

# The Return of the Physical Economy

*Photo credit: Injourney*



Danantara Indonesia Perspectives  
From the Investor Relations Team



# Table of Contents

<b>Introducing Danantara Indonesia Perspectives .....</b>	<b>3</b>
<b>Section 1 : The Illusion of Obviousness .....</b>	<b>4</b>
<b>Section 2 : The Comeback of Physical Assets .....</b>	<b>12</b>
2.1 A Country Built on What Lies Below .....	13
2.2 Let's Get Physical! .....	16
2.3 The Elephant in the Room .....	18
2.4 From Extraction to Strategy .....	20
2.5 The Strait of Hormuz .....	22
2.6 Corporeal Capital .....	27
<b>Section 3: Human Capital, The Constraint We Do Not Like Talking About .....</b>	<b>29</b>
3.1 The Advantage That Expires .....	30
3.2 The Gap Beneath the Surface .....	33
3.3 The System We Built .....	35
3.4 Fixing the Pipeline .....	36
<b>Section 4: Institutions Capable of Connecting Everything .....</b>	<b>38</b>
4.1 The Missing Piece .....	39
4.2 The Five-Year Trap .....	40
4.3 Skin in the Game .....	41
4.4 Predictability Is the Product .....	42
<b>Did You Know? .....</b>	<b>43</b>



# Introducing Danantara Indonesia Perspectives

**Danantara Indonesia Perspectives** is a thought leadership publication from the Investor Relations team at Danantara Investment Management. It exists because our team went to Taiwan, had a difficult week, and decided the most productive response was to write about it at length.

What follows is that response, strictly representing the opinions of the Investor Relations team. We have tried to make it useful.

The world is going through a lot right now. Supply chains are being reorganized. Energy is being rethought. AI is reshaping entire industries faster than anyone can write a framework for it. Countries are no longer just aiming for growth, but instead competing for relevance.

Indonesia sits right in the middle of all of it: literally, geographically, and increasingly strategically. The country has the resources, the population, and the market size that most countries would find embarrassing to ask for. The question is, and has always been, what we do with it.

That is what this publication is about.

We will not always have answers, but we will try to ask the right questions, which in our experience is the harder and more useful thing.

Indonesia's story is still unfolding. We are, admittedly, a small and occasionally jet-lagged part of it.

One last thing. This publication is separate from Danantara Indonesia Diaries, which covers different ground and has its own distinct character: same family, different personalities, occasional disagreements about tone.

Neither are they a substitute for our formal financial statements. Those are currently in the process of consolidating and finalizing the audited financial statements of SOEs within the Danantara Indonesia ecosystem, and will continue to undergo an audit process in accordance with prevailing laws and regulations.

For those who have been treating the Diaries as a substitute, we appreciate the trust, question the methodology, and strongly recommend a conversation with the nearest CFA charterholder.

Back to Danantara Indonesia Perspectives. This is the first entry. We will be back. And no, that was not meant to be a *Terminator* reference.



Section 1:

# The Illusion of Obviousness

*Photo credit: Danantara Indonesia Investor Relations Team*



One of the worst places to be when bad news breaks is right before a flight. There we are, wedged into a chair with no legroom and a recline button that lies to us, and for some in the investor relations team, cut off from the world because we are too cheap to pay for in-flight WiFi. A cocoon less cozy and more existential.

It is an experience our investor relations team had last month, when we went to a roadshow in Taiwan. Our job was to meet capital market investors and make a case: not just for Danantara Indonesia, but also our country as a whole.

We were there to work, but even a short and packed trip was its own kind of education. After all, this is the island that makes roughly 90% of the world's most advanced logic chips, an industry that made up about 20.7% of Taiwan's GDP. It bears mentioning that Taiwan is 36,000 square kilometers in size. In other words, smaller than Java. Indonesians instinctively avoid making this comparison out loud, the way one avoids the bathroom scale after Lebaran. Our team avoided it too, for about forty-eight hours, before putting it in the opening section of a published document.

But credit where credit is due. This is where one of the most sophisticated industrial ecosystems on earth was deliberately built. Not discovered, not stumbled into, but engineered, with a consistency that is hard to ignore once we see it up close.

By the time we landed in Soekarno-Hatta, we were unsettled, because the investors we spoke with had changed their minds about Indonesia.



*Photo credit: Danantara Indonesia Investor Relations Team*

What happened in Taiwan, exactly?

It began with our first meeting, which was intimate by design. By that we meant it was small. A cancellation with better lighting. Because two investors bailed, and what was supposed to be a discussion for three became a presentation for one. By the third slide, the silence had become its own asset class.

"Please keep this quick," the investor said, and briefly, we thought he was excited for the Q&A. We had spent the previous evening rehearsing forty-five minutes of conversation. He, it turned out, was buying it by the minute. After a quick run-through of the slides, the room settled into silence.

One of our team members suggested revising our presentation to open with a summary slide, titled the "Please Don't Leave" slide. It has not been field-tested yet.



*Photo credit: Danantara Indonesia Investor Relations Team*

Hostility would have been easier to process. What we came across was indifference. The kind usually reserved for stories that have stopped updating, like dropping a TV show after your comfort character gets killed off due to the actor's offscreen drama, then getting periodically updated by tweets that now, strangely, garner nothing more than an "oh, good for them."

Oddly specific, yes, but mirrors the experience of a country with enormous potential continuing to be described in the future tense. It is as if the present is merely a waiting room, and the complimentary snacks have run out.

It is worth sitting with that for a moment, because Indonesia was not always a footnote in these conversations.

In the 1970s, Indonesian oil fetching US\$2.90 per barrel in April 1972, rising to US\$3.70 a year later, reaching US\$6.00 by November 1973, and climbing above US\$10.00 by January 1974. At the height of that boom, Indonesia was producing over 1.6 million barrels per day, roughly eight times higher than Norway's 189,000 barrels per day at the time. Capital flowed in, and confidence was not an exaggeration.

Between 2004 and 2013, Indonesia had another moment, riding another commodity cycle into the global spotlight. Our capital markets reflected it. At its 2013 peak, Indonesia's weighting in the MSCI Emerging Markets Index sat at around 3%. That is many miles away from the current number, hovering between 0.5% to 0.6%.



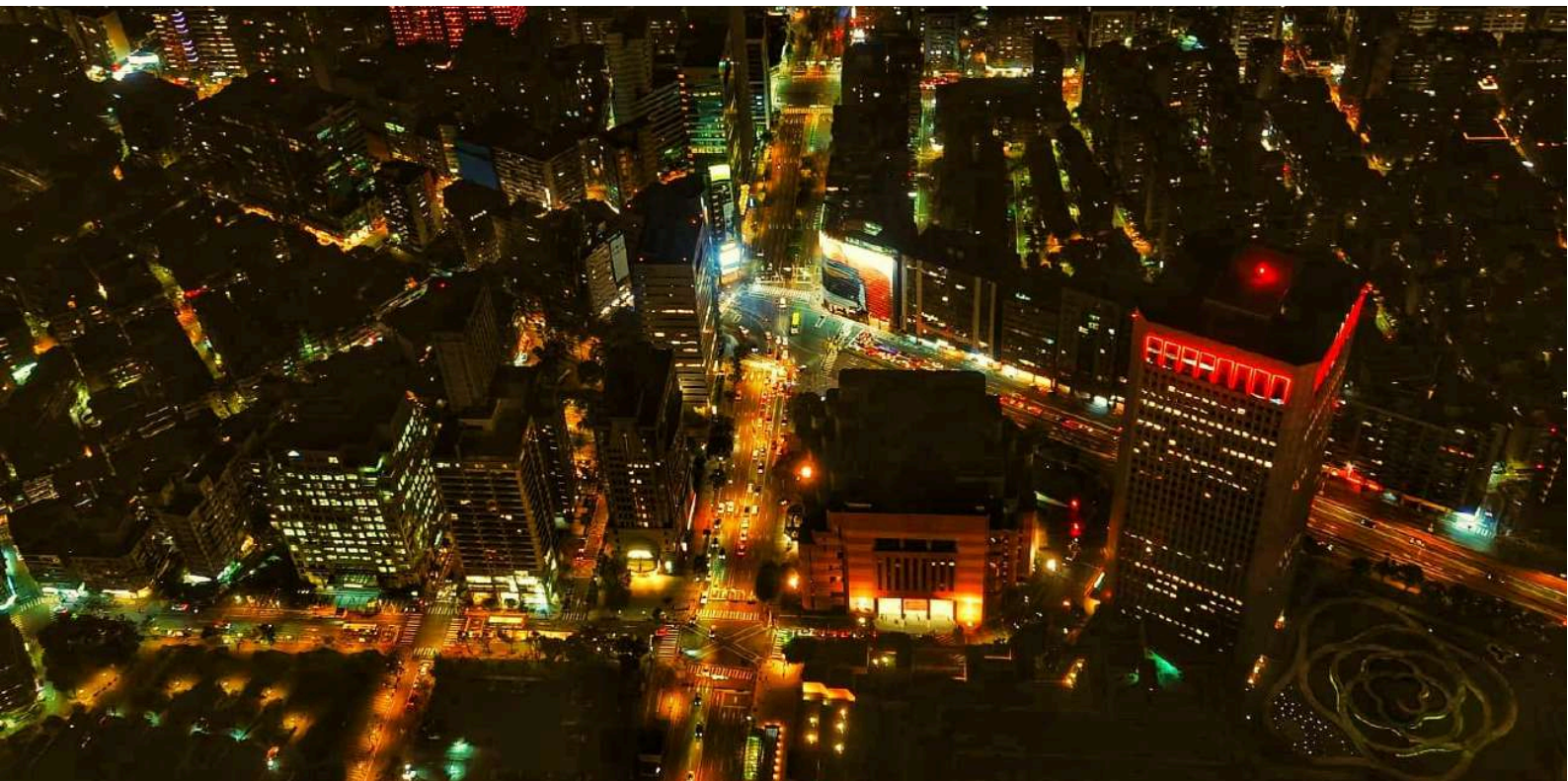
*Photo credit: Injourney*

Somewhere along the way, something stalled. It is difficult to point to a single moment, because the shift was not abrupt.

Today, our relevance depends on the same reason as it always has, and at a smaller scale. Other countries were writing new chapters in AI and biotechnology, and yet our story stayed familiar. Still commodities. Still waiting for the next cycle to remind people we exist.

