interest bearing debt, evaluate investment
Negative	Positive	>5x	Manage cash flow, maintain interest bearing debt, evaluate investment
Negative	Negative	Any debt ratio	Restructure companies' operation, gaining cash flow and reduce the debt
Positive	Negative	>5x	Restructure companies' operation, gaining cash flow and reduce the debt
Negative	Positive	>5x	Restructure companies' operation, gaining cash flow and reduce the debt
Positive	Positive	<0x or >10x	Restructure companies' operation, gaining cash flow and reduce the debt

Source: BUMN

SOEs are likely to increase equity contributions or public private partnerships in future projects and investments

In the near future, according to the country's 2024-34 roadmap, BUMN may reduce the number of SOEs further to 30 across its 12 operational clusters (source: Jakarta Globe, 21 July 2023). On capital management, BUMN seeks more public listings (IPOs) and public private partnerships (PPPs) in the coming years. Both could improve the SOEs' equity balance and lower their capital requirement in future investments. PPPs offer technology advantages, potential synergies and growth to SOEs. We view these as positive steps for SOEs over the long run. This is especially important, in our view, in light of the vast capital investment needs for the transition to a low-carbon economy and the new capital city, in Nusantara.

BUMN has already kick-started the equity driven measures. It has restructured PLN, Pertamina, and Mining Industry Indonesia (MIND ID) into holdco (management) and sub-holdco (operating entities) structures. This includes potential business spin-offs and equity monetisation, with the aim of improving business operations and financial independency. For instance, Pertamina Geothermal, a subsidiary of Pertamina, launched its IPO in February and issued a USD bond in April. We expect more of these initiatives in the coming years.

ESG in Indonesia

- ◆ New EU deforestation law will enhance due diligence on the palm oil supply chain; more transparency and traceability will be required
- ◆ Vast reserves of nickel in Indonesia offers economic opportunities, but also drives deforestation and coal emissions
- ◆ Industrial sector's reliance on coal-fired plants remains a concern while renewable energy development needs to accelerate

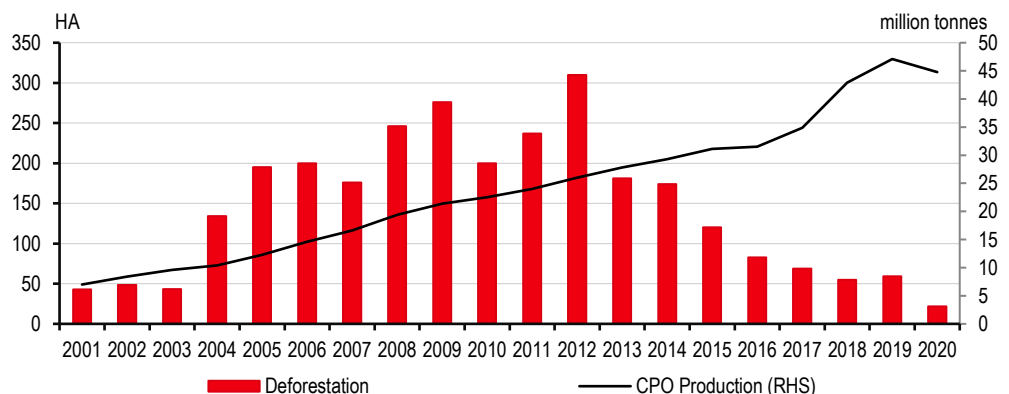
Wai-Shin Chan, CFA
 Head, Climate Change Centre;
 Head, ESG Research
 The Hongkong and Shanghai
 Banking Corporation Limited

Heidi Tang
 Associate, ESG Research
 The Hongkong and Shanghai
 Banking Corporation Limited

Palm oil

Oil palm plantations have contributed to about one-third of Indonesia's loss of old-growth forest over the past two decades. Forests were cleared out to make way for palm oil plantations. However, the rate of deforestation has halved, and it has reached its lowest rate in two decades. This can be partly explained by the permanent moratorium on new forest clearance for palm oil plantations issued by President Joko Widodo in 2019 and the growing awareness of palm oil issues – leading to a number of international companies committing to the use of sustainably sourced palm oil.

