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Industrial policy 2.0

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Mary E Lovely US CHIPS Act creates real concerns for Asian exporters

Mari Pangestu and Novia Xu Thwarting Asia's green transition

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From the editors' desk

It's back: the past decade has seen a remarkable resurgence in the popularity of industrial policy in the developed world. Behind this turn to state intervention there are a number of reasons. Most notably, the fragmenting geopolitical environment has led governments to be suspicious of international trade. The political failure in countries like the United States and Australia of first-best, price-based policies to address carbon emissions has encouraged the adoption of second-best industrial policies. Widening inequality, that is now pronounced in developed countries, has been blamed on deindustrialisation, and the solution has been new incentives for manufacturing intended to create jobs

These developments pose major challenges for the global system, which was set up under the assumption that discriminatory industrial policy would fade away, at least in the developed world, and that the World Trade Organization (WTO) would discipline distortionary industrial policies. The long-term implications of the return of large-scale subsidies as a policy tool in the North Atlantic are hard to predict, but, given the paralysis in the WTO, tit-for-tat protectionism and retaliation risk splintering the global economy even further than it has been by US-China rivalry and the war in Ukraine.

In this issue of *East Asia Forum Quarterly*, our authors examine what the new enthusiasm for industrial policy activism means for the global system as well as for economies in Asia. How will industrial policy affect the ability of emerging economies in Asia to break into global value chains in manufacturing? Do measures to encourage domestic processing of raw materials help diversify production, or do they undermine the stable policy environment needed to underwrite green industrialisation? The articles in this issue examine the experience of industrial policy in major economies in the region, like the United States, China, Indonesia and India, as well as the likely impact of new industrial policies in semiconductor manufacturing and renewable energy and electric vehicles. They also take a global view of industrial policy, looking at the effects on smaller economies in the region, what's good and what's bad industrial policy, as well as on the international system of trading rules

In the Asian Review section, we ask what Asia needs to consider as it devises ways of governing the rise of artificial intelligence, what the impact of COVID-19 has been on human capital and whether BRICS can really offer an alternative model of global governance in a new age of geopolitical fragmentation.

Mari Pangestu and Tom Westland

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The export-led model is evolving, not dying

COVER PHOTO: A worker polishes a steel bicycle rim at a factory in Hangzhou, Zhejiang province.
PICTURE: CHINA DAILY VIA REUTERS



Prime Minister Narendra Modi addresses an audience at SemiconIndia 2023, India's annual semiconductor conference, in Gandhinagar, Gujarat (July 2023).

Threat to India and Indonesia's development success

PETER DRYSDALE AND ROJAN JOSHI

GEOPOLITICS is changing the global economic policy landscape. Today's backdrop of strategic competition and conflict has seen the return of industrial policy in advanced countries, driven by a security-based logic mixed with a second-best approach to the energy transition without a price on carbon.

There has been an explosion of

trade interventions, industrial policies and subsidies, exacerbating the threat to the world economy posed by the widespread derogation from global trade rules.

The rise of security-driven economic policy in industrial countries gives licence to atavistic inward-looking policy thinking, infecting the framing of development strategies at a

critical time in countries on the cusp of major developmental breakthroughs like India and Indonesia.

How should developing economies navigate this policy environment, where self-sufficiency and import-substituting strategies are finding potent new favour?

East Asian economies have effected the only significant transformation

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from economic backwardness to advanced economy status in modern times. It's thus wise not to misunderstand the lessons from the East Asian growth miracle, which still hold true today. And developing economies, constrained by their fiscal capacity, should recall the waste and futility of past industrial policies that picked industry champions rather than creating public goods to lay the base for broad-based industrial growth.

Successful East Asian development, based on the historical experience of Japan, South Korea, Taiwan, Singapore, Southeast Asia and China, was founded on trade-oriented growth (anchored in the disciplines of participation in international markets) and deeper integration into the international economy, not retreat from it or reliance on import-substitution. The rapid trade growth enjoyed by these economies was *supply-driven*, built on the expansion of market share in old, established industries, not the expansion of trade in new, high-growth sectors of the global economy. Government investments were directed towards social and economic infrastructure in public goods such as roads and schools, with withdrawal from state involvement in enterprise.

Today, policymakers seem to live in a different age. Domestic events and geopolitical circumstances are visiting the prospect of stagnating growth upon established industrial economies, globalisation appears to have peaked, the international economy has become fragmented and a policy pathology that favours self-sufficiency and import-substituting industrial policy is sweeping around the world.

The trope that a less optimistic outlook for global market growth now recommends that emerging economies turn to inward-looking import-

substitution does not square with the experience of successful industrial growth in Asia.

In an international economic context, development is about drawing abundant labour into more and more productive employment, lifting productivity and national incomes.

Pro-development strategies are thus those that favour export-specialisation in labour-intensive products, drawing large amounts of labour into internationally competitive production and higher productivity employment. With the accumulation of capital, dynamic comparative advantage drives a more technology intensive export trade structure over time. The beneficent corollary of export-oriented development strategies has thus been a distribution of income that commonly favours labour.

THE recent trend towards self-reliance and security has seen countries emphasise the production of high-tech capital-intensive goods from the start. Focusing on these sectors requires skilled labour, in short supply relative to abundant unskilled labour, and expensive government outlays, which come at the cost of providing essential government infrastructure. Failing to create jobs risks an entrenchment of inequality and an unsustainable stretching of public resources if a country grows old before it gets rich.

Successful trade-oriented growth comes from absorbing labour into industries that can capitalise on its abundance and establish international competitiveness. Doing this allows countries to take over others' market shares as comparative advantages evolve, a process underwritten by a policy regime based on the principles of non-discrimination and open markets.

Even in a period of slow growth, the logic of comparative advantage still holds. Import-substituting policies undermine this transition by restricting access to low-cost and high-quality capital and technological inputs, preventing firms from achieving international competitiveness.

The East Asian economic miracle was certainly a messier and more complex story than has sometimes been portrayed in the narrative that describes its main features. In Japan, Northeast Asia, Singapore, China and Southeast Asia, the policy strategies that drove success were fashioned in different institutional and political settings and each had their own distinctive national character. Policy idiosyncrasies, technological context, geographic size and location have all shaped particular national paths and patterns of development across the

region.

But some factors were ubiquitous throughout the East Asian experience. Opening up to competition from foreign markets and embracing international investment were central to rapid growth by enabling access to inputs that facilitated the absorption of abundant domestic labour into productive manufacturing employment. In addition to domestic reforms to support openness, increased mobilisation of state investment—in education, health, transportation, communications networks and supportive industrial infrastructure—a reduction of state shares in economic enterprise and the allocation of capital all typified successful industrial policy across the region.

China was no exception to these principles or to this experience. It has been a central element of it, at scale.

India and Indonesia, two of Asia's most promising candidates for transformative industrialisation over the coming few decades, stand at a critical juncture in their development trajectories. Their youthful populations and recent strong economic performance put them in a demographic sweet spot.

Yet both countries now stand in danger of being caught in the undertow of industrial policy 2.0. The attunement of their development strategies to the principles derived from the East Asian experience would position them better both to fulfil their economic potential and avoid the danger of jobless growth. [EAFQ](#)

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PICTURE: REUTERS / AJENG DINAR ULFIANA

Import-substituting policies undermine this transition by restricting access to low-cost and high-quality capital and technological inputs, preventing firms from achieving international competitiveness



A PT Vale worker walks past batches of nickel subsulfide at a smelter in South Sulawesi province (March 2023).

Industrial policy makes a comeback in East Asia

ARIANTO A PATUNRU

SINCE the World Bank published *The East Asian Miracle* report in 1993, a myriad of studies debating the merits of industrial policy have appeared.

Proponents argue that the success of Hong Kong, South Korea, Singapore and Taiwan was due to selective industrial policies, including trade and protection policy, capital controls and labour market restrictions. Critics argue that the impressive growth of the East Asian ‘tigers’ was, on the contrary, the result of economically

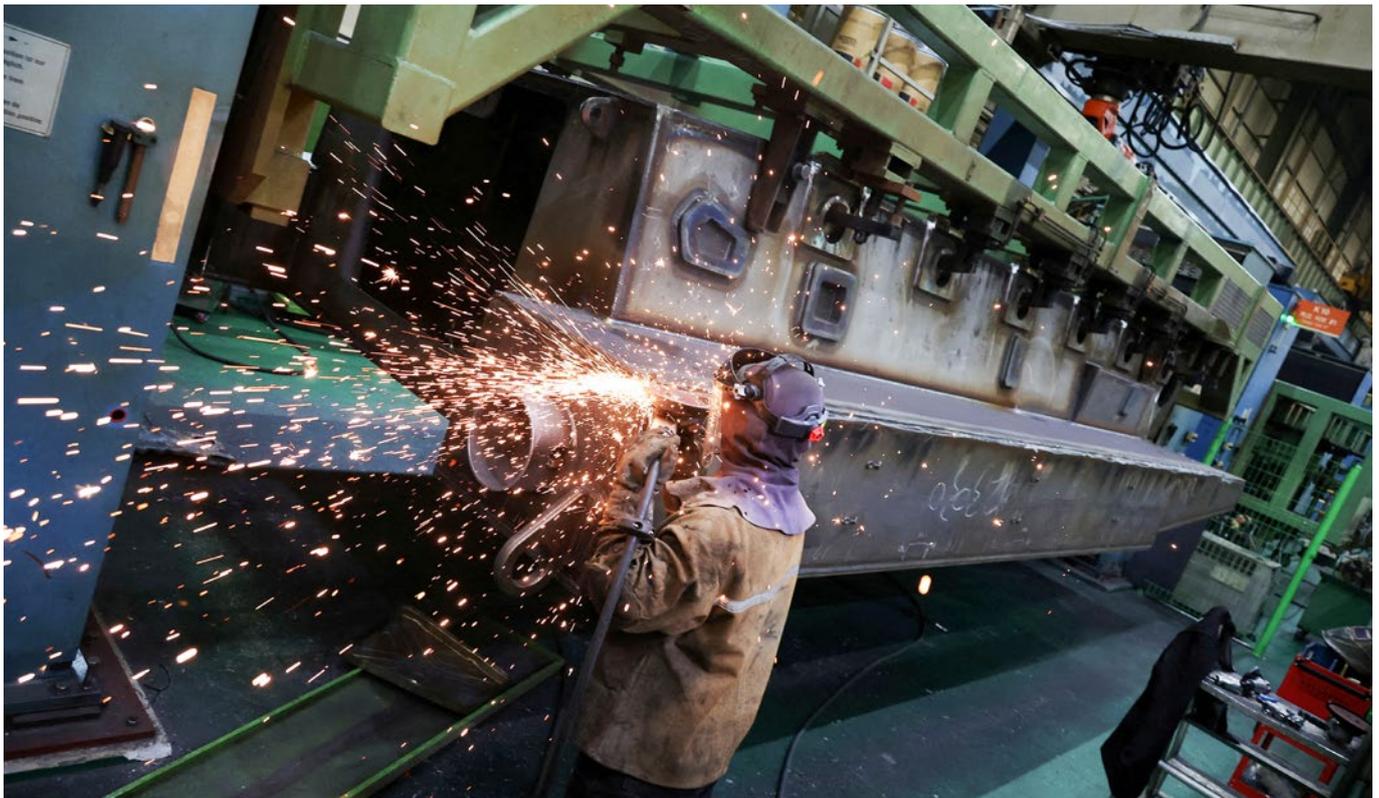
orthodox strategies such as stable macroeconomic management, non-discriminatory and incentive-based export promotion measures, exchange rate stability and commitment to human capital formation.