GDP per capita, measured in constant dollars, captures this uncomfortably. In 1970, Indonesia's GDP per capita was broadly comparable to many of its regional peers. That is no longer the case: IMF 2025 data showed South Korea exceeding US\$35,960 and Taiwan surpassing US\$37,830, while Indonesia hovered around US\$5,070. The world continues to march on, regardless of whether we kept pace.

In a later meeting, however, the tone shifted. We sat down with a veteran investor, who we will call Jenny. She had followed Asia long enough to remember when these comparisons looked very different. The conversation eventually moved into something more fundamental: the question of what actually makes a country work.



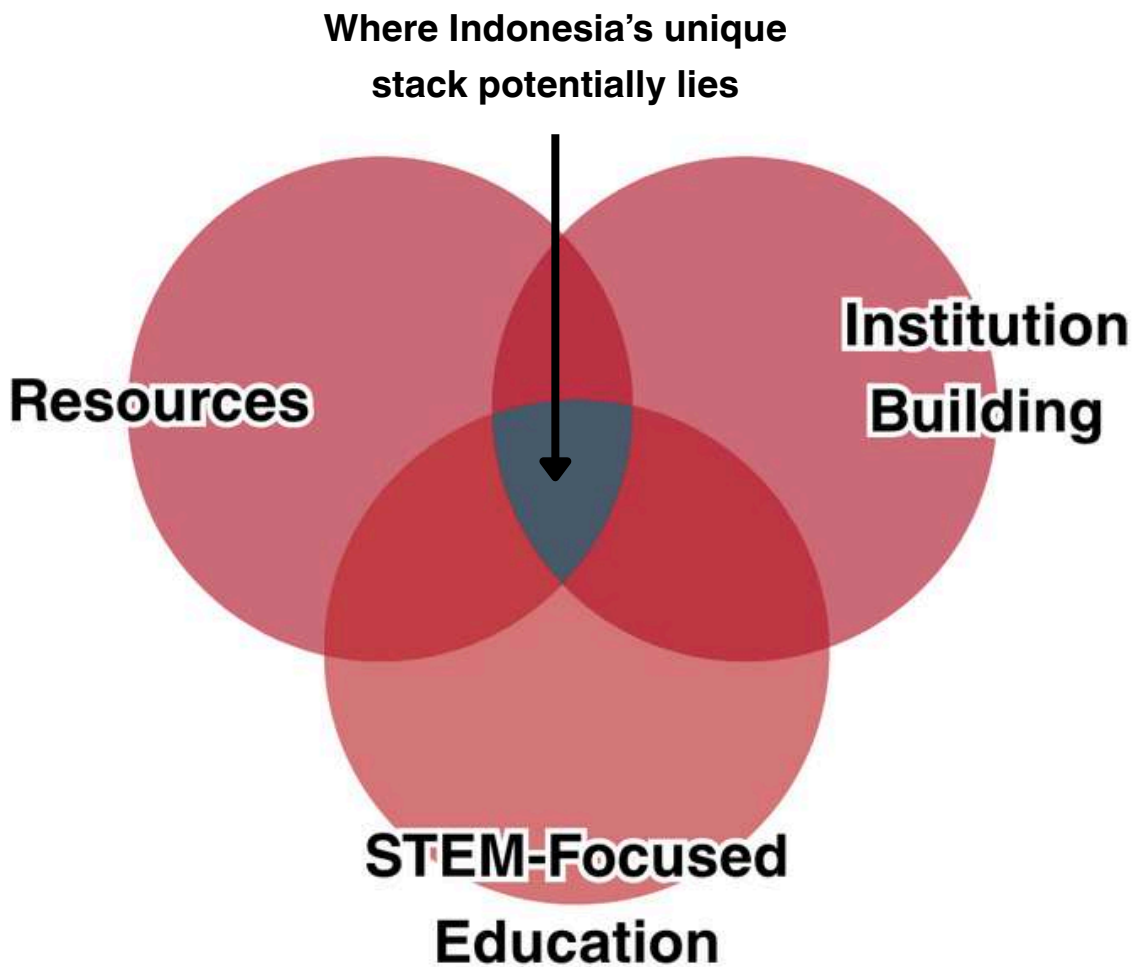
*Photo credit: Danantara Indonesia Investor Relations Team*

Because if there is one pattern that becomes difficult to ignore, it is that great countries are almost never built on a single advantage.

Instead, countries which successfully transform share a structure: natural resources, human capital, and institutional strength. Each on its own is necessary, but the the sum is greater than its parts.

It seems like a no-brainer that at the dawn of this AI craze, we focus on electrification, AI infrastructure, defense systems, and energy transition.

Let us first set the stage. Hyperscalers are projected to spend roughly US\$740 billion on AI capex in 2026 alone: about US\$2 billion every single day. That one-year number is larger than the GDP of all but 17 countries on Earth. NVIDIA cleared roughly US\$30 billion in data center revenue in a single quarter. Three years ago, this category barely existed at scale.



Now the contrast. It took China four decades, about 14,600 days, to lift 800 million people out of poverty. It is the fastest reduction in human deprivation in recorded history. And all it took was forty years of relentless sequencing. From institutional reform, to export-led industrialization, and savings rates above 25% of GDP ploughed into long-horizon investments in human capital.

It is better to undersell and deliver rather than oversell and leave everyone hanging, so we can admit that, yes, transformation at scale is possible, though contingent on many a moving part. Whether we should try to replicate China is a separate question, and one for another day. For now, time is ticking. Roughly US\$2 billion compounds somewhere, every day.

Waiting no longer costs us decades. It costs us quarters.

Indonesia should not just live downstream of that pie. It should own a slice. 280 million people, median age 31, with 215 million already online. The world's fourth-largest population, parked on top of the world's largest nickel reserves: a critical input in the compute supply chain.



*Photo credit: Injourney*

Of course, none of this is destiny. Our not-so-secret weapon is our demographic dividend, where about 3.3 million new entrants hit the labor force every year, and they need somewhere to go. Power costs, grid capacity, talent depth, regulatory clarity: these all have to go right at once, which is the thesis of our lessons from China.

Our team humbly argues that for Indonesia, this is not a distant or abstract dynamic, but something much closer to home. We are, almost by accident of geology, positioned at the intersection of a global reordering of value. Nickel, copper, and other critical minerals are no longer simply commodities, but strategic assets.

The real opportunity is no longer limited to extraction but extends to building. Specifically, it is to connect what lies beneath the ground with what we cultivate in our people, through institutions that are capable of holding both in a consistent and scalable way.

Because if success compounds, then so could neglect, although it is worth remembering that intent, when sustained, has a tendency to compound too.

Danantara Indonesia Perspectives is a running record of what our team is seeing, thinking, and occasionally unsettled by. This is the first entry.

*Photo credit: Vale*





Section 2:

# The Comeback of Physical Assets

*Photo credit: Matthew de Livera / Unsplash*



## 2.1 A Country Built on What Lies Below

At some point in our investor meetings, the conversation finds its way back to commodities. This is either because commodities are genuinely important, or because everyone in the room has run out of things to say about software. Probably a combination of both.

Indonesia is sitting on an embarrassing amount of natural wealth. That is one thing we keep hearing, and every time, we nodded. We had a slide about this. The complementary observation is that Indonesia walks on this earth carrying a combination of nickel, copper, bauxite, and geothermal resources on one side, and roughly 280 million people on the other, with a median age of around 31.

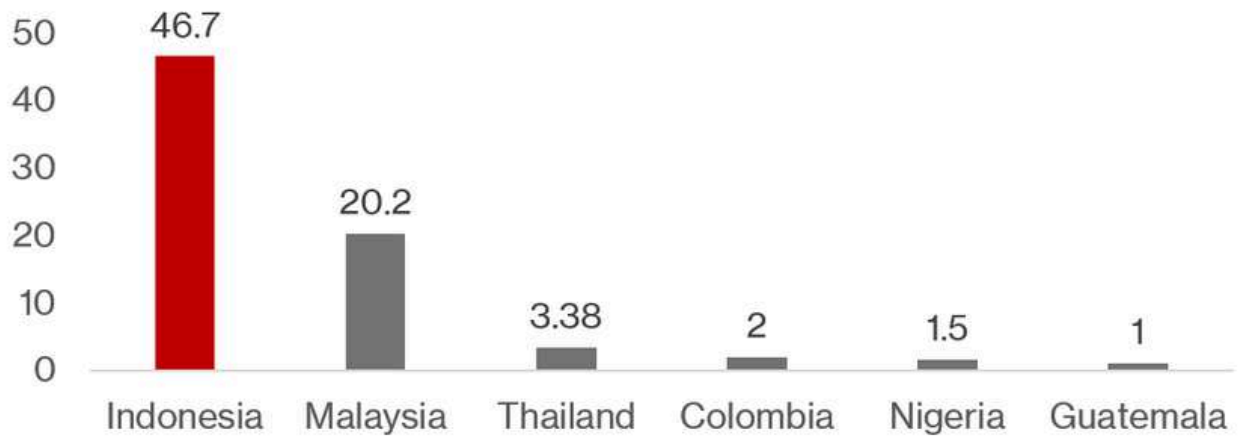
We had a slide about this too. But it is worth remembering that Indonesia has, statistically speaking, an embarrassingly fortunate hand of cards. The trouble has never been the cards. It has been the playing.