Exhibit 10.1: The relationship between crude palm oil (CPO) production and deforestation in Indonesia has weakened



Source: Trase Insights, HSBC

Sustainable palm oil has been developed in Indonesia in recent years as demand has grown in the West. Some 97% of the palm oil that Indonesia exports to the EU, US, and UK comes from companies with zero-deforestation commitments.

Also, the European Parliament approved its deforestation-free supply chain law in April 2023. The law will be applied to palm oil and its derivative products. For palm oil to be exported to the EU, companies are required to produce a due diligence statement to show the source of the palm oil and verifiable information that it is not produced from palm grown on land deforested after 2020.

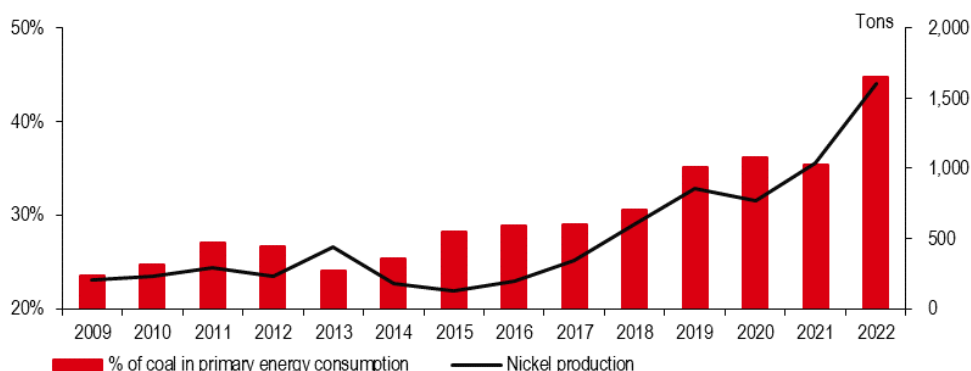
In our view, demand for highly traceable sustainable palm oil will grow. More transparency in the palm oil supply chain will be required. In addition, we think the new deforestation regulation will prompt companies to search for substitutes for palm oil.

Nickel mining

Nickel is one of the main components of EV batteries. Amid growing demand for EVs, demand for nickel has risen as well. Indonesia has the largest nickel reserves in the world and is the largest nickel producer. Although nickel mining offers attractive economic opportunities, it also presents deforestation risks for Indonesia. The top soil of forests needs to be cleared in order to extract nickel through open-pit mining.

Moreover, the rapid growth in the metal industry in Indonesia (i.e. nickel for EVs and bauxite for solar panels) demands more energy from coal. The number of nickel processing projects for batteries in Indonesia has surged since 2021. That being said, the energy intensive processing needed to turn laterite ore into class 1 nickel, which is used in EV batteries will require a steady source of power. However, since renewable energy is underdeveloped in Indonesia, new captive coal fired plants have been built to support the nickel production industry. Thus, coal consumption has increased in recent years.

Exhibit 10.2: Percentage of coal in primary energy consumption in Indonesia has risen with the increase in nickel production



Source: Our World in Data, US Department of the Interior US Geological Survey, HSBC

Just Energy Transition Partnership (JETP)

Indonesia agreed to form a JETP with the G7, alongside Norway and Denmark, in November 2022. Under the deal, the country would need an investment plan to retire coal plants early and develop renewable energy to receive a USD20bn financial package from partner countries and the Glasgow Financial Alliance for Net Zero (GFANZ).

In our view, JETP investment in expanding the deployment of renewable energy would be important for the country to realise their climate goal in 2060 and to promote sustainable growth of the commodities industry. There is increasing scrutiny on the environmental impact of the supply chain from the EU. Industries would need to decarbonise, especially in reducing their reliance on captive coal fired plants for production so as to maintain their competitiveness. Indonesia was expected to unveil its JET investment plan in August; however, the government decided to delay the release until “later this year”. Nonetheless, Indonesia has relatively high renewable energy potential for power generation in ASEAN and renewable exports will be important for the bloc if it is to realise its net zero targets. We expect the pressure to build on Indonesia to release its plan in the run-up to COP28.

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