Now, three decades later, industrial policy seems to have made a comeback. In Indonesia, where slow industrial growth is a concern, President Joko Widodo is promoting an activist industrial policy by pursuing ‘downstreaming’. He has banned exports of nickel ore to

encourage domestic processing and, motivated by a significant increase in the exports of processed nickel, has extended the strategy to bauxite and other minerals as well as resource commodities such as crude palm oil and seaweed.

This strategy is a touchstone of Indonesia’s new 2025–45 National Long-Term Development Plan. In Malaysia, the New Industrial Master Plan 2030 aims to build more competitive industries and ‘advance economic complexity’, and South

PICTURE: REUTERS / KIM HONG-JI



An engineer works on an amphibious assault vehicle at Hanwha Aerospace factory in Changwon, South Korea (March 2023).

Korea and Japan have also tailored their industrial policy to foster their semiconductor industries to compete with China and the United States.

In the past, industrial policies were largely domestically oriented, subsidising the expansion of certain sectors over others. As countries engaged more in international trade, policies were used to affect cross-border flows of goods and services. Industrial and trade policies do not operate in isolation.

Recent industrial policies for commercial purposes take many forms, as opposed to the blunt import tariffs commonly used in the past. The most prominently used strategies at the global level are trade financing, state loans, financial grants, financial assistance to expand foreign markets, local sourcing, loan guarantees and import tariffs. In countries such as Indonesia, Vietnam, Thailand, Malaysia and China, frequently used industrial policies include capital injection and equity stakes, anti-dumping measures, tax or social

East Asia and countries like Indonesia and Malaysia need to find the right balance of industrial and trade policies so they do not lose out on the benefits of participating in global trade

insurance relief, state loans and financial grants.

THERE are several reasons for the resurgence of industrial policy. Economic shocks such as the Global Financial Crisis and the COVID-19 pandemic have increased the appetite for government intervention. Recent US legislation addressing inflation, semiconductor supply chains and employment is a significant driver of industrial policy. This is also the case with the EU's Green Deal Industrial Plan and the Made in China 2025 initiative. Such an embrace of industrial policy by major economic powers has motivated other countries to follow suit.

At the same time, the global trading system has become more fragmented, and the WTO has weakened. Member countries have introduced trade measures that do not legally comply with WTO regulations.

Policymakers' misreading of history has also repopularised industrial policy. The false belief that richer countries were successful because they protected manufacturing gave respectability to arguments favouring industrial policy.

Industrial policy is also tied up in political agendas. In Indonesia, for example, industrial policy is often linked with nationalism and self-sufficiency, objectives which have roots in the country's colonial history. In this regard, Indonesian industrial policy in the form of trade protection is easier, more expedient and politically popular.

Most industrial policies implemented in East Asia are designed to increase domestic value added. At the same time, governments want to establish vertical integration in the global value chain. These two objectives are contradictory—global

Recent industrial policies for commercial purposes take many forms, as opposed to the blunt import tariffs commonly used in the past

value chains involve the slicing up of production processes across borders, which thins out the domestic value added in each process.

The emphasis on the share of domestic value added in exports as a policy criterion is misguided. First, production for export markets requires high-quality inputs procured in the world market to maintain competitiveness. Second, total export earnings are driven by volume rather than per unit of value added. Third, intermediate production is typically capital intensive, while final assembly is labour intensive, so shifting domestic production towards the latter would generate better jobs in countries like Indonesia. Finally, in the case of resource-rich countries, most major producers export large amounts offshore for processing as the domestic demand and processing capacity is far smaller.

There are areas in which industrial policy is justifiable. One is in response to climate change. As environmental problems involve externalities, it is likely that state interventions in this area will increase. The challenge is how to disentangle the objective of mitigating climate externalities from the protection of domestic industries

from foreign competition. The semiconductor and electric vehicle battery industries are examples of this.

As in other parts of the world, it seems that the use of industrial policy in East Asia will remain a factor, if not an increasing issue. This is not necessarily a bad thing. To ensure that the policy is not simply about picking winners, but enhancing the productivity of the overall economy, it should prioritise measures with the least distortion—incentives instead of targets and export taxes instead of export bans.

Complementary policies are also needed. These include labour market, bureaucratic and regulatory reforms. Governments should focus on domestic issues and seek the most appropriate solution, not just copy others. They should also note that many countries have become advanced or are fast developing largely due to globalisation, while many past industrial policies have failed.

East Asia and countries like Indonesia and Malaysia need to find the right balance of industrial and trade policies so they do not lose out on the benefits of participating in global trade. Policymakers should not forget past failures of industrial policy, exemplified by Malaysia's and Indonesia's unsuccessful transition from Japanese and Korean automobile components to domestically produced parts or the government-funded Nihon Aircraft Manufacturing Corporation's failed attempt to commercialise an economically viable domestic civilian airliner in Japan. [EAFQ](#)

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US industrial policy's mixed messages for global innovation

SAMUEL HARDWICK AND
JASON TABARIAS

THOUGH geared mainly at domestic outcomes, the rise of industrial policy in the United States is actively if inadvertently affecting global supply chains, especially in Asia.

To the extent that they shore up investment in the green transition, these policies are globally valuable and needed. Yet they also contain discriminatory measures that are unfavourable to the interests of Asian economies and, arguably, the United States itself.

Among the more searing assessments comes from South Korea's *Hankyoreh* newspaper: 'The US is morphing from a guardian of free trade into a disrupter ... despite being the leader of today's international trade order, [it] is perfectly willing to dispense with those principles when they no longer seem to serve its national interest.'

These comments refer to two particularly controversial laws: the 2022 *Inflation Reduction Act* (IRA) and *CHIPS and Science Act*.

The IRA offers upwards of US\$360 billion in incentives, primarily tax credits, focused on electrification and

climate change-related industries. Embedded in these incentives are extensive local content provisions.

For example, to get a US\$7500 electric vehicle (EV) credit, the EV and most of its battery components must be assembled in North America. The critical minerals in the battery must also be largely sourced or refined domestically or from FTA partners.

While some policies aim to draw economic activity and supply chains away from China, there are both positive and negative impacts for other Asia Pacific economies, such as Australia, Japan, South Korea and Taiwan.

Australia is a critical mineral mining powerhouse and US FTA partner, and that bodes well for its taking advantage of the package, especially in minerals with battery and EV applications. But the picture is more complex for globally integrated Australian firms. Worldwide minerals production and processing often involves China and other nations without US FTAs, excluding them from IRA subsidies. Large capital requirements and long lead times to develop new mines and



EV components are displayed at an annual electric and autonomous vehicle trade show in Taipei (April 2023).

processing plants also limit the US policies' influence.

Japan and South Korea occupy a different place in the EV value chain. Both are major players in anode and cathode materials, behind only China. All three countries are net exporters of batteries and EVs.

When the IRA was announced, Japan did not have a qualifying trade agreement with the United States, raising concerns from Tokyo about the law's impact on Japanese EV component supply. To address these concerns, the United States negotiated a critical minerals agreement with Japan, enabling Japanese firms to benefit from the IRA. Japan also instigated its own legislation and policy for green transformation, which includes government financial support

for decarbonisation largely via green hydrogen initiatives.

The EV tax credits also caused tensions with South Korea, given the requirement in the scheme for North American final assembly. The Biden administration partly allayed concerns by outlining a second track of credits for leased vehicles, which, crucially, lacks requirements on country of origin. This second track will partially offset some of the IRA's trade-diverting effects.

But for globally integrated South Korean EV and battery firms that source raw materials from countries like Argentina and Indonesia, all presently without appropriate trade agreements with the United States, uncertainty remains. Like some global Australian firms, the extent to which

these manufacturers will be eligible for IRA benefits—and the long-term effects on the country's minerals, battery and EV industries—remain unclear.

Taiwan is present throughout

For the rest of the world, the US policies are another step away from leadership of a functional multilateral trading system

the EV supply chain and famous as a chips superpower, though today's EVs require mature-node chips, not the high-end chips in which Taiwan specialises. Perhaps more relevant than the IRA for Taiwan is the *CHIPS Act of 2022*, a division of the much larger *CHIPS and Science Act*. Signed a week before the IRA, it allocates US\$52.7 billion to boost US semiconductor manufacturing. Most of this expenditure is for fabrication facilities with US\$11 billion for chip research and development (R&D).

THERE are limits to how much semiconductor, battery or EV production can be shifted from East Asia. The key factor is the divergence in the costs of labour, land, regulatory compliance and construction. According to TSMC's Vice-President and Chief Financial Officer Wendell Huang, construction costs for US manufacturing plants are 'four to five times greater' than an equivalent in Taiwan.

CHIPS Act subsidies are still smaller than reported Taiwanese,

South Korean and Chinese support programs. Even IRA-scale financial incentives will not be enough to reorient supply chains in which China, or any country, has overwhelming advantages. Subsidies shift decisions at the margins, but some facilities will remain too expensive or the lead times too long to set up domestically.

Many aspects of these US efforts have merit, not least the significant investment in R&D and infrastructure to address the climate crisis.

The trouble with policies like the IRA and CHIPS Act, however, is not that they use subsidies to hasten technological development. It is the costs and risks that come with preferences for domestic tradeable goods over their cheaper or superior foreign equivalents.

For the United States, these preferences mean less bang for buck when it comes to the core objectives of national security and fighting climate change, especially over the medium to long term. Achieving these objectives will become even costlier if other countries follow suit with similar

provisions.

For the rest of the world, the US policies are another step away from leadership of a functional multilateral trading system. This system could be indispensable in building a greener global economy. But in a more inward-looking world, the most effective technology and knowhow for reducing emissions will take much longer to spread.

There are better ways to achieve US goals. But with a potential second Trump presidency looming, are these politically realistic? The value of US industrial policies depends on how we view their flaws—as strategic blunders or unfortunate but necessary compromises. **EAFQ**

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US CHIPS Act creates real concerns for Asian exporters

PICTURE: REUTERS / JONATHAN ERNST



US President Joe Biden visits a semiconductor factory at Samsung's Pyeongtaek complex (May 2022).