*Photo credit: Irine Wiguno*



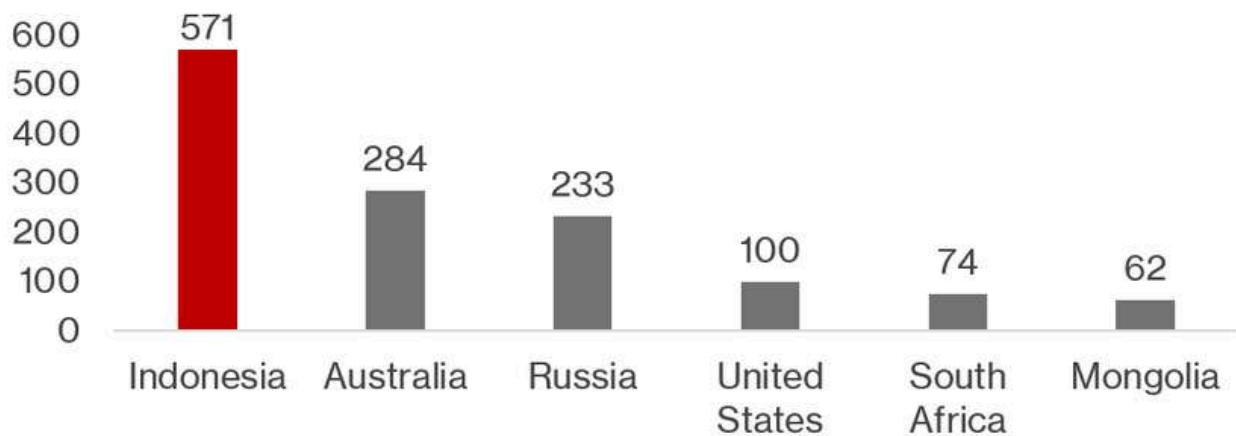
### Top Crude Palm Oil-Producing Countries, 2025-26

In million metric tonnes | Source: USDA



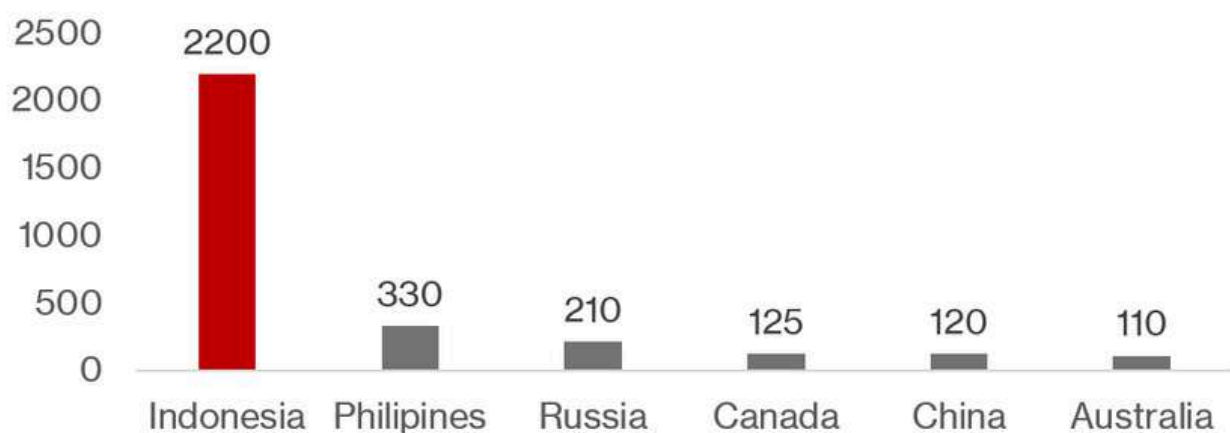
### Global Coal Exports by Country, 2023

In million tonnes | Source: Statista



### Global Nickel Production by Country, 2024

In thousand tonnes | Source: Natural Resources Canada



And yet, for much of our modern economic history, this advantage has come with a familiar and well-documented side effect: Dutch disease.

That is what happens when a boom in the resource sector, whether in oil, gas, or mining, gradually weakens the competitiveness of other sectors, particularly manufacturing and innovation. This happens as capital, labor, and policy attention become increasingly concentrated in extracting, not diversifying.

What is different now, however, is not resources, which are still present. It is the growing awareness that we may not have unlimited time to leverage them more effectively. The shift in global dynamics means that, once again, hard assets are at the center of economic and geopolitical competition.

In that sense, timing matters.

Indonesia may be entering the next commodity cycle at a moment that is more favorable than it initially seemed. Because after a prolonged period dominated by financial abstraction and intangible assets, the world is rotating back toward something more physical.

That shift is gradual, but meaningful. Because it changes the role that countries like Indonesia can play: not just as suppliers of raw materials, but as participants in a broader system. Resources can become the foundation for something more complex, more integrated, and ultimately, more valuable.

The question, as always, is not whether we have the resources. It is whether we are able to use them differently this time.



*Photo credit: Injourney*

## 2.2 Let's Get Physical!



Photo credit: Falaq Lazuardi / Unsplash

It is now impossible to have a conversation without making a pitstop at the AI table. We have stopped resisting this.

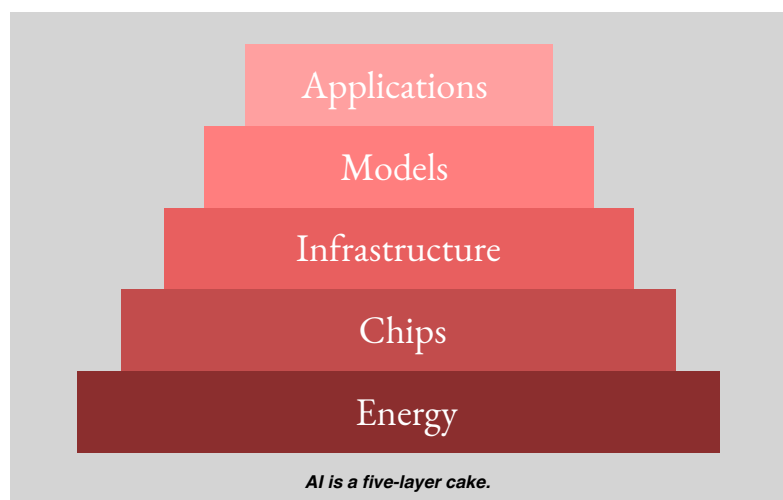
Jenny's take: the world is getting "physical" again, because whoever controls advanced technology sets the rules for the next phase of global competition.

AI is often described as "the cloud." This is poetic. The cloud is in fact made of concrete, steel, copper, aluminium, and the sweat of nuclear engineers being poached back out of retirement. Most of these engineers had assumed their last career move was a vegetable garden somewhere quiet. They are now back at the office, with stock options.

AI, in that sense, is not just code. It is infrastructure. And like all infrastructure, it is deeply, almost aggressively, physical.

The scaling logic is mechanical.

As NVIDIA chief Jensen Huang puts it, AI is built in layers, and at the very bottom of those layers sits something far less exciting than models or algorithms, which is energy, followed closely by the systems required to move that energy efficiently.

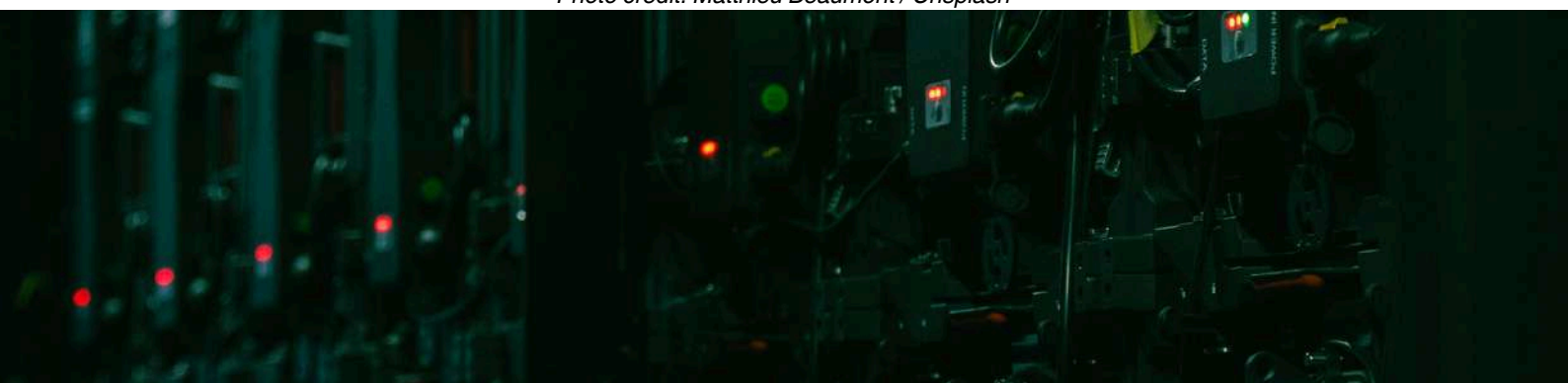


AI revenue scales through data centers, data centers scale through power delivery, and power delivery scales through copper-intensive systems, which means that if copper supply tightens, the constraint does not first appear in chip fabrication, where most people are looking, but much earlier, in power equipment lead times, grid build-outs, and the less visible parts of the system that tend to be ignored until they become the bottleneck.

And the scale at which this is happening is, to put it mildly, not small.

Major global technology companies have announced approximately US\$740 billion in capital expenditure for this year alone, representing a roughly 69% increase from 2025, with most of that spending directed toward AI infrastructure, data centers, computing capacity, and the systems required to support them, which is a polite way of saying that a lot of concrete is about to be poured.

*Photo credit: Matthieu Beaumont / Unsplash*

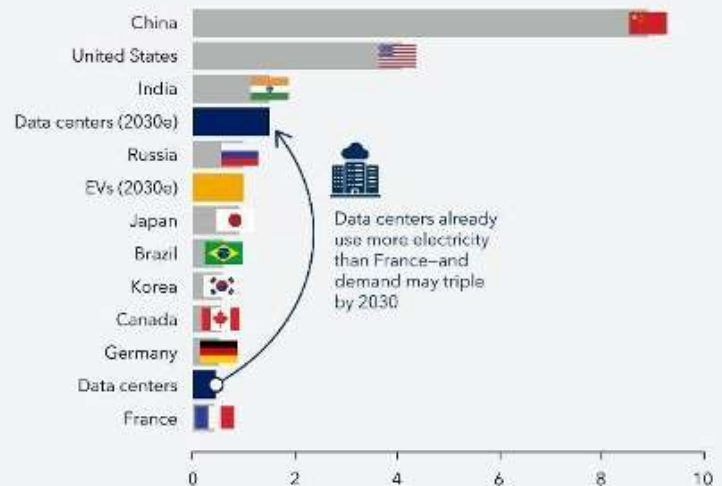


And then there is the question of energy itself.

The demand is rising quickly. Data center electricity consumption is projected to triple to around 1,500 terawatt-hours (TWh) by 2030, driven by AI training and usage. The electricity used by data centers alone, already as much as that of Germany or France, would by 2030 be comparable to that of India, the world's third-largest electricity user. This would also leapfrog over the projected consumption by electric vehicles (EV): data centers could use 1.5 times as much power than EVs by the decade's end, according to 2025 data from the IMF.