MARY E LOVELY

EVEN as they share similar concerns about economic security and resilience, America's trading partners in Asia wonder what Washington's new embrace of industrial policy means for their own development.

With deep government pockets, a large domestic market and potent research and development capabilities, the United States has the economic power to capture a significant share

of global investment in targeted industrial sectors. The US turn towards protectionism and its desire to shift trade to 'like-minded' friends raise fears that the US market will be closed to Asian exports unless US demands for common standards and supply chain configurations are met.

The *CHIPS and Science Act*, passed by the US Congress in 2022, illustrates Washington's 'reshoring' intentions and their implications for

trading partners. The act is designed to 'bring back' domestic semiconductor manufacturing that is presently concentrated in Asia by offering a menu of subsidies, tax credits and domestic content rules that promote onshore research, development and manufacturing. Bipartisan support for the funding comes from the centrality of semiconductors to civilian and military technology and concerns over the geopolitical vulnerability caused

This high level of intervention in the industry raises the spectre of a coming glut of semiconductors and falling world prices ...

by fabrication that has moved to mainland China and Taiwan.

The CHIPS Act subsidises onshore investment in semiconductor fabrication, promising US\$39 billion of manufacturing incentives on top of 25 per cent investment tax credits. These incentives seem to already be attracting the major semiconductor fabricators and their suppliers to invest in the United States.

According to the Semiconductor Industry Association, from the CHIPS Act's introduction in 2020 to June 2023, 67 new projects and expansions of existing US facilities were announced in research and development, intellectual property, chip design, semiconductor fabrication and manufacturing equipment, supplies and materials. This new activity contrasts with the steady decline in the US share of global semiconductor manufacturing, which fell from 19 per cent in 2000 to only 12 per cent in 2020.

Assessing how many of these projects have been attracted to the United States because of CHIPS Act subsidies is difficult. The allocation of these funds has not occurred yet and some of these investments might

have been made regardless. But US export controls on advanced chips and the equipment and supplies needed to produce them have undoubtedly affected decisions within the industry because they limit the materials that can be sent to China for manufacturing.

The CHIPS Act explicitly pulls investment from global semiconductor companies to the United States, raising fears that US industrial subsidies will hollow out tech industries in other regions. East and Southeast Asia is home to 10 of the 16 semiconductor exporters and the top six suppliers, accounting for 84 per cent of global exports in 2021.

WHILE US subsidies are clearly a response to this regional concentration, expanding production capacity in the United States will affect the markets that these exporters now serve. On the one hand, US chip-related activities may reduce US chip imports from some Asian suppliers. But they may also expand trade in materials, equipment and more labour-intensive activities, such as testing and packaging.

How the industry and the market for Asian semiconductor-related exporters evolve in the future also depends on the actions of other countries. In response to the CHIPS Act, the EU, Taiwan, Japan and South Korea have initiated or extended subsidy programs of their own.

In 2022 the EU launched the *European Chips Act* to ease government funding rules for semiconductor plants. In August 2023 TSMC announced plans to build a US\$11 billion chip manufacturing plant in Germany, in a deal that reportedly includes up to US\$5.5 billion in government subsidies. The United Kingdom also announced

a 20-year strategy for its domestic semiconductor industry, recognising its inability to compete with massive US and EU subsidies and focusing on areas where it already has competencies.

This high level of intervention in the industry raises the spectre of a coming glut of semiconductors and falling world prices, even as the cost of production by new players is expected to exceed those in more established locations. If such a scenario plays out, governments will be tempted to protect subsidised manufacturers behind import tariffs or offer customer subsidies conditioned on domestic content requirements.

The US turn to such restrictions is evident in the *Inflation Reduction Act*, passed in August 2022, which provides subsidies to purchasers of electric vehicles assembled in the United States. The threat to Asian suppliers is clear if the subsidy race blocks semiconductor export markets and lowers world prices.

Another concern for Asian

Even if the United States completely removes China from the supply chains that serve domestic chip manufacturers, it will still rely on imports of legacy chips from foreign partners

suppliers may arise from US demands to reduce Chinese involvement in supply chains. To date, Washington has not made such demands directly, but the CHIPS Act's investment tax credits are contingent on recipients refraining from significant new investments in manufacturing facilities in China. This indicates that the United States intends to reduce links to the Chinese industry.

The implications of such ambitions are unclear. Silicon is produced by a handful of countries, but the largest supplier by far is China. Pressure

to find alternative sources will be a problem throughout the industry. Even if the United States completely removes China from the supply chains that serve domestic chip manufacturers, it will still rely on imports of legacy chips from foreign partners.

Through ongoing consultations, facilitated in part by the Indo-Pacific Economic Framework's new Supply Chain Council, Asian exporters may be able to moderate negative spillovers from the emerging semiconductor subsidy race and open up space for

their participation in the expanding US industry. The Council, envisioned to meet at least annually, is tasked with exploring options to diversify concentrated supply sources for sectors and goods of shared interest. Member countries could work to avoid duplication, maintain open trade among members and gradually modify critical material sourcing. [EAFQ](#)

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WINNERS OR LOSERS

China's industrial policy

GUANGWEI LI

CHINA'S industrial policy has drawn global attention, sparking different reactions from developed and developing nations. Developed countries tend to perceive China's industrial policies as a threat to their firms' competitive positions, leading them to respond with their own industrial policies. Many developing countries view China's policy as a blueprint for economic success, inspiring them to adopt similar policies in the hope of achieving rapid economic growth.

From both perspectives, though, there's a consistent underlying assumption—acceptance of the significant role of industrial policy in China's economic success.

The history of Chinese industrial policies, however, offers valuable insights. Initially, Chinese industry

operated under a state-centred, 'pure' Soviet-style planned economy, where industrial policies in the usual sense did not exist. Instead, economic directives were authoritative commands. It was only during the reform and opening-up era of the late 1970s and 1980s that industrial policies emerged as essential tools for economic management. During this time, China drew inspiration from Japan's remarkable post-war economic achievements. It considered Tokyo's proactive intervention through industrial policies the key factor behind the much-acclaimed 'Japanese miracle.'

The influence of the Soviet-style planned economy and Japanese industrial policies on China have been profound. China began with an economic management system

marked by absolute government control. Beijing made decisions about the production, pricing and the distribution of goods within and across industries, effectively sidelining market mechanisms. In this context, as China chose a new development

There is a growing gap between the Chinese government's industrial policy ambitions and its capacity to realise them

path, it possessed the ‘advantage of backwardness’.

Any industrial policy implemented during this period, even if it appeared heavy-handed from a ‘pure’ market economy standpoint, could be seen as a step towards economic liberalisation. In an era when the Chinese economy faced severe shortages of capital, technology and skilled managers, the continuous regulation of the flow of inputs across sectors did not significantly hinder growth.

While China focused on catching up with developed nations, Japan’s industrial policies served as valuable guides. China could refine its policies by adapting successful Japanese industrial policies and discarding ineffective ones.

Then the trajectory of Chinese industrial policy underwent a significant transformation in 2006 with the introduction of the Outline of National Medium- and Long-term Program for Science and Technology Development. This was the first official endorsement of domestic innovation,

While research has raised doubts about the efficacy of China’s innovation-focused industrial policies, the influence of these policies on other economies in the region is ambiguous

reflecting China’s ambition to propel its firms towards achieving cutting-edge technological capabilities.

The outline itself was not an industrial policy, but a national strategy that guided subsequent industrial policies for innovation-driven development and technological self-sufficiency, including, later, the Made in China 2025 initiative.

Promoting innovation-driven growth became an imperative for China. While the readily attainable benefits of microeconomic liberalisation were realised between the 1980s and early 2000s, China now grapples with challenges such as an ageing population, a declining workforce, diminishing returns on investment and decreasing productivity. Faced with these obstacles, it has no choice but to shift its economic focus towards innovation-driven growth. That said, industrial policy might not be the most effective approach to achieving the transformation that is now desired.

THERE is a growing gap between the Chinese government’s industrial policy ambitions and its capacity to realise them. As the technological objectives of China’s industrial policy have expanded, so has the challenge of precisely targeting directions and measuring outcomes. This complexity has also widened the scope for opportunistic behaviour by firms and local governments.

A 2023 study on quantity-based subsidies under heterogenous innovations developed a Schumpeterian growth model analysing the direct relationship between China’s industrial policy and its impact on economic growth. The study focused the trade-off among innovating firms between radical and incremental innovations when faced

... the trajectory of Chinese industrial policy underwent a significant transformation in 2006 with the introduction of the Outline of National Medium- and Long-term Program for Science and Technology Development

with industrial policies. The study separated the aggregate impact of government subsidies into quantity and quality channels.

Utilising Chinese firm-level data from the early 2010s, the analysis revealed that the negative effects of the quality channel dominate the positive effects of the quantity channel. During this period, innovation subsidies based on quantity reduced the total factor productivity (TFP) growth rate and welfare by 0.19 percentage points and 3.31 per cent, respectively. This evidence suggests that China’s innovation-driven industrial policy may sometimes actually impede economic growth.

Other empirical evidence corroborates the reported negative impacts of industrial policy on TFP growth. An investigation into the relationship between government subsidies and TFP for Chinese listed firms suggests there is limited evidence that the Chinese government ‘picks

winners.' The predicted productivity of firms is, rather, negatively correlated with the subsidies they receive from government. Subsidies also appeared to have a negative impact on firms' ex-post productivity growth between 2007 and 2018.

A related study for the *National Bureau of Economic Research Working Paper Series* examines the impact of the Made in China 2025 policy initiative on subsidies received, research and development expenditure, patenting, productivity and profitability of Chinese listed firms. The study found that while more innovation-promoting subsidies seemed to flow to listed firms targeted by the policy and these firms subsequently exhibited an increase in

research and development intensity, there was little statistical evidence of improvement in productivity, patenting and profitability.

While research has raised doubts about the efficacy of China's innovation-focused industrial policies, the influence of these policies on other economies in the region is ambiguous. Some researchers have demonstrated that industrial policies targeting upstream industries with strong spillover effects can benefit downstream industries. This suggests that, theoretically, Chinese industrial policy could aid foreign industries that are downstream of China's targeted industries within the same supply-chain network.

This conjecture is complicated by

findings that indicate that government subsidies in China have a positive direct effect on the productivity of subsidised firms but exert a negative indirect effect on non-subsidised firms operating within the same cluster. The negative indirect effect tends to dominate, revealing the uncomfortable reality of industrial policy—that benefits for one industry or firm might come at the expense of another. These negative spillovers might even extend across borders. [EAFQ](#)

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PICTURE: CFOTO / SIPA USA



Workers prepare grain for fermentation at a wine distillery in Suqian, Jiangsu province (October 2023).

Concentration, localisation and exclusion in Asian AI governance

JACOB TAYLOR

AMID spiralling environmental, economic and geopolitical woes in 2023, the arrival of generative artificial intelligence (AI) to consumers—through applications such as ChatGPT—captured the world’s imagination. Hopes have been raised that frontier AI systems could reshape the global economy while also addressing key societal challenges such as extreme poverty alleviation, low-carbon energy transitions and biodiversity conservation.

Generative AI has also been met with alarm from technical experts, with its unprecedentedly rapid development cycles and extreme requirements for training data, computational infrastructure and energy usage. Policymakers are concerned about the outsized control of these elements by non-state actors and the impact of AI systems across national borders.

Most AI experts agree that the world needs to work together to

‘promote the best and prevent the worst’. But with China announcing its own Global AI Governance Initiative just two weeks before the UK-hosted global summit on AI safety and one day after the United States further tightened export controls over advanced computing chips, the strength of the world’s multilateral commitment to develop trustworthy, inclusive, and environmentally sustainable AI systems is an open question.

PICTURE: REUTERS



AI robots perform at the World Artificial Intelligence Conference in Shanghai (July 2023).

Regional coordination of AI governance is nowhere more crucial than in Asia. With Asia facing one of the worst economic outlooks in half a century, the key to inclusive and sustainable growth will be reforming the service sector to harness the digital revolution, including through the development of advanced AI systems. Such reform could help grow economic output by US\$1 trillion by 2030 in Southeast Asia alone. Asia's economic dynamism and security hinge on rules-based agreements and shared norms that sustain engagement and interoperability between diverse national systems.

But effective regional AI governance faces fundamental challenges. The concentration of power over AI inputs by the United States, China and a handful of their technology infrastructure firms creates biases, vulnerabilities and inequalities in AI systems. Governments are incentivised towards localisation and protection of key digital assets needed for AI systems and the region's most vulnerable populations are systematically excluded from AI's benefits. The huge variation in national-level perspectives and capabilities for dealing with these challenges increases the degree of difficulty—and raises the stakes—of finding common ground.

The good news is that the region already possesses many of the raw ingredients required to shape an effective regional framework for AI governance—and one that can have a positive global impact.

The economic and strategic incentives for regional cooperation on AI governance are high for all nations. Coordinated arrangements can help mitigate the most acute risks of geostrategic competition between the United States and China while

reducing the need for the region's middle powers to choose sides in this rivalry.

There is more scope for collaboration based on countries' stated principles and priorities for AI than is often recognised, with most key players—including the United States and China—aspiring to develop AI systems that are safe, secure, inclusive and sustainable.

The region also contains a wide variety of digital policy tools and industry engagement strategies that can be updated and flexibly deployed to meet the evolving demands of generative AI systems. When it comes to dealing with the early and uncertain terrain of AI governance, heterogeneity of policy approaches can be a strength.

The critical task is to figure out how to leverage these ingredients to build dynamic and effective arrangements at the regional level.

COLLECTIVELY confronting three questions that probe at core issues related to governing AI in the region can help governments, technical experts, technology companies, small- and medium-sized enterprises (SMEs) and citizens to find common ground for regional AI governance.

The first of these questions is how the region can address the concentration of power over key inputs to AI systems. A handful of US and Chinese technology infrastructure companies enjoy near-monopolistic power over almost all of the key inputs required to develop frontier AI systems. Some companies were largely unimpeded by national-level regulation in the first wave of market consolidation of the consumer internet between 2003 and 2017. A small club of technology firms in each

country—Amazon, Apple, Google, Meta and Microsoft in the United States and Alibaba, Baidu and Tencent in China—managed to vertically integrate data collection and cloud computing infrastructures with the talent, research and development expertise required to build AI systems to personalise and improve digital products and services.

No one knows if or exactly how the AI models that power applications like ChatGPT might transform technologies and societies. But the impressive early performance of large language models (LLMs) on a range of industry-relevant tasks shows that LLMs could become the foundational infrastructure upon which business models and AI applications will come to rely. Until now, LLMs have largely been trained using publicly available data. Future iterations will likely learn and improve through direct and indirect interactions with increasingly information-rich industrial and public contexts.

The issue is that large-scale LLMs rely on one specific technical approach to building AI systems grounded in data and computation-intensive machine learning that only the most well-resourced technology companies are able to maintain.

Hopes have been raised that frontier AI systems could reshape the global economy while also addressing key societal challenges ...

Massive cross-investments by technology infrastructure firms into generative AI—the most recent and notable examples being Microsoft’s US\$10 billion investment in OpenAI and Amazon’s US\$4.2 billion investment in Anthropic—signal further consolidation of technology infrastructure firms’ power over the ‘full stack’ of inputs needed to build AI.

This scenario signals a worrying ‘winner takes most’ environment for AI in the region. Leaders in AI system development disproportionately benefit from the learning effects and capital that accrue from their leadership, further concentrating rather than dispersing the power and benefits derived from AI systems. The AI Now Institute estimates that OpenAI’s frontier GPT-4 model is over 100 times more expensive to develop and run than its immediate predecessor (GPT-3.5), making it difficult for new entrants to compete and public actors to ensure transparency and accountability around the potential biases, inequities and environmental impacts of these systems.

In this context, governments, capital providers, SMEs and citizens in the region need to invest in developing AI systems that reduce, rather than entrench, power over key AI inputs.

Governments can coordinate strategies that directly counterbalance concentration of power over data, computational resources and talent in AI systems. Key to this will be promoting new paradigms of data ownership and valuation that increase participation and equity in AI systems, including experimentation with data cooperatives, data trusts and data unions. Capital providers can invest collaboratively in the development of ‘edge computing and edge AI’—a

decentralised paradigm of data processing and computation—to support the development of SME- and community-driven AI systems while reducing reliance on large-scale proprietary AI models and centralised cloud computing infrastructure.

Regional coordination of the tools needed for public third-party oversight of emerging AI systems can lower the increasingly prohibitive costs of regulating AI at the national level. Existing national policy tools such as China’s compulsory algorithm registry and safety tests may offer starting points for a dynamic and iterative regional approach that puts the burden of responsibility on technology firms. A proposed global regulatory sandbox initiative could begin in Asia by connecting national AI centres of excellence and AI observatories to promote convergence on regulatory mechanisms and help improve the capacities of nations with less developed AI strategies and competencies.

Governments and civil society must also ensure that partnerships with technology firms help to increase—rather than reduce—the capacity of governments, small businesses and citizens to participate in AI systems. Singapore’s AI Verify Foundation, an

Despite the negative impacts of localisation, Asia Pacific countries have developed AI systems policies aimed at localising key assets

initiative through which technology companies co-develop AI compliance mechanisms with government agencies, is an encouraging example of a public–private partnership that helps grow and democratise the technical and governance capacity of government agencies and SMEs.

A SECOND question that arises from governing AI in Asia lies in how to address regional tendencies towards localisation of AI assets. With power over inputs to AI systems and their digital building blocks so heavily concentrated within a ‘winner takes most’ system, it is unsurprising that governments across the Asia Pacific are seeking to protect and localise their digital assets in the interests of citizen safety and national security. Localisation results in rules and regulations that restrict the flow of data, hardware, investments and talent across national borders.

But these measures have their own direct and indirect negative impacts on the development of AI systems for the region. Localisation reduces access to training data and starves innovation ecosystems. It also risks fragmentation of safety and cybersecurity mechanisms and undermines the dynamism and efficiency of the digital economic activity that underpins AI systems.

The logic of localisation might stack up for larger countries that possess mature ecosystems for the development and deployment of AI systems. But smaller and poorer countries across the region with the least access to data, computational capacity and talent will be left with fewer options to participate in the industry.

Despite the negative impacts of localisation, Asia Pacific countries have developed AI systems policies

aimed at localising key assets. National data localisation policies enacted by China in 2017, the United States in 2018 and India in 2013 typically use national security and personal privacy as core motivations for restrictions.

Smaller nations such as Vietnam, Indonesia and Malaysia have adopted similar data localisation policies. Inked in 2020, the Regional Comprehensive Economic Partnership (RCEP), the world's largest regional trade agreement, mirrors this trend towards digital localisation, with its chapter on e-commerce allowing data localisation carve-outs on national security grounds.

The United States has taken an even more active approach to protecting key assets needed to develop AI systems. Investments in onshore production of graphics processing units (GPUs) and AI innovation ecosystems, coupled with export controls targeting high-end GPUs sold to China, signal that the United States intends to fully leverage localisation to maintain and extend the lead of its technology companies over frontier AI systems. Absent a robust regional framework that builds trust in national-level data protection and cross-border data flows, it will be difficult for potential AI competitors such as China, India

and Indonesia not to respond in kind.

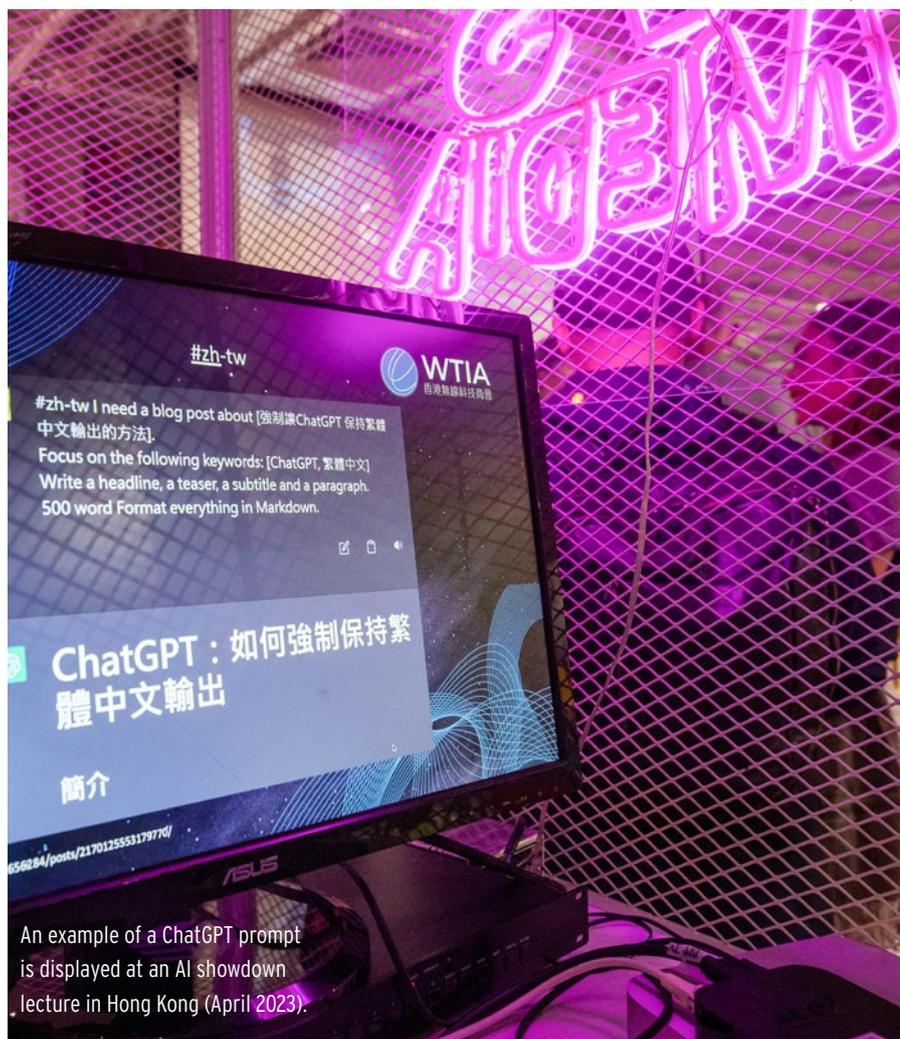
Counterbalancing tendencies towards localisation of AI assets requires a three-pronged approach—strengthening cross-border flows of digital assets, examining national security exemptions in trade agreements and increasing public and private support for regional AI applications.