**All data centers combined use as much power as some of the world's largest economies**

Electricity demand 2023; thousands of terawatt-hours



Sources: International Energy Agency; Organization of the Petroleum Exporting Countries; and IMF staff calculations. Note: Electricity demand for data centers compares with that in biggest national users as of 2023. EVs = Electric vehicles.

## 2.3 The Elephant in the Room

The opportunity is real. So is the bottleneck. This section is about the bottleneck: the less popular half of that sentence, and therefore the more important one.

Even with capital and rising demand, one bottleneck that is increasingly difficult to ignore is talent, or the lack of it. This is especially true in the parts of the economy that actually extract and process these resources.



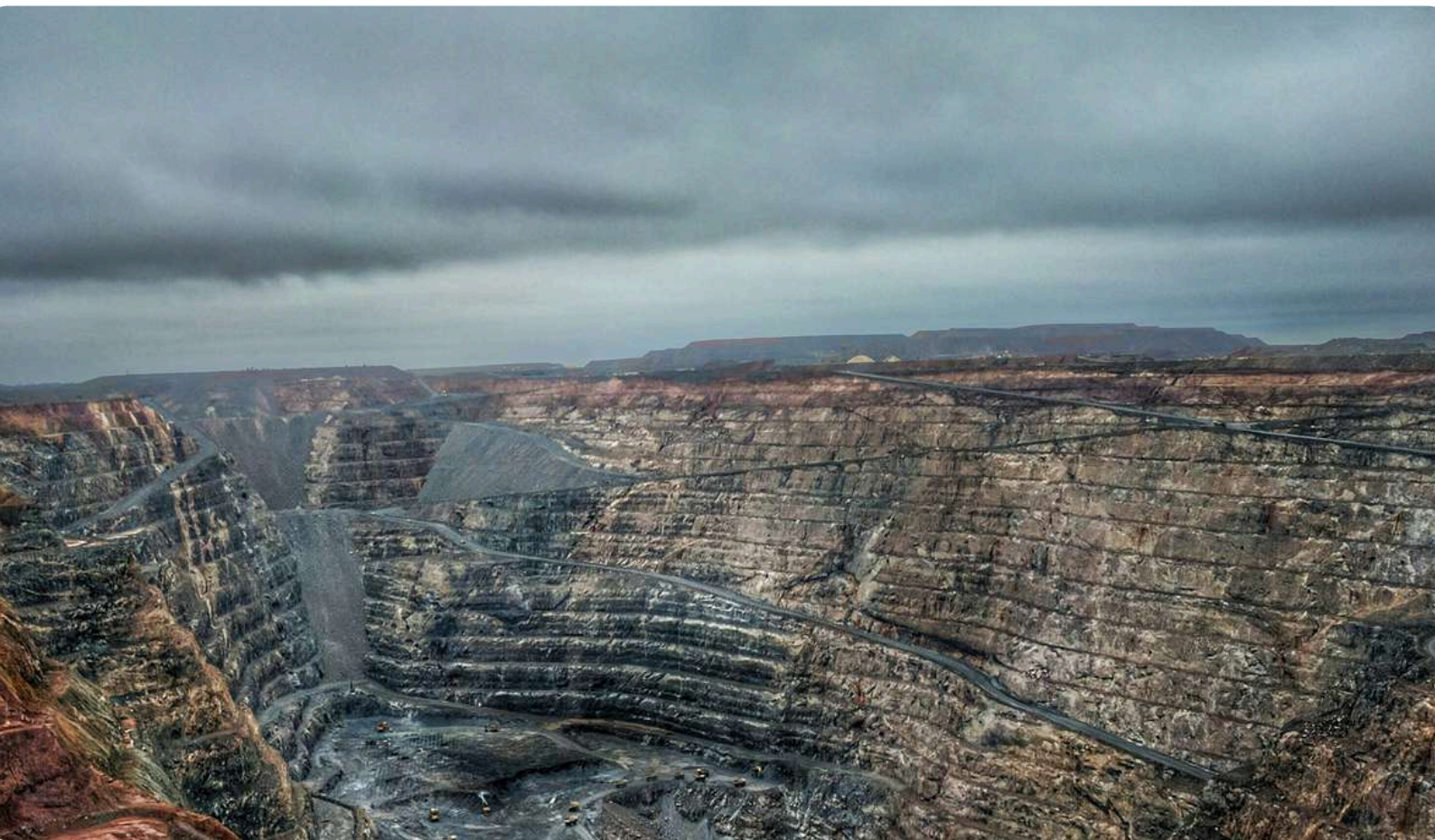
*Photo credit: The Colorado School of Mines*

In 2023, all 14 mining schools in the United States, including the University of Colorado, produced just over 300 graduates. Fewer than 600 undergraduates are enrolled nationwide, down from around 1,500 less than a decade ago. None of its most populous states even offer a mining engineering program.

It is an interesting outcome for a country that still expects to secure its resource supply chains.

Meanwhile, Canada, home to roughly 75% of the world's mining companies, is already projecting a shortfall of around 100,000 workers by 2030. The constraint is no longer just capital or geology, but people.

The cloud, it turns out, is mined.



*Photo credit: Matthew de Livera / Unsplash*

And even when projects do move forward, they do not move quickly. Typically, it takes between 10 to 15 years to bring a new mine from discovery to production. This increases the likelihood of a supply gap emerging toward the late 2020s.

In other words, even if everyone agrees that commodities are important again, scaling them is not as simple as deciding that they are.

## 2.4 From Extraction to Strategy

This is where Indonesia re-enters the conversation: a line we have been waiting to write since page one. The good news is that Indonesia has options. The less good news is that options require choosing, which has historically been the harder part.

Because across many of these inputs, whether it is nickel, copper, energy, or even geothermal potential, Indonesia has what it takes to benefit. The more important question is whether we are content to remain a supporting player, where we supply inputs to other people's systems, or whether we intend to move further into the parts of the value chain where decisions, and margins, tend to concentrate.



*Photo credit: Vale Indonesia*

One answer is that Indonesia should not remain purely an exporter of raw materials, even if that may be the path of least resistance.

Downstreaming is simple in theory, brutal in practice. Rather than ship raw ore for pennies, we move up the chain: refining, processing, and eventually high-value components, where the multiplier is far larger.

If done properly, downstreaming is not just about increasing margins, but creating layers. Kind of like a well-made croissant when we cut one open.

In this case, the layers are suppliers, engineers, logistics, services. Each feed into the other until the initial resource becomes part of a much larger system.

From an energy perspective, Indonesia's position adds another dimension.

Sitting along the Pacific Ring of Fire, the country holds roughly 40% of the world's geothermal potential, estimated at around 23 to 29.5 gigawatts. Yet only about 10% of that has been utilized, or roughly 2.7 gigawatts as of 2025. It is an operational constraint, not geological.

At the same time, even as renewable energy gets its time in the sun, the reality of energy shortages means that coal remains part of the near-term solution. Indonesia, somewhat inconveniently for the narrative, happens to have a lot of it.

If executed well, this does not suddenly transform Indonesia into a fully technology-driven economy overnight. But it does create a pathway where natural resources serve as a foundation for more complex industrial activity.

*Photo credit: Irine Wiguno*



*Photo credit: Robin Canfield / Unsplash*



## 2.5 The Strait of Hormuz

At its narrowest point, the Strait of Hormuz is 33 kilometers wide. For context, that is roughly the distance from Jakarta's SCBD district to the BSD suburb, the commute one of our team members makes every day. Ships navigating the strait funnel through a channel just a few kilometers across. Supertankers, moving in formation, operate in three lanes that compress into one.

When that commute jams on a Friday evening, several million people are late to dinner. When Hormuz jams, the global economy is late to everything.



*Photo credit: MODIS Land Rapid Response Team, NASA GSFC*

Three months into the Iran conflict, the world has had an unwanted lesson in how much still depends on a handful of physical chokepoints most people cannot locate on a map. Brent crude surpassed US\$100 per barrel. Aviation fuel climbed 85% from the conflict's outset, roughly twice the pace of crude itself. Ammonia supply chains came under pressure, pushing urea prices higher. Around 42% of the oil that flows through Hormuz goes to Asia, which means disruptions in that narrow channel arrive in this region faster than anywhere else.