Doubling efforts to strengthen and increase cross-border flows of AI-relevant digital assets can help build trust to foster a regional AI ecosystem. This can be done by updating existing bilateral and multilateral data-sharing agreements. Multilateral frameworks such as the Japan-led Data Free Flow with Trust and APEC's cross-border privacy rules can also be updated to specify AI. Formation of a regional body on interdependent standards, modelled on analogous Independent Trust Agents in finance, can ensure that liberalisation of cross-border data flows does not compromise algorithmic accountability and risk management standards.

Critically examining national security exemptions in multilateral trade rules and agreements can help distinguish which AI-relevant assets must be localised versus which AI assets could be liberalised. The World Trade Organization's joint initiative on e-commerce, chaired by Australia, Japan, and Singapore, is a key forum in which Asia Pacific nations can push for momentum. There is also an opportunity for RCEP signatories to revisit the national security exemptions for e-commerce in consultation with India following the 2022 amendment of its data localisation laws.

Regulatory efforts can be coupled with increased public and private support for regional AI applications to address global sustainable

PICTURE: EYEPRESS / ALAN SIU



An example of a ChatGPT prompt is displayed at an AI showdown lecture in Hong Kong (April 2023).

In practice, regional AI governance will need to move as fast as the evolving technology landscape

development challenges such as a regional pandemic preparedness system or a regional ocean monitoring system. There is often no better way to build trust between countries than by building things together. To do this, governments and technology firms need to bolster support for regional research and innovation, infrastructure and capabilities.

A FINAL question remains over how to address the exclusion of vulnerable populations in Asia from the benefits of AI systems. The combination of concentrated power over AI inputs and tendencies towards the localisation of AI assets poses grave risks for the region's most vulnerable populations. The stark disparity in AI readiness and resilience across the region—between rich and poor nations and between advantaged and disadvantaged populations within nations—threatens to turn the region's digital divides into 'algorithmic divides'.

With its young and digitally literate populations, Southeast Asia is often the subject of optimism about digital economic development. But a closer look at Southeast Asia's AI readiness reveals several challenges. For instance, while broadband connectivity has increased across ASEAN nations in recent years, an estimated 61 per

cent of ASEAN's population still does not use the internet despite living within range of internet access—the largest usage gap in the world.

While most Southeast Asian populations may be in a good position to be consumers of AI products and services, comparatively weak government and industry AI readiness across the region means that these same populations are less well-placed to participate in and benefit from AI systems. Several countries across the Asia Pacific still lack adequate data protection laws and national AI strategies. Indigenous and rural populations in addition to women are most at risk of experiencing data-driven biases and exploitation of personal digital rights.

Concerted regional initiatives can help address the structural exclusion of vulnerable populations from agency, participation and representation within AI systems.

At the regulatory level, drafting and consultation continues for ASEAN's AI guide in the leadup to the 2024 ASEAN Digital Ministers' Meeting. This presents an opportunity for the region's regulatory leaders like Australia, China, Japan and Singapore to work with ASEAN and Pacific island nations to strengthen digital economy regulations and AI strategies. SME financing and digital capacity building will be key to creating incentives and assurances to support the equitable participation of vulnerable populations in regional AI ecosystems.

Donors and development practitioners in the region can support locally-led and locally-owned efforts to increase citizen participation in AI systems, engagement with digital governance and awareness around digital rights.

A regional forum dedicated to

decolonising AI, building upon efforts like the Indigenous Protocol and Artificial Intelligence Working Group, could help draw attention to the harms of systematic exclusion from AI systems. This forum could also be used to celebrate the value that place-based and holistic Indigenous thinking can contribute to developing community-centric, humane and environmentally sustainable AI systems.

There are no easy answers to questions of concentration, localisation and exclusion in AI systems. But collectively committing to frank discussion of these core challenges will help surface shared ambitions among the diversity of perspectives and priorities represented in the region.

In keeping with Asia's rich history of international trade as a path to shared prosperity and security, coordinated AI governance in Asia should create incentives for SMEs and communities to participate in, and actively steward, AI systems while increasing transparency and accountability around the social and environmental risks of AI.

In practice, regional AI governance will need to move as fast as the evolving technology landscape. This means governments, policymakers and experts will need to embrace collaboration within dynamic and evolving institutions, multi-stakeholder teams and real-time decision making systems. South Korea's hosting of the next global AI safety summit in the first half of 2024 is a real chance for key players in Asia to dive into the realisation of these arrangements. **EAFO**

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President Luiz Inacio Lula da Silva, President Xi Jinping, President Cyril Ramaphosa, Prime Minister Narendra Modi and Russia's Foreign Minister Sergei Lavrov pose for a BRICS family photo during the 2023 BRICS Summit in Johannesburg, South Africa (August 2023).

BRICS and questions about the global order

MIHAELA PAPA AND
RAVI SHANKAR CHATURVEDI

AFTER the landmark 15th BRICS Summit in August 2023, foreign policy analysts raised concerns that BRICS—a grouping of Brazil, Russia, India, China and South Africa—may be seeking to construct an alternate world order and upend Western-led global governance. While the global landscape seems to be characterised by

growing polarisation and multilateral gridlock, they wonder whether BRICS is seeking—or is poised to provide—an alternative global governance model.

This is pertinent considering the growing dissatisfaction among BRICS members with the current world order and their efforts to develop initiatives to change it. Before the 2023 BRICS

Summit, 40 countries expressed interest in joining the group, 23 formally applied, and BRICS invited six of them to join in January 2024—Argentina, Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates (UAE).

The expansion of BRICS prompts speculation about the direction of

The ideas underpinning BRICS' dissatisfaction with the current order are not new

the group's mobilisation and possible alternatives to the current global system. If the group manages to reach a consensus on key policy issues, it might exert significant pressure to change the system from within, but it could also use its political and economic power to create a new, potentially parallel system of governance. The group's future is uncertain, but what does its past tell us about its pursuit of alternatives to the status quo?

Policy discussions about 'alternatives' are notoriously ambiguous, but we can identify four ways in which BRICS is or aspires to be an alternative governance model to the status quo. These include BRICS itself as a governance model, its institutions, discourses and its monetary pursuits.

The ideas underpinning BRICS' dissatisfaction with the current order are not new. Fifty years ago, the New International Economic Order emerged as the collective project of developing countries to transform the United Nations System and better manage the world economy. But it failed to meet its stated ambitions.

In 1997, China and Russia declared their commitment to coordinating their policies to achieve multipolarity, and some of their ideas still linger. Six years later, India, Brazil, and

South Africa launched the IBSA (India, Brazil, South Africa) Dialogue Forum to pursue a greater global voice, better representation in global institutions, and enhanced South–South cooperation. But its institutional evolution has stumbled and its efforts to reform the UN Security Council have faced challenges.

Sustaining and expanding a large coalition to challenge the status quo is demanding work. Yet by combining the Sino–Russian multipolar intent and the IBSA group's South–South technical cooperation approach, the BRICS group managed to thrive as a new type of multilateral institution. Waning enthusiasm for American unipolarity following the global war on terrorism and weakened trust in the Western-led financial system after the global financial crisis created fertile grounds for BRICS countries to coalesce and cooperate. Doubling down on their collaboration, BRICS countries have invested significant funds into their New Development Bank (NDB), which reinforced their commitment to reshaping global development and bolstered their overall cooperation. The group's internal processes have enabled it to continue bringing highly diverse countries together, further deepening policy coordination.

BRICS has focused on strengthening multilateralism and improving the UN System since its launch. The original group of four countries—BRIC—came together on the sidelines of the UN General Assembly in 2006. Its early initiatives included efforts to create a more robust process of selecting World Bank and IMF leadership. The BRICS group's engagement with a range of UN specialised agencies, such as the United Nations Industrial

Development Organization and the NDB's cooperation with the United Nations Food and Agriculture Organization, deepened their collaboration with and within the global system.

The idea of a parallel order gained prominence as BRICS started institutionalising cooperation. The NDB and the Contingent Reserve Arrangement (CRA) have been frequently discussed as alternatives to traditional Western-dominated financial institutions. With the NDB often portrayed as the 'mini-World Bank' and CRA as the 'mini-IMF', the two institutions could potentially take on a life of their own. But in the world of development banks, where infrastructure needs overwhelm what the current system can offer, an additional development bank is an opportunity to help close the infrastructure gap. The NDB does so by cooperating with other banks. Similarly, the CRA is by no means a substitute for the IMF given that it depends on IMF mechanisms for full deployment.

If BRICS really wanted to shift its investments to these alternative institutions, one would see a decline in engagement with the prevailing economic and financial infrastructure. Instead, BRICS members have shown an eagerness to reform the Bretton

The rise of BRICS countries ... has relied on the extant international architecture

Probably its most concrete and widely discussed goal for alternative governance goal is the BRICS group's effort to reduce the use of the US dollar in international transactions and global reserves

Woods system through continued participation in these institutions.

Yet the very creation of BRICS-led institutions increases the bloc's cohesion and bargaining power, which it can leverage to reform the system. At the same time, these institutions are also the building blocks—or bricks—for non-Western infrastructure that can take on lives of their own and pave the way for a new system.

IN TERMS of discourses, BRICS has argued for a more multipolar and democratic order, emphasising the imperative for diversified global leadership and greater plurality of ideas. This pursuit may result in the reduced representation of Western ideas and leaders in global decision-making.

Recently, some BRICS officials have been more explicit in their criticism of the current system and its leadership. Anil Sooklal, South Africa's ambassador to BRICS, compared the

current system to apartheid. The group also embraced Iran as one of its new members, which sees BRICS as a new political front to challenge the United States.