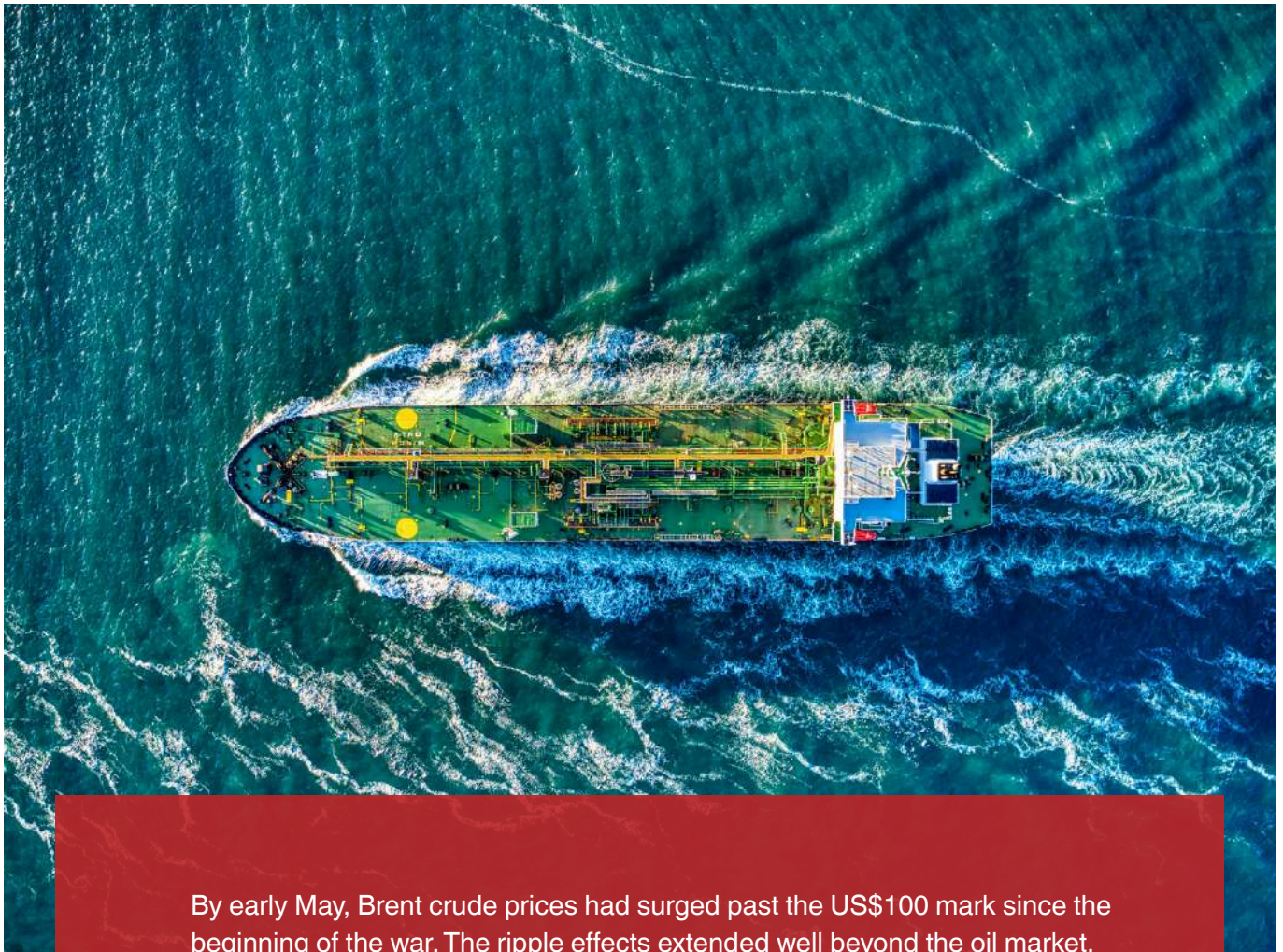
The market spent two decades optimizing for efficiency. It is now relearning the price of resilience. The conflict accelerated a shift: away from a globalization model built around cost minimization, toward one increasingly organized around redundancy, strategic control, and the security of physical supply chains. Energy security, once treated as an economic variable, is becoming a geopolitical one.



For Indonesia, this is not simply a story of exposure. We import oil. We also export many of the commodities that rise in strategic value when energy systems come under pressure: coal, nickel, bauxite, crude palm oil.

What was previously cyclical exposure has the potential to become structural leverage. The war will end. The system it revealed will not revert.

*Photo credit: Venti Views / Unsplash*

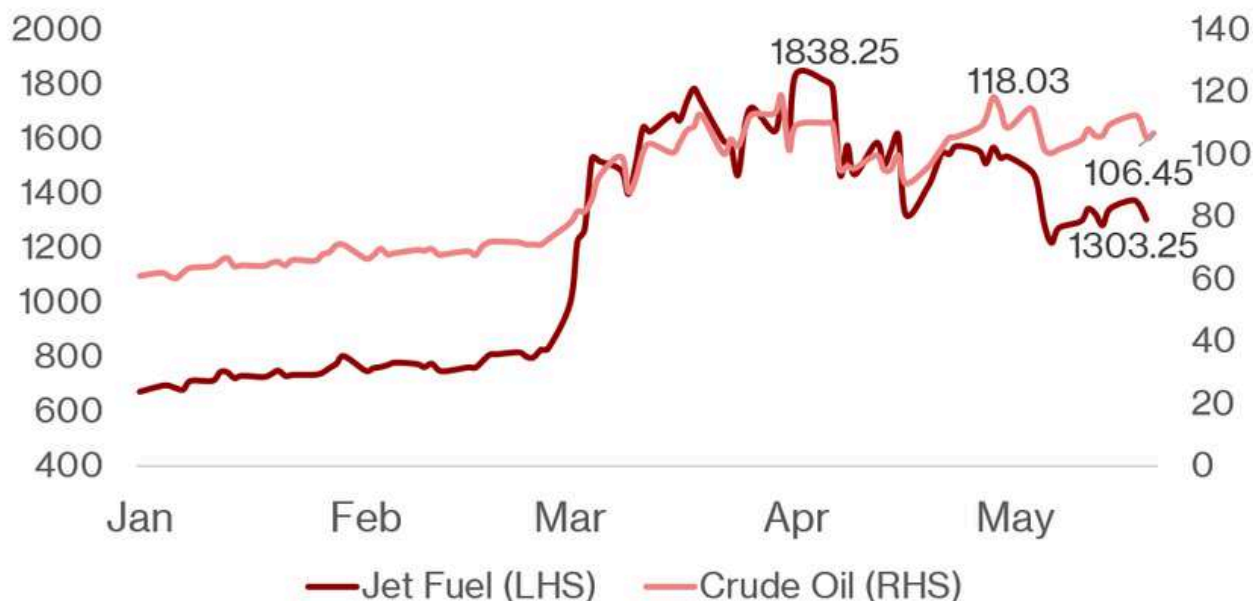


By early May, Brent crude prices had surged past the US\$100 mark since the beginning of the war. The ripple effects extended well beyond the oil market.

Aviation fuel costs climbed 85% from the war's outset, roughly twice the pace of the 49% rise in crude oil prices. Urea prices also saw upward pressure amid disruptions to ammonia supply chains.

### Crude Oil and Jet Fuel Last Spot Price, 2026 YTD

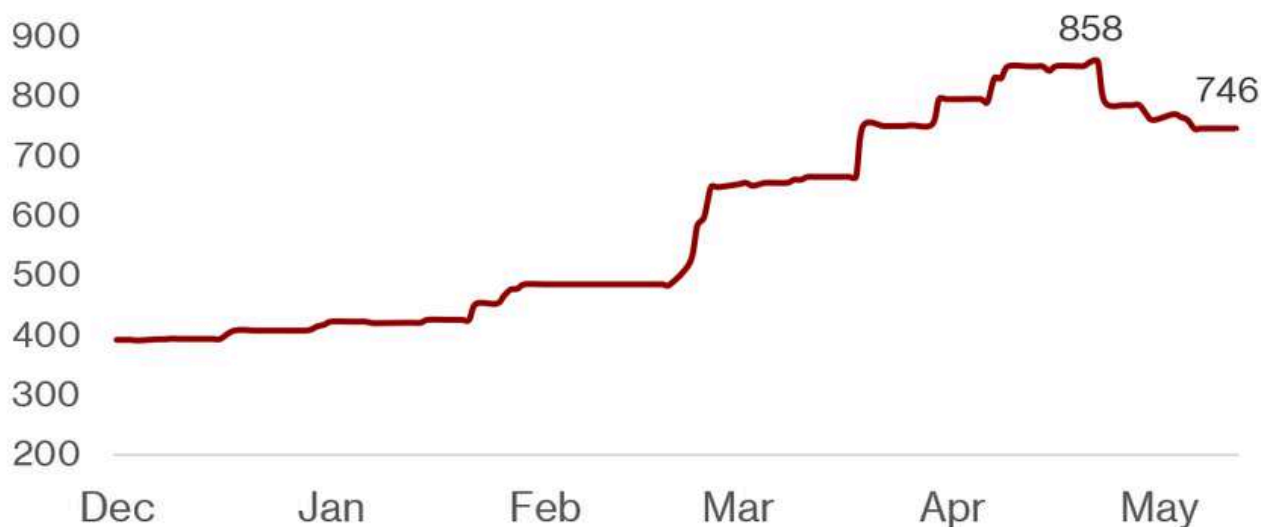
Crude Oil in USD per barrel, Jet Fuel NWE CIF Cargoes in USD per metric tonne