BRICS does not have an aligned discourse on the evolving global security environment. Major divisions persist in the countries' individual responses to the ongoing Russia–Ukraine and Israel– Hamas conflicts. BRICS was clear about some actions it condemns—such as the unilateral use of sanctions—but it falls severely short of providing a vision of a workable collective security governance built on respect for sovereignty and international law.

While the West may not support the BRICS vision for the global system and is internally divided on many issues, it has a clear stake in reforming the system to increase its effectiveness and the delivery of global public goods in a new geoeconomic environment. But there is a major difference between reimagining global governance and creating a better system through joint problem-solving, as opposed to pursuing a zero-sum competitive bargaining process.

Confrontational discourses risk undermining areas of convergence among major powers. Our Rising Power Alliances project examined BRICS cooperation between 2009 and 2021 and how it relates to US policy priorities. While the project found deepening convergence among BRICS members overall and in a few areas strategically relevant for the United States, the findings demonstrated limited divergence between the joint policies of BRICS and those of the United States on a wide range of issues. With geopolitical tensions already constraining efforts to build on the areas of convergence and use diversity as a strength, an emerging

challenge is how to find a bargaining space and improve communication when leaders do not even attend the same events.

Probably its most concrete and widely discussed goal for alternative governance is the BRICS group's effort to reduce the use of the US dollar in international transactions and global reserves. In our study of BRICS de-dollarisation initiatives we found that transitioning to local currencies has been an important item on the BRICS agenda since the group's establishment. BRICS members have sought to bolster the utilisation of their respective currencies as a response to sanctions and currency-related vulnerabilities. However, so far, these endeavours have primarily resulted in bilateral agreements, including in the realm of energy transactions.

While there has been a gradual decline in the dollar's share of global reserves—some of which is attributable to BRICS national currencies, mainly the yuan—the level of trust in these currencies remains low and their global use is limited. The most vocal champion of alternatives to dependence on the US dollar has been Russia, which has been forced by sanctions to pursue non-Western payment mechanisms and partners.

The addition of three petrostates to BRICS—Saudi Arabia, the UAE and Iran—marks an increased commitment to de-dollarise intra-bloc flows. The expanded bloc now accounts for over a third of global oil production and consumption, bolstering the prospects for settling energy payments in local currencies and reducing the group's reliance on the US dollar.

Moving away from the dollar has been difficult to realise in practice. Although the NDB welcomed the use of local currencies in its operations

when it was launched a decade ago, the share of funding it raises in non-dollar currencies is now less than 20 per cent. Similarly, the controversy surrounding the inclusion or exclusion of a BRICS currency on the 2023 BRICS Summit agenda revealed the extent of the disconnect among BRICS members on the future direction of their monetary cooperation.

Overall, this analysis of these four ‘alternatives’ to the status quo suggests that BRICS members are not advocating a separate system of governance. They exist in a symbiotic relationship with the Western-led system of global governance—their development is contingent upon it, and they seem committed to operating within its framework.

This is partially a result of path dependence but also an indicator that the system has benefited them. The rise of BRICS countries, including significant reductions in absolute poverty through economic growth in China and India, has relied on the extant international architecture. Like principled dissenters in a big-tent political party, the expanded BRICS group is poised to persist in both aligning with the existing system and advocating for specific changes. As it does, the question remains whether

An enlarged BRICS will need to reach a consensus on its priorities and how and where to deploy its bargaining power

BRICS group will serve its own interests or evolve into a catalyst for development in the Global South.

WITH great bargaining power and influence comes great responsibility. Can this group be relied upon to shoulder responsibilities commensurate with its weight and heft? Can it deliver, in a utilitarian sense, the greatest good for the greatest number in the Global South, whose development it seeks to advance?

The real appeal of BRICS in the Global South lies less in the group’s top-down rhetoric and geoeconomic stances and more in the new ideas to advance wellbeing and inclusive economic prosperity from the bottom up and the middle out. It remains to be seen whether the bloc can design, share, disseminate and scale concrete policy solutions or practices worthy of replication—from the private and public sectors and public–private partnerships of member countries—through its flagship institution, the NDB.

The latest UN report warns that at the halfway point to the 2030 deadline, ‘the achievement of the Sustainable Development Goals (SDGs) is in peril, with barely 15 per cent of the targets on track’. For example, investing in digitalisation ‘can help accelerate progress toward every single one’ of the 17 SDGs, according to the International Telecommunication Union. As the World Bank undergoes the essential transition towards tackling climate change, it is incumbent on regional and latter-day development banks like the NDB to step up initiatives that maximise benefits for the greatest number of countries.

BRICS and the NDB should harness best practices and gather their digital

innovators in the public and private sectors to advance digital development and financial inclusion among the 40 countries that are looking to BRICS for new development opportunities.

The expanded BRICS bloc accounts for nearly half of the global population, a third of the world’s GDP and 42 per cent of the world’s internet users. According to our Digital Intelligence Index, several members of the expanded bloc feature in the ‘Break Out’ zone—characterised by high momentum and significant headroom for growth—which makes them attractive to global investors and a fount of innovation.

The UAE stands out as a regional digital entrepot. The countries that make up the expanded BRICS grouping are laboratories for digital and financial inclusion and exemplars of frugal digital innovations fostered by a combination of home-grown platforms and state-led initiatives. China’s WeChat Pay and Alipay, India’s Unified Payments Interface and Brazil’s Pix have brought digital financial inclusion to hundreds of millions of consumers in the Global South. Affordable smartphones and mobile plans in China and India continue to accelerate digital and social inclusion in their respective markets.

Such innovations are extremely relevant in the socioeconomic and demographic contexts of the Global South where many of the world’s 1.5 billion people excluded from the formal financial system and many of the billion people living in internet poverty reside.

The 2023 BRICS summit declaration outlined goals and the creation of task forces to advance transparent, safe and inclusive payment systems, interlinked cross-border payment infrastructure and

bridging of digital divides within the expanded BRICS membership. While this focus on development within BRICS is akin to the cohesion funds approach of the EU, the bloc falls severely short of being aspirational in supporting the Global South to meet its SDGs in the little time left to achieve them.

Current efforts are not proportionate with the BRICS group's ambition to be perceived as a champion for the rest of the Global South. Nor is BRICS effectively leveraging the digital development expertise of its member states, which has catalysed the transformation of their economies.

In conclusion, BRICS has yet to provide compelling alternatives to the existing system. At present, the norm is system alignment with some specific reform initiatives that increase the group's relevance and

representation. The most probable route to an alternative status quo lies in establishing non-dollar payment systems, potentially impacting the political and economic influence of the United States. The 2023 BRICS Summit declaration indicates that monetary cooperation will be a key aspect of BRICS activities in 2024, but its expansion will test whether the group can make progress in this area.

An enlarged BRICS will need to reach a consensus on its priorities and how and where to deploy its bargaining power. Expansion will test whether the group will remain an attractive platform that is able to create alternatives to the status quo in terms of global institutions, discourses, and monetary policies. It will also challenge BRICS to reach a consensus on how and where to deploy their bargaining power.

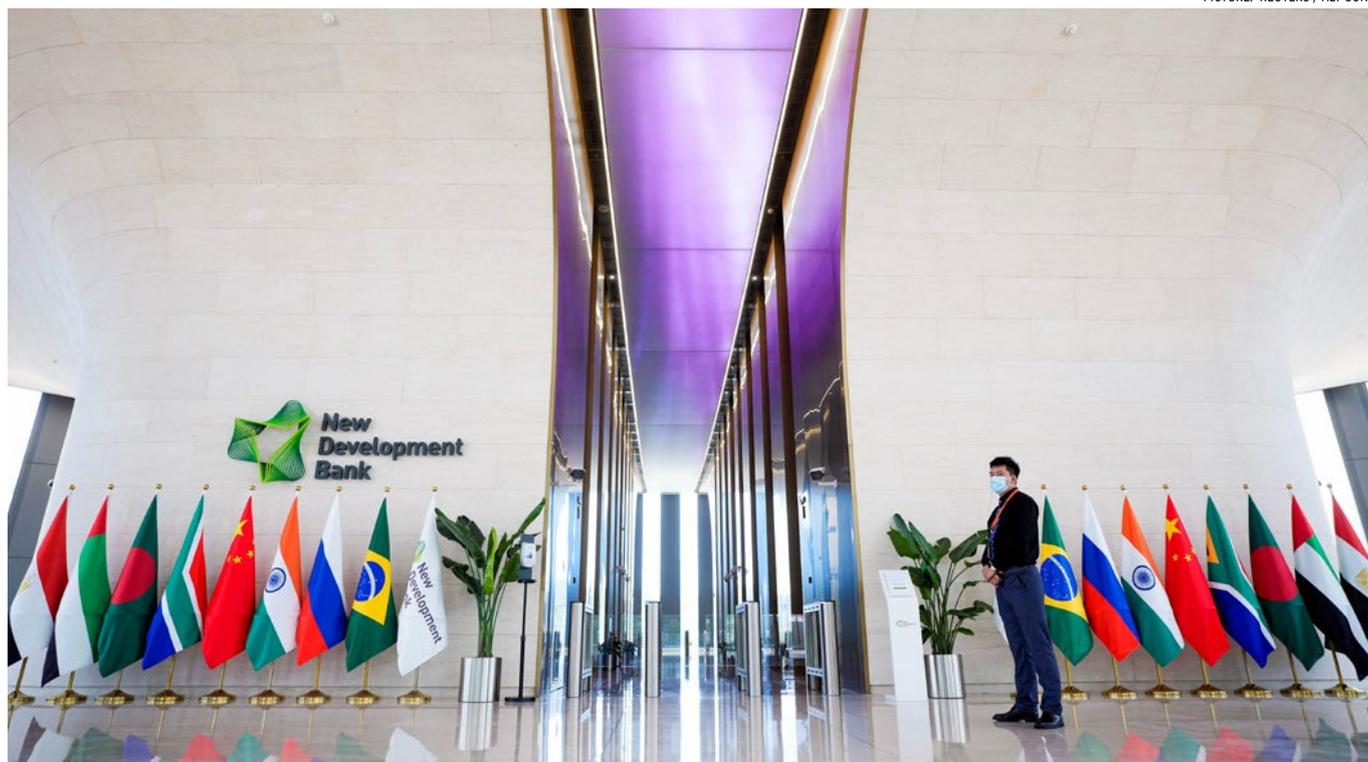
But if the BRICS group cannot

demonstrate a distinctive vision for the Global South and expedite development progress, it may face challenges maintaining its relevance and achieving meaningful policy impact. In that case, the group risks either becoming the new G77—an unwieldy political coalition in a deadlocked multilateral system—or the new anti-globalisation movement, a vocal critic of globalisation incapable of designing and scaling alternative and transformational ideas. **EAFQ**

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PICTURE: REUTERS / ALY SONG



An employee stands in the lobby of the New Development Bank at its headquarters in Shanghai (July 2023).