As of 21 May 2026

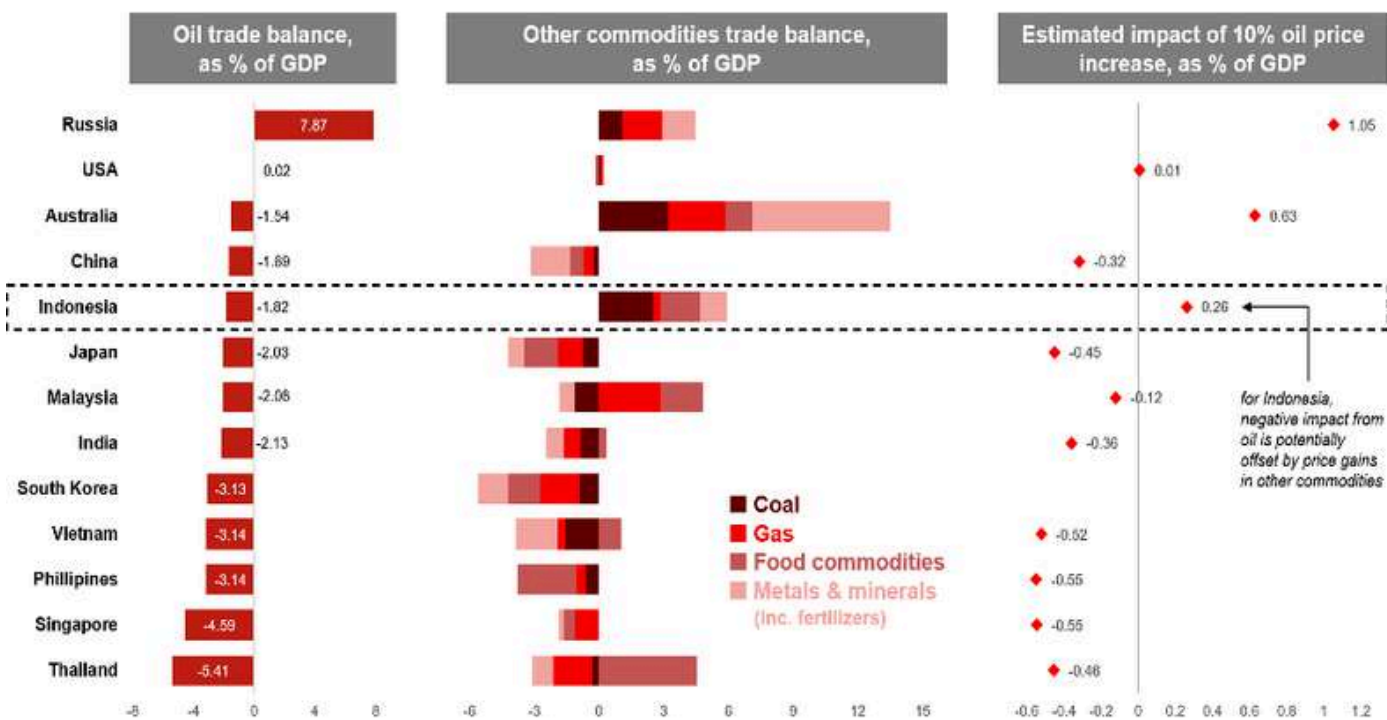
### Urea Futures Last Price, 2026 YTD

Generic 1st "UMP" Future, in USD per metric tonne



As of 20 May 2026

Photo credit: Nazarizal Mohammad / Unsplash



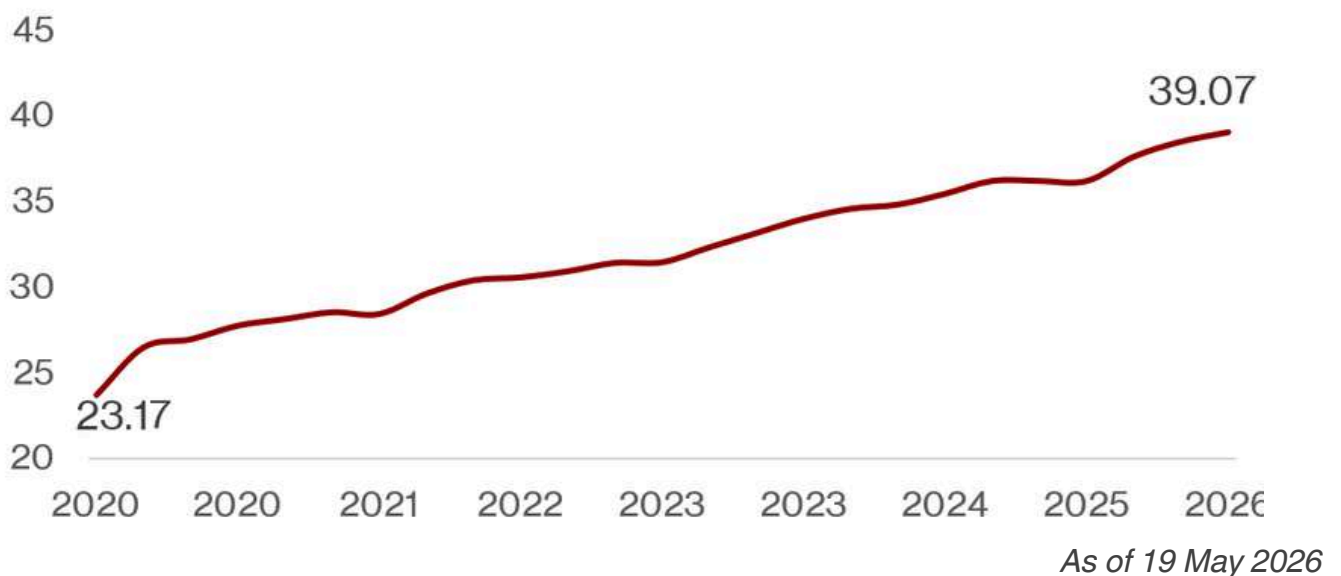
## 2.6 Corporeal Capital

Central banks do not typically explain themselves. That is almost definitional to what they are. So when central banks around the world began accumulating gold at a pace exceeding 1,000 tonnes annually, the silence was its own kind of statement.

These are institutions that spent decades explaining why gold was a barbarous relic, a holdover from a monetary system the world had long since outgrown. They were not wrong, exactly. But they are now buying it anyway, at a rate unseen in the modern era, without offering much in the way of explanation.

In the language of markets, this is a very loud silence.

### US Government Total Debt Outstanding, 2020 – 2026 YTD In USD trillion

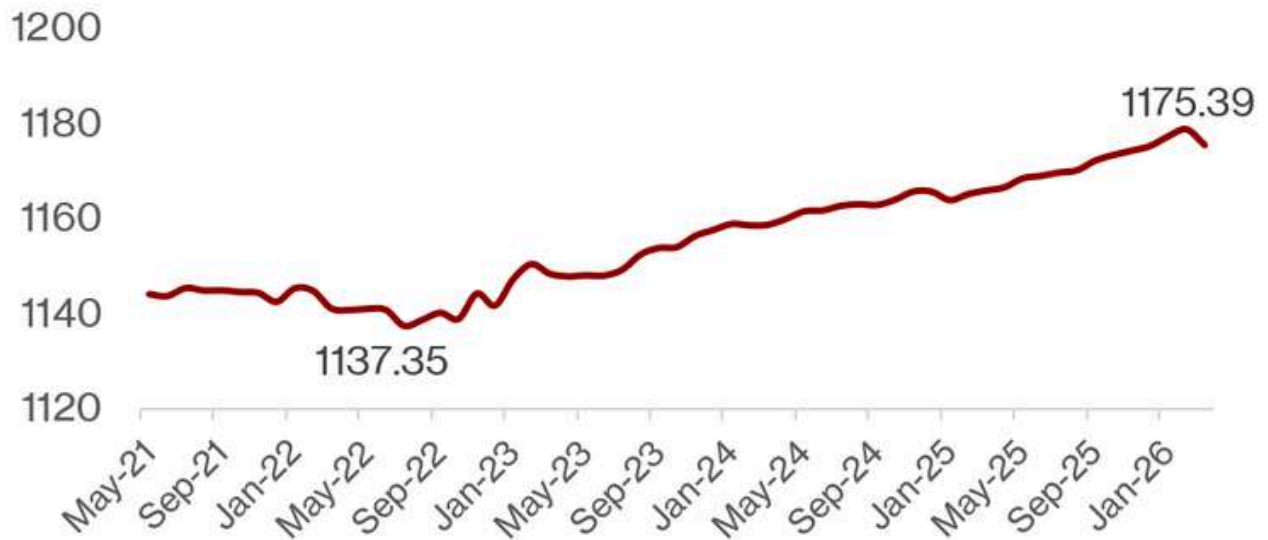


The context is not hard to read. Global debt has reached approximately 324% of annual economic output. The United States alone carries US\$39.1 trillion in national debt, around 125% of GDP, with a projected 2026 deficit of roughly US\$1.9 trillion.

In this system, everyone appears to be lending to everyone else, indefinitely. Gold's primary appeal is that we cannot just print more of them.

## World Reserve Gold Holdings, 2021-2026

In million of fine troy ounces, source: IMF



*As of 31 March 2026*

The rotation toward hard assets is not panic. It is a slow, structural recalibration: a growing preference for things with weight. Like commodities, or land, or energy infrastructure. This is the physical layer of an economy that many thought was optional.

It was never optional. It was just temporarily easy to ignore.

For Indonesia, a country whose first principle has always been what lies beneath the ground, that recalibration is not a headwind. If we use this moment well, this could be the closest thing to a tailwind this country has seen in a generation.



*Photo credit: Azzadiva Sawungrana / Unsplash*

# Section 3: Human Capital, The Constraint We Do Not Like Talking About



## 3.1 The Advantage That Expires

In the 1960s, South Korea was poorer than Ghana. Its main exports were tungsten, fish, and silk. It had no meaningful oil reserves, no significant mineral wealth, and a population recovering from a war that had flattened much of the country a decade earlier.

Today, South Korea's GDP per capita exceeds US\$35,000. It builds semiconductors that the entire world depends on. It did this without discovering anything underground.



*Kapas Biru waterfall in East Java  
Photo credit: Aditya Hermawan / Unsplash*



*Bali's Tegallalang rice fields / Photo credit: Silas Baisch / Unsplash*

Jenny made the point partway through our conversation, almost as an aside. Resources, she said, are rarely what holds a country back in the long run.

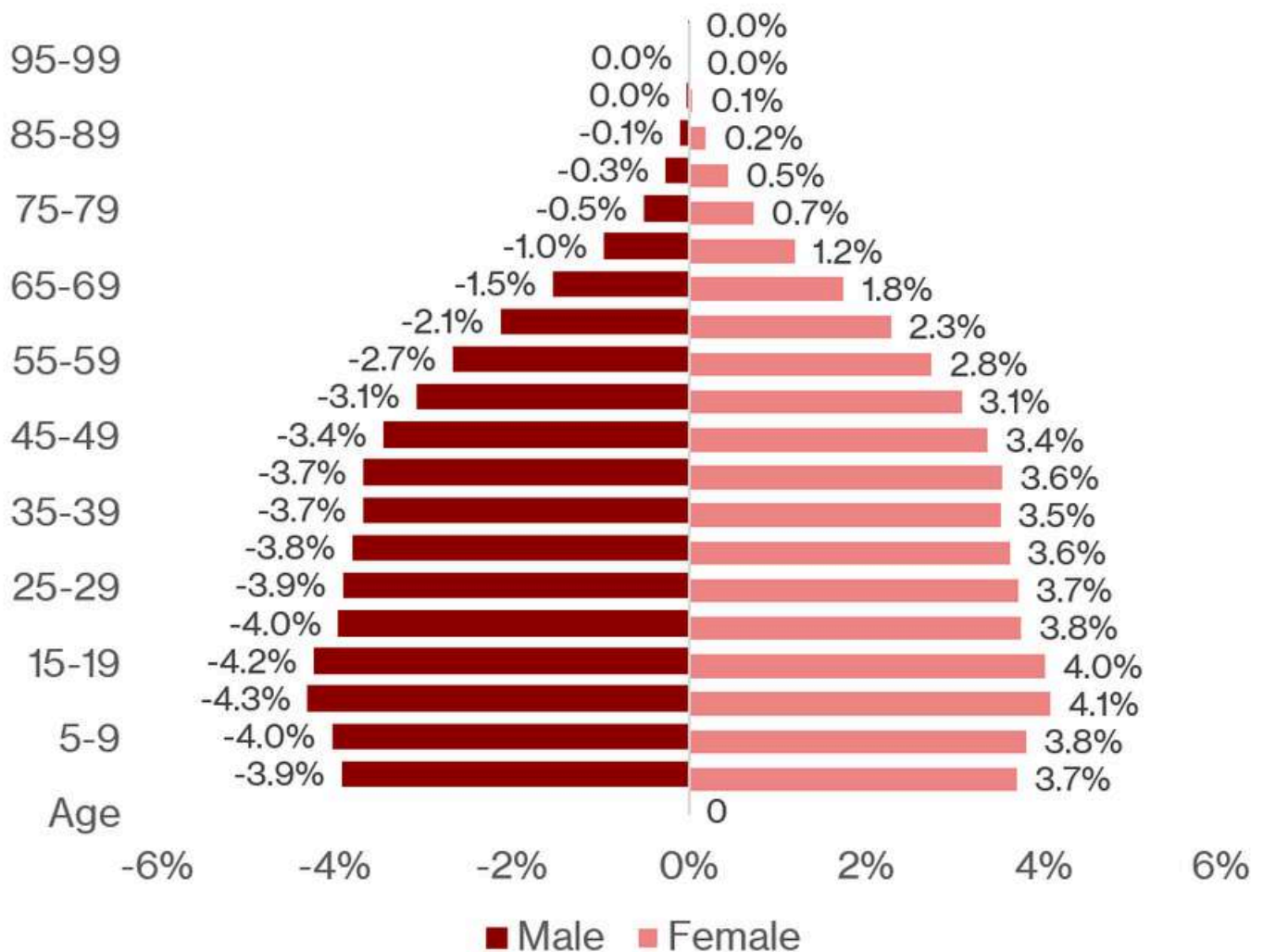
People are.