COVID's human capital costs in Asia

PICTURE: REUTERS / SOE ZEYA TUN



A migrant worker's child lines up for food donations during the COVID-19 outbreak in Bangkok (April 2020).

MARIA MONICA WIHARDJA

THE COVID-19 pandemic disrupted human capital formation in East Asia and the Pacific at a time when many countries across the region were racing against time to escape the middle-income trap before their populations began to age. To some extent, the pandemic

has robbed them of the demographic dividend which they had been waiting to harness as they moved to a higher-income country status.

The pandemic affected human capital formation through both direct and indirect channels. Excess deaths from the pandemic in Southeast

Asia alone were an estimated 1.21 million, almost quadruple the officially reported deaths from COVID-19. This compares with excess deaths globally of 18.2 million, which was triple the number of officially reported COVID-19 deaths at 5.94 million.

Among those who were lucky enough to survive the COVID-19 tsunami, the pandemic resulted in significant learning loss, which has in turn increased 'learning poverty'—the share of 10-year-olds who cannot read and understand an age-appropriate text. This cost has been especially severe in middle-income countries in Asia, which suffered from chronic learning deficits even before the pandemic.

The pandemic also increased out-of-pocket healthcare costs, especially the costs of care for the elderly, crowding out other essential household expenses including children's education and nutrition. Primary healthcare services were disrupted by supply-side issues but also by the diversion of financial and human resources to address the COVID-19 outbreak. This resulted in temporary shutdowns of immunisation services in Indonesia, measles coverage in Laos and the number of vaccinations in Papua New Guinea, on top of a substantial decline in antenatal care in many countries.

The pandemic indirectly affected human capital investment through job losses and by reducing incomes, pushing households to adopt coping mechanisms that are likely to be

detrimental in the longer term. This has included switching to less nutritious food, cutting food consumption, reducing investment in children's education and selling productive assets such as animals and land.

Disruptions to global supply chains, including in transport and logistics, and reduced global demand have also resulted in erratic price shocks, including lower agricultural prices for farmers and higher food prices for consumers.

These short-term shocks may have created undercurrents that could lead to longer-term scarring effects—human capital deterioration, widening inequality and slower long-term growth. This comes partly from irreversible effects on early childhood development, which will lead to lower expected lifetime earnings for those children affected. The pandemic also had a disproportionate impact on those who were already disadvantaged to begin with, especially poorer households and low-skilled workers, ultimately leading to lower productivity and investment growth.

But there are behaviour changes by firms, households and individuals that could help to diminish the adverse long-term impacts of the pandemic. One positive effect has been to accelerate the adoption of digital technology, from the adoption of online distance learning to online payments to advanced data analytics.

Southeast Asia is on the cusp of a significant demographic dividend. It is expected to be the centre of growth of the broader Indo-Pacific region by 2050, which in turn will bring economic prosperity and stability to the region. In 2020, around 41 per cent of its population was under the age of 25, compared to around 28 per cent of East Asia. In the same year, the median

age in all Southeast Asian countries was below 40, except for Singapore at 42.2 and Thailand at 40.1. Indonesia, the most populous country in the subregion, has a median age of 29.7 in 2020.

Except for Singapore and Brunei, the countries in the subregion are yet to graduate to high-income status. Demographic dividends and productivity growth are expected to propel the middle-income economies in the region towards high-income status. But the COVID-19 pandemic might rob these middle-income countries of their demographic dividend.

EVEN before the COVID-19 pandemic hit, developing economies in East Asia and the Pacific were facing serious human capital gaps. More than one in five children under five years old in many economies in the region, including Indonesia, the Philippines and Malaysia, were stunted or suffering from chronic malnutrition in 2020. According to the World Bank's Human Capital Index, a child born in Indonesia will only achieve 54 per cent of their full productivity potential, compared to 88 per cent for a child born in Singapore, 69 per cent in Vietnam and 65 per cent in China.

Food insecurity, which was more common among households that experienced a loss of income because of the pandemic, may have led to higher rates of child malnutrition, including wasting and stunting. Children who received supplementary nutrition from in-school meals were also adversely impacted when schools closed.

In May 2021, 25.7 per cent of households in Malaysia, 45 per cent of households in Thailand and 50 per cent of households in Laos had eaten

Chronic learning deficits and gaps in the region's middle-income economies have been exacerbated by the COVID-19 pandemic

less than they thought they should in the last 30 days due to a lack of money. As many as 12.4 per cent of households in the Philippines and 6.4 per cent in Thailand had gone without food for a whole day at least once in the last 30 days due to a lack of money.

Learning loss among school-aged children exacerbated chronic learning deficits in the middle-income countries in the region. More than half of 10-year-old children in most middle-income countries in the region have been deprived of proper learning and cannot read an age-appropriate text. This rate has been as high as 91 per cent in the Philippines in 2019, 53 per cent in Indonesia in 2015, 42 per cent in Malaysia in 2019 and 18 per cent in Vietnam in 2019.

These economies already had a long way to go to catch up with their developed counterparts in the region, with learning poverty as low as 3–4 per cent in Japan, South Korea and Singapore. Learning poverty in the region's middle-income economies has been higher than their income levels would suggest.

More strikingly, albeit unsurprisingly, poorer students in these economies had significantly worse basic learning outcomes than their wealthier counterparts even

before the pandemic. In Indonesia, only 10 per cent of children in the bottom socioeconomic quintile achieved minimum proficiency in all three Programme for International Student Assessment subjects in 2018 compared to more than 50 per cent of children in the top quintile.

Chronic learning deficits and gaps in the region's middle-income economies have been exacerbated by the COVID-19 pandemic. The pandemic has not only induced significant learning loss because of school closures and lowered investment in children's learning, but also widened the human capital gaps between poorer and richer students.

Students in the region lost an estimated two-thirds of a year of learning-adjusted years of schooling. In Cambodia, national sixth-grade learning assessments in mathematics and Khmer language showed that average scores had dropped by 8.4 per cent in Khmer language and 11.3 per cent in mathematics between 2016 and 2021.

Unequal opportunities for children across the household income distribution to engage in online learning only exacerbated the gap. In

... the outbreak of learning deficits might also 'rob' middle-income countries of their demographic dividend through employment and income shocks

November 2020 in Indonesia, less than 40 per cent of students in the bottom 40 per cent of the household income distribution used online or mobile technologies for distance learning, compared to more than 60 per cent of students in the top 20 per cent of the income distribution.

Policymakers have often grossly underestimated the magnitude of the problem of learning deficits. While learning poverty affected 91 per cent of children in the Philippines, government officials estimated a rate of only 37 per cent. When learning poverty was at 98 per cent in Laos, government officials estimated that it was just 29 per cent.

Besides the risk of scarring effects from food insecurity and learning loss, the outbreak of learning deficits might also 'rob' middle-income countries of their demographic dividend through employment and income shocks.

Youth aged 15 to 24 were hit harder by the immediate crisis, partly because they were deprived of job opportunities when making the transition from education to work, or because they worked in the sectors that were hardest hit. New graduates were not able to find jobs, exacerbating youth unemployment and idleness.

In 2019, around 18 per cent of youth in the region were not engaged in employment, education or training. In Indonesia, youth idleness increased between 2019 and 2020 and was higher among male youth than it was among female youth, signalling that the pandemic forced more females to enter the labour market to supplement their household incomes.

There have certainly been differentiated impacts on male and female workers. In the case of Indonesia, women entered the labour

market for the first time as 'added workers' during the pandemic to compensate for household income losses. By August 2020, six months after the pandemic hit, the net employment impacts for women were positive, except for women in their early childbearing years (19–29), while the impacts were negative for men.

A recent estimate predicts a 4 per cent reduction in expected earnings every year for an average student today in East Asia and the Pacific because of learning loss and idleness. This reduction is expected to be larger in the ASEAN-5—Indonesia, Malaysia, Thailand, the Philippines and Vietnam—at 9.3 per cent and among poor and vulnerable students.

The regional employment rate dropped by around 2 per cent on average between 2019 and 2020. High-frequency phone surveys showed that by mid-2020, 57 per cent of adult respondents who had worked before the pandemic in Myanmar, 28 per cent in the Philippines and 23.5 per cent in Indonesia had stopped working because of the pandemic. Many more workers switched jobs, changed their employment status and experienced reduced incomes. The agriculture sector became a buffer for those who had lost their jobs or those who were previously not working.

Even in March 2023, as the pandemic was coming to an end, a third of respondents in Indonesia were still earning less than before the pandemic. Workers in informal and traditional service sectors including low-end retail, transport and restaurants were hardest hit. Employment in many middle-income countries in the region is still dominated by these low-end service jobs. In Indonesia, about 35 per cent of workers are employed in the low-end service sector.

Government programs targeted at formal firms and workers were ineffective because of the high rates of informal work and underdeveloped social registry systems to target ‘uncovered’ workers. Before the pandemic, the share of informal employment in East Asia and the Pacific was above that of emerging markets and developing economies, standing at 47 per cent.

The long-term potential economic growth rates of these countries could also be severely curtailed, including by lower human capital investment and labour productivity growth, lower firm productivity growth and lower innovation rates. This could become a headwind for the middle-income countries in the region, which need to

grow at a higher rate than their current growth rates to avoid the middle-income trap before their populations begin to age.

The pandemic has also exposed the vulnerability of many drivers of economic growth in a world of hyper-connectivity and mobility, including the peace dividend, a functional multilateral trading system and convoluted global supply chains. ‘Vaccine nationalism’ and unequal early distribution of vaccines exposed geopolitical rifts and power dominance. Combined with deterioration in human capital and labour productivity growth, this has led to a downward revision of the potential long-term growth rates of many countries in the region.

But this has been somewhat mitigated by digitisation and efficiency-seeking investments by firms. Firms, workers and consumers have moved online and adopted digital technologies including online payments, e-commerce and data analytics. In Indonesia, a business survey showed that by October 2021, 71 per cent of surveyed firms, including 62 per cent of micro firms, had adopted digital technologies. Around 30 per cent of firms have invested in digital equipment or software since the pandemic started.

The echoing message of the COVID-19 pandemic on human capital is the unequivocal evidence of disproportionate adverse impacts on less developed countries, poorer

PICTURE: REUTERS / ATHIT PERAWONGMETHA



Thai students are surrounded by partitions made from repurposed ballot boxes after the Thai government eased isolation measures and introduced social distancing to prevent the spread of COVID-19 (Pathum Thani province, 2020).

households and more vulnerable workers.

It is also important to highlight that women suffered more than men from increased domestic violence during the pandemic. As many as 83 per cent of respondents in Indonesia said that intimate partner violence worsened during the pandemic.