She said it the way people say things they have known for a long time and have stopped expecting to surprise anyone. It surprised us anyway, mostly because we had just spent an hour talking about nickel.

Indonesia has 288 million people and a median age of 31. Economists call this a demographic dividend, a window in which the working-age population is large enough to generate outsized economic growth. But while the word “dividend” implies something received, it is perhaps more accurate to call this a deadline. Because the window is open for roughly another decade. After that, the dependency ratio shifts, and the math stops being friendly.

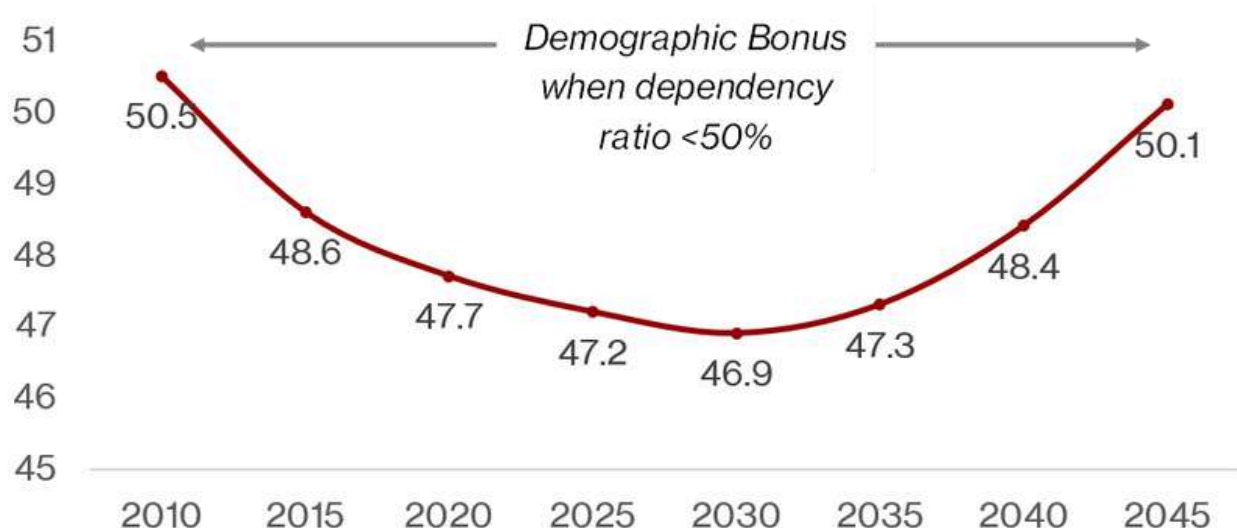
## Population Pyramid of Indonesia

### Age range, 2026



## Indonesia Dependency Ratio, 2010A – 2045F

Calculated by number of dependents over working-age population  
(Low ratio -> more productive workforce)



In other words, it is not an advantage to have a lot of people. It is an advantage to have a lot of people who can also create value. It sounds like an obvious distinction, but Indonesia's economic history suggests it has not always been treated that way.

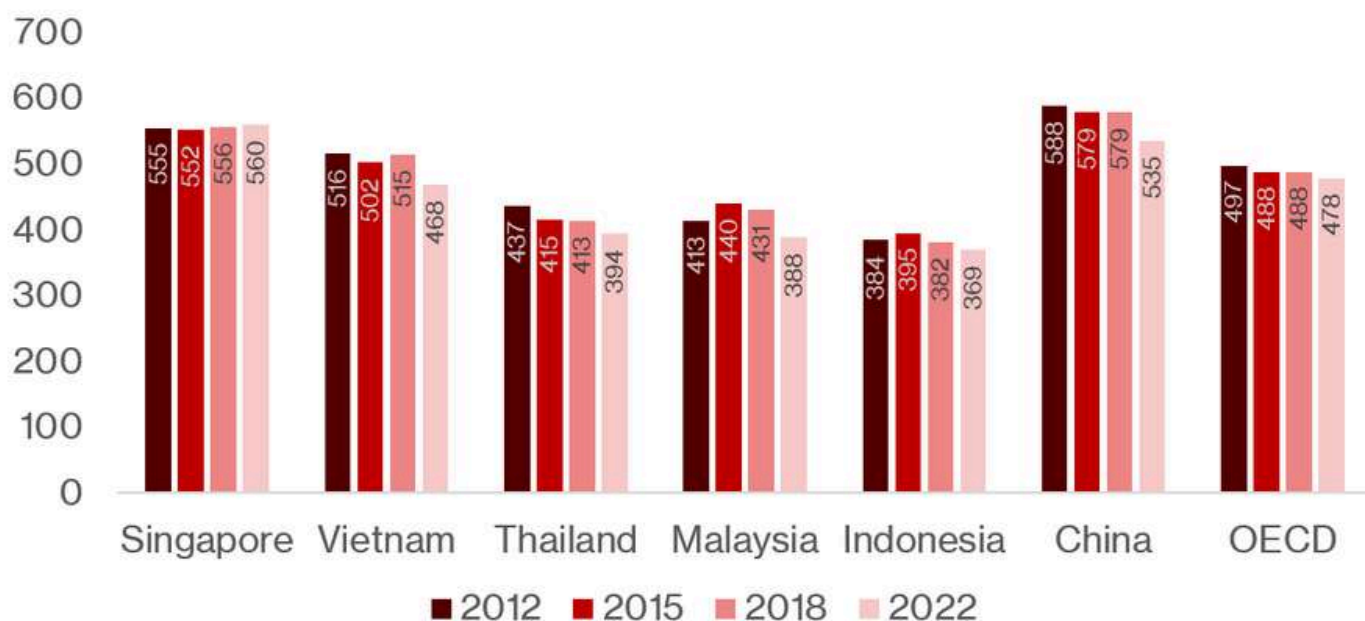
## 3.2 The Gap Beneath the Surface

Here is a number worth sitting with: 366.

That is the score Indonesian 15-year-olds received on the PISA 2022 mathematics assessment, a test administered across 81 countries. The OECD average was 472. Singapore scored 575. Vietnam scored 469.

Vietnam is the comparison that stings the most, because its GDP per capita is broadly similar to ours. The gap between 366 and 469 cannot be explained by resources, geography, or funding.

### Overall PISA scores by countries, 2022

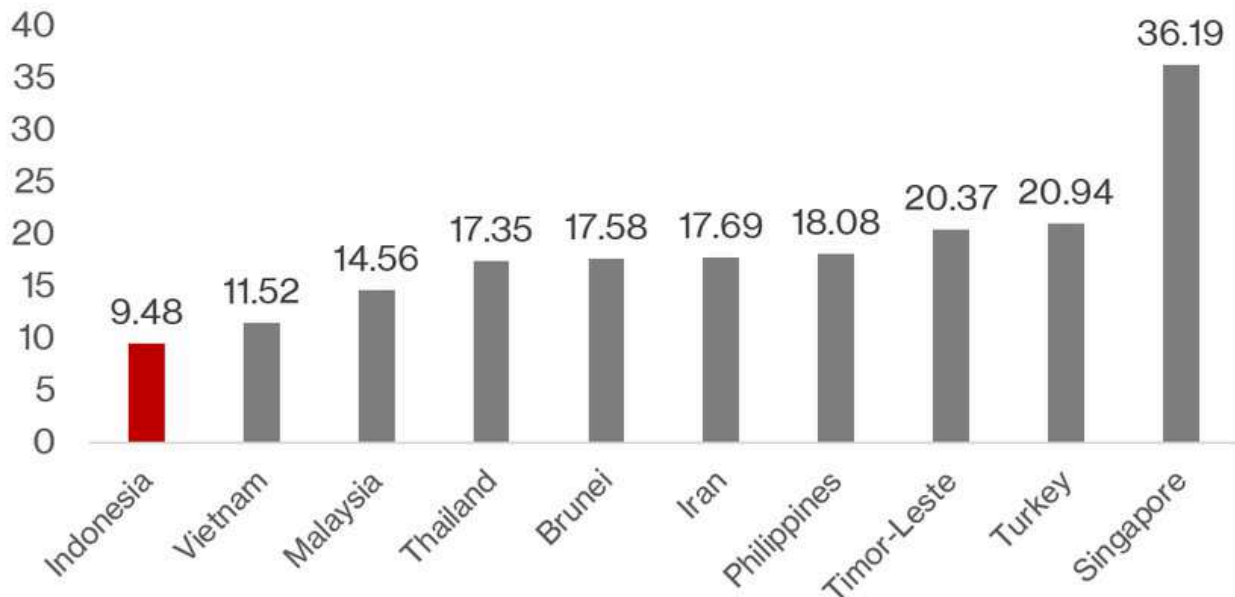


As of 2024, only 9.4% of Indonesians aged 25 and above hold a bachelor's degree. Not 9.4% in STEM. 9.4% in total.

That figure sits below Malaysia, below Vietnam, and below several countries we do not even benchmark against. We included Singapore in our comparison. We debated it briefly. Intellectual honesty won narrowly, over self-preservation.

## Educational attainment, at least bachelor's degree or equivalent, population 25+, 2024-2025

Total (%), Cumulative



But the more useful question is not how many Indonesians go to university, but what they take away from the education system as a whole.

Indonesian students can solve problems when the format is familiar. But when the same problem appears in a different form, they struggle. The system, rooted in rote memorization, never taught them to look for the pattern underneath.

## 3.3 The System We Built

Here is a scenario that is becoming more common than we expect. An Indonesian student studies engineering for four years, graduates, then takes a sales coverage job for a forex desk.

Not because they failed, or chose the wrong major, but because that is where the economy built its opportunities. People, reliably, go where the opportunities are.

There is a memory many Indonesians share from high school: the moment we had to choose between science and social studies. For a majority of students, science was the goal, because it was more flexible. Choosing social studies meant closing off paths like medicine or engineering, but a science major can still enter fields like accounting or management.

Today, STEM fields account for only around 20% of Indonesian graduates, far below China at 41%, Malaysia at 37%, and Singapore at 34%. Even Brazil and Mexico have steadily increased their STEM graduate share to around 26 to 30%.

The ones who do choose technical fields end up finding the same issue: the jobs are not there.

So they adapt. They go where the opportunities are, and the loop tightens. Students avoid STEM because opportunities are scarce. Companies avoid advanced industries because talent is scarce. Both sides wait for the other to move first.



*Photo credit: Mardanafin / Unsplash*

The loop is stable. It requires no maintenance. It has been running in the background for years, and it is very good at running itself.

## 3.4 Fixing the Pipeline

The government has started where it should: at the foundation. Free school meals address nutrition, something fundamental that is often taken for granted in more advanced economies. Sekolah Rakyat expands access for the lowest of low-income families. Sekolah Garuda targets high-performing students regardless of geography, giving opportunities to kids outside major urban areas.

These programs matter. But they are not the whole answer.

The STEM gap's consequences show up in the numbers. According to World Bank data, Indonesia spent approximately 0.28% of GDP on research and development, the lowest ratio among the top 40 research-spending countries globally, and well below Malaysia at 1.0%, Thailand at 1.2%, and Singapore at 2.2%.



Photo credit: SRMA 12 Bogor



Photo credit: SRT 35 Bandar Lampung

The argument is not that Indonesia should spend more money. It is that Indonesia has not yet fully decided what research is for.

In countries that have pulled ahead, research is infrastructure. It produces industries and markets, not mere papers.

It generates applied knowledge that attracts private investment, which funds more research, which produces more commercial relevance, until the system no longer depends on government budgets to survive.

In more developed economies, the relationship between universities and industry is already a mechanism. Among OECD member countries, the business sector contributes around 73% of research and development expenditures.

Indonesia is not there yet, but there are early signs that the loop is beginning to break. Telkom, LPDP, and Bank Mandiri have started redirecting corporate scholarships from MBAs toward STEM. Indonesia's downstreaming push can also help fix the STEM supply problem: it creates the jobs that make technical degrees worth pursuing.

Even when Danantara Indonesia selects partners for projects, technology transfer and human capital development are high priorities alongside financial returns.

This is how pipelines get built: through changes in incentives, repeated consistently.



Photo credit: Kementerian Pendidikan Tinggi, Sains, dan Teknologi



Students at SMAN 10 Fajar Harapan, a Sekolah Garuda in Banda Aceh / Photo credit: Kementerian Pendidikan Tinggi, Sains, dan Teknologi

Incentives alone do not build a pipeline if the talent is not here. Indonesia needs to get louder about attracting people back, whether overseas Indonesians or expatriates. That means compensation, but also recognition. China's Thousand Talents Program sends an unmistakable signal: we want you, we will pay for you, your work is worth something here.

The demographic window is still open. We have the people. Now, we have to build a system that deserves them.

There is still so much to unpack in Indonesia's human capital story. We will explore it in depth in an upcoming publication by the Danantara Indonesia Investor Relations team, featuring a conversation with Professor Stella Christie, Vice Minister of Higher Education, Science, and Technology.

Look out for it soon on Danantara Indonesia's official LinkedIn page.



Section 4:  
Institutions Capable  
of Connecting  
Everything

## 4.1 The Missing Piece



Photo credit: Pukpik / Unsplash

By the end of our conversations, our coffee had gone cold and the argument had completed itself. We had gone through natural resources. We had gone through human capital. And now we had arrived at the word nobody wanted to say first: institutions.

It is not a glamorous word. It does not trend. It has never been the title of a TED talk that anyone remembers. And yet here we are.

By institutions, we do not mean laws in the abstract sense. Rather, it is the actual architecture that determines whether a country's resources and people ever find each other productively, or whether they simply coexist, which is a different thing entirely.

The clearest way to see this is to look at Vietnam. Compared to Indonesia, it has a smaller economy, fewer natural resources, and fewer people. And yet Samsung, Intel, LG, and a significant portion of Apple's supply chain has moved there.

What Vietnam did was not dramatic. It joined trade frameworks and used them seriously, gaining preferential access to markets where Indonesian goods still face tariffs. It reformed its labor laws. It streamlined investment licensing.

Daron Acemoglu and James A. Robinson spent years trying to answer why some countries compound their advantages while others squander them. Their answer, as outlined in their book *Why Nations Fail*, was institutions. Specifically, whether those institutions distribute opportunity broadly or concentrate it narrowly.

Vietnam's playbook sent one consistent signal: the system is oriented toward making investment work.

Indonesia has never really lacked opportunity. With an economy exceeding US\$1.4 trillion, abundant natural resources, and a young growing population, the country consistently appears at the top of emerging market conversations. The story is always there, clear and easy to explain. It is the one slide we have always had in every deck.

The gap, then, is not a demand problem. A meaningful portion of the investment that landed in Vietnam could plausibly have landed here.

Investors do not just ask whether the opportunity is real. They ask whether the system is on their side. It is a harder thing to manufacture than a tax incentive, and a more important one.

## 4.2 The Five-Year Trap

In building a business, five years is a short period. In building a country, it is barely a sentence.

And yet much of how Indonesia has structured its institutions has been shaped around exactly that horizon. Projects evaluated within a term. Strategies designed to show results before the next election. This is not a criticism so much as an observation about incentive structures, because people, like capital, tend to move toward wherever the clock is ticking.

This is also, incidentally, how most office deadlines work, and why nothing gets done until the day before. We will not comment on whether this also applies to the Investor Relations team.

The problem is that the things which matter most cannot be built that way. Industrial capacity takes time. Human capital takes longer. Technology ecosystems longer still. For most of its modern economic history, Indonesia has not had an investment institution designed to think across generations. Even within the SOE ecosystem, the culture has largely been shaped around medium-term targets and the kind of metrics that present well at an annual general meeting but do not always reflect whether anything structural has actually changed.

Annual general meetings, in this sense, share a quality with school report cards, which is that they are very good at measuring what happened and very quiet about whether any of it mattered.

The countries that broke through were almost always the ones that found a way to separate at least some of their decision-making from the electoral cycle. Not all of it, because that creates its own problems, but enough to allow long-horizon investments to be made without needing to show a return before the next reshuffle.



*Photo credit: Fikri Rasyid / Unsplash*

## 4.3 Skin in the Game

This is where Danantara Indonesia enters the conversation. We, as the Investor Relations team, have tried to be honest about what our institution is, what it is not, and what we are collectively still figuring out. Two out of three felt achievable.

Danantara Indonesia carries a dual mandate: to generate sustainable returns for future generations, and to create meaningful economic impact for Indonesia today. It is an institution explicitly designed to think beyond the term of any single government, which is either unremarkable or quite significant depending on how long one has been watching Indonesian economic policy.

The practical expression of this is straightforward. For every dollar Danantara Indonesia invests, the objective is to bring in an additional three to four dollars through crowd-in capital, private and foreign investors who might not have moved without a credible anchor already in position.

Capital is, at its core, a confidence game. When a credible institution commits, it changes the calculation for everyone watching. It is like a restaurant with a queue outside is more appealing than an identical one without, even before anyone has tasted the food.

Confidence, rational or not, is its own gravitational field.

In institutional terms, however, that confidence ultimately depends more on consistency over time. Capital may arrive because of momentum, but it tends to stay only when institutions demonstrate predictability, coordination, and execution across cycles.

Danantara Indonesia also sits between two sets of people who want different things. Governments want jobs, regional development, tax revenue, and a story that lands before the next election. Investors want returns, predictable rules, and an exit that does not require renegotiation.

Neither is unreasonable. They are simply not naturally aligned. The institution's job is to hold both in the same room long enough for something durable to happen. It requires being fluent enough in both languages, which is easier said than done.

Whether it works will show up in the execution over the next decade.



*Photo credit: Gilbertus Adin / Unsplash*

## 4.4. Predictability is the Product

There was something we discussed with investors that left a lasting impression. Maybe because it happened near the end of our trip. Maybe because it was simply true. We suspect both.

Contrary to what one might expect, it did not involve returns, or sector allocation, or risk-adjusted performance. It was about predictability. That may seem minor compared to the others, until we realize: everything else depends on it.

That brings us to the objective of strong institutions. They are not here to create certainty, but to make the system less arbitrary. That change, however slight, is enough to move capital.

Indonesia has the resources. The human capital is being built. The institutions are the remaining variable, and historically the slowest one to move.

But slow is not the same as stopped. Many have spent long enough watching this country be described in the future tense. A change in direction is not a small thing.

It might, in fact, be the whole point.

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*Photo credit: dsaputrarizky / Unsplash*

# Did You Know?



*A painting of Fort Zeelandia, the VOC's headquarters in Tainan, by Dutch cartographer and watercolorist Johannes Vingboons / Photo credit: The Dutch National Archives*

The Dutch East India Company, or the VOC, spent part of the 1600s trying to take over Macau from the Portuguese, and failed every time. So they settled for the next best thing: Taiwan.

For 38 years, ships from a fort near the southern city of Tainan sailed south through Vietnam and Thailand all the way to Indonesia. They carried goods including silk, sugar, and silver from Ming-era China in exchange for spices from Southeast Asia.

For the VOC, Taiwan was the northern anchor, Indonesia the southern base, and the South China Sea one long Dutch-managed highway.

Then in 1662, a Chinese warlord named Koxinga showed up with 25,000 troops and ended the whole thing in nine months.