Basic learning deficits continue to be insidious problems for developing countries in East Asia and the Pacific that have been toiling to avoid the middle-income trap. Since learning is a cumulative process, these deficits could potentially become a demographic burden or even a curse. Incoming and current workers may not be able to develop the skills to prepare for economic sectors like digital manufacturing and high-end services.

A new World Bank study proposes

policy actions to help students catch up, including keeping schools open and increasing instructional hours, focusing on foundational learning and streamlining the curriculum as well as providing incentives for at-risk students to remain in school. Beyond recovering from pandemic learning loss, policy action to address chronic learning deficits could focus on improving the quality of teachers. This should include making teacher selection less politicised and more meritocratic and improving teaching practices in the classroom.

Indonesia serves as a model for other countries in the region, having used the pandemic to improve students' learning assessment, improve the quality of teachers, streamline the curriculum and digitise teaching materials.

The pandemic has also highlighted

critical gaps in social protection. In many countries in the region, relief programs have been insufficient. The COVID-19 crisis was broad-based and affected almost all sectors of the economy and all types of workers as well as households across the income distribution. But targeted, efficient and effective social assistance as well as access to critical public services are almost impossible without a reliable social registry system. Building a credible social information system and improving social protection delivery are key to achieving universal social protection.

Digital ID adoption varies across the region. Even Japan has struggled with the implementation of its MyNumber digital ID system. Singapore has achieved 97 per cent adoption of digital ID and the Philippines, Singapore, Thailand and Vietnam have all managed to achieve digital identity adoption as a means for authentication. Cambodia, Indonesia and Laos are at various stages of developing a digital identity system. On average, ASEAN countries have so far only achieved 30 per cent adoption of digital ID.

Perhaps most importantly, political buy-in at the highest levels of national leadership will be key to building back and building forward better after the devastation caused by the COVID-19 pandemic. This could begin with recognition of the magnitude of the human capital losses brought on by the pandemic and their associated long-term scars. [EAFQ](#)

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PICTURE: REUTERS / ELOISA LOPEZ



Residents of the Philippines, whose jobs or livelihoods were affected by strict COVID-19 restrictions, queue to receive government assistance at an elementary school in Quezon City (April 2021).



Mayor Bima Arya Sugiarto leads a convoy during an electric bicycle launch in Bogor, West Java (September 2022).

Thwarting Asia's green transition

MARI PANGESTU AND NOVIA XU

DECARBONISATION in Asia is urgent, especially considering the region is continuing to grow and accounted for 53 per cent of global CO₂ emissions in 2021. The most effective policy to address the negative externalities of CO₂ emissions includes removing fossil fuel subsidies and implementing a carbon tax—but for many countries this is politically infeasible.

Governments worldwide have turned to industrial policy with the objective of meeting net zero commitments through instruments such as subsidies, tax incentives, infrastructure development,

research and development support and regulations—so-called green industrial policy. Green industrial policy demonstrates that the free market is not working, or at least not well enough to fast-track the green economy transition. The case for green industrial policy is strong because it increases the competitiveness of green industries, as long as the spillovers from green technologies are diffused globally through trade and investment. But the issue is about implementation and its implications for developing countries.

China's subsidies, tax exemptions for electric vehicle (EV) purchases,

state-driven strategic investments and regulations have supported its dominance in clean energy technology and EV supply chains. China's investments, technological development and the scale of its own domestic demand have pushed out competition but facilitated the green transition by lowering global wind, solar and battery technology costs to compete with fossil fuels, which benefits all countries.

The EU is presently the frontrunner in green policy, with various industrial policies in place. By 2030, the EU Fit for 55 Plan aims to cut greenhouse gas emissions by 55 per cent from

1990 levels. This ambitious target will be pursued through reforms to the EU Emissions Trading System and the Carbon Border Adjustment Mechanism which imposes a carbon tax at the border for energy intensive imports.

The newly passed Renewable Energy Directive that only allows renewable fuels of non-biological origin has imposed restrictions on land-based products like palm oil—a major export commodity for Indonesia and Malaysia, the two countries that together supply 90 per cent of global palm oil. The restrictions are expected to heavily impact the palm oil industry and exporters have urged the establishment of a joint task force to negotiate with the EU.

The United States does not use carbon pricing at the national level and relies mostly on tax credits and subsidies to promote decarbonisation. The country's green industrial strategy includes the *Inflation Reduction Act*, *Infrastructure Investment and Jobs Act*, and parts of the *CHIPS and Science Act*. This strategy aims to achieve a 40 per cent reduction of emissions by 2030, boost growth and jobs, counter China's dominance in clean energy sectors and diversify supply chains for clean energy manufacturing, EV batteries and critical minerals.

The US Congress has authorised US\$4 trillion in new investment, US\$500 billion of which went to climate-related efforts, mostly through the *Inflation Reduction Act*. But this 'made in America' approach and its reliance on free trade agreements (FTAs) does not support resilient green supply chains. Indeed, the promotion of domestic industries will come at the expense of global production, especially if supply chain networks exclude firms from 'countries of concern.' The consequences will

likely include decreased efficiency, increased costs and a slower pace of green technology adoption.

THIS approach has prompted allies without FTAs with the United States to respond and will lead to diversification of supply chains that could mean developing countries who are fiscally constrained from using similar subsidies may be left out.

Japan signed an agreement to strengthen critical minerals supply chains in March 2023, and the EU is negotiating a similar one. The EU has also recently introduced the *Critical Raw Materials Act* with ambitious targets for domestic extraction, recycling and processing critical materials. South Korea, which has an FTA with Washington, plans to move EV and battery manufacturing to the United States, but China's dominance of the industry impedes quick diversification of the supply chain.

Recent US and EU policies understandably prioritise domestic interests, promising job creation, domestic manufacturing and technological capabilities, but at the expense of lower-cost global production and technological

diffusion. This approach makes the green transition less accessible and more expensive, especially for developing nations that need it most.

This approach has also impeded countries with critical minerals from developing capacity to supply global markets. In the pursuit of industrial policy, developing countries are constrained from using subsidies, tax credits, regulations and instead use trade restrictions or supply-side local content requirements to increase the value added of their resources.

Indonesia banned the export of unprocessed nickel products to increase the value added of its own sector. While the increase in value added needs further analysis, export values of processed nickel products have subsequently increased from US\$3 billion in 2018 to US\$30 billion in 2020. Building on this, Indonesia's industrial policy pursues a 'green' objective by combining export restrictions with domestic supply obligations, local content targets and tax incentives to further downstream its abundant nickel resources and emerge as an EV supply chain hub. However, the creation of a hub faces challenges, such as putting in place the necessary infrastructure for renewable energy, targets for further processing, critical minerals and scale. These challenges are amplified by supply chains resilience considerations, especially given the dominance of Chinese investment in the sector. Indonesia is also approaching the United States for a limited critical minerals trade agreement.

Against this backdrop of increasingly frequent deployment of green industrial policy, there are a few advisable strategies. Getting the relative price of carbon right is an important first step. This would require politically difficult decisions to

The reality is that diversifying away from China's green technology dominance and developing an alternative supply chain will be slow and costly

reduce or eliminate fuel subsidies, coal price caps and electricity subsidies as well as repurposing subsidies to compensate poorer households. As long as fossil fuels are the 'lower-cost' source of energy, it will be difficult to transition to renewable energy.

Second, as developed countries roll out green industrial policies with domestic priorities, it is key to manage the implications for the global green transition. For instance, developing countries will need support and capacity building to meet the required standard, respond to carbon leakages and navigate the emerging policy environment.

Third, developing countries that are fiscally constrained from subsidising green industries and lowering the costs of technologies needed for a green transition, should be assisted through sharing of innovations to diffuse knowledge and technology. If advanced economies aim to diversify and reduce their dependency on China, this should be done with engagement and collaboration, rather than total delinking. The reality is that diversifying away from China's green technology dominance and developing an alternative supply chain will be slow and costly. The US should instead coordinate with its allies and find ways to meet domestic priorities while engaging with China and remaining open to Chinese investment in selected sectors such as EV batteries.

For green industrial policy to be effective, it should not serve multiple objectives, such as job creation and derisking, without complementary policies in effect. Subsidies and tax credits can be justified as green industrial policy for innovation, manufacturing capability and diversification, but green industrial policies will be costly and ineffective if they ban exports and require local

content without developing the necessary infrastructure and industry to support the ecosystem. Job creation in green industries, for instance, would require skills upgrading and complementary policies for human resource development. All the lessons learned about the principles of good industrial policy should also be adhered to. This includes ensuring the policies are well-targeted, transparent, include sunset clauses and, most importantly, fall within

the administrative capacity of the administering institutions. **EAFQ**

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PICTURE: REUTERS / KIM HONG-JI



Employees work at the SK On EV battery factory in Seosan, South Korea (October 2023).

Rethinking Indonesia's nickel policies to power economic growth

PICTURE: BAGUS INDAHONO / POOL VIA REUTERS



US Vice President Kamala Harris pictured with President Joko Widodo at the 2023 ASEAN Summit in Jakarta.

CULLEN HENDRIX

CALLING Indonesia ‘the Saudi Arabia of nickel’, one of the metals underpinning global steel production and ambitions to decarbonise energy and transport systems, would be an insult to

Indonesia’s market dominance.

Indonesia’s mines accounted for nearly half of global nickel production in 2022. It has banned raw nickel exports since 2020 as the country pushes to move up global value chains

for renewable energy. Indonesia is a G20 member, a developing democracy and has an enormous potential home market for both steel and electric vehicles (EVs).

But despite the seeming centrality of nickel to net-zero ambitions, Indonesia may find itself in a situation eerily similar to that of Saudi Arabia and its oil reserves—sitting atop plentiful resources whose value is set to wane as the EV sector booms. The challenge lies in navigating two landscapes, one geopolitical and one chemical.

In a shifting geopolitical environment, Indonesia is attempting to secure a more prominent place in the EV battery supply chain. This involves moving beyond mining ore and beneficiation to battery assembly at a time when major EV battery importers like the United States and the European Union (EU) are onshoring battery assembly.

In the United States, these attempts include enticing tax credits in the *Inflation Reduction Act* (IRA). In Europe, they include government loans via the InvestEU program, independent member-state initiatives and an anti-subsidy investigation into Chinese automakers. The investigation aimed to prevent Chinese EV makers who source nickel from Indonesia from flooding the European market with cheap imports. In both instances, Indonesia’s reliance on Chinese manufacturers and finance in the nickel sector creates vulnerabilities for its EV ambitions.

The second challenge is more

fundamental. Indonesia's nickel reserves and industrial ambitions are at risk of being rendered less valuable by changes in battery chemistry, or the combination of materials and technologies used in the batteries themselves. Nickel is a key component in nickel-manganese-cobalt (NMC) batteries, which currently dominate the market due to advantages in range and power-to-weight. But this dominance may be fleeting.

As with most things EV-related, Tesla is the bellwether. In 2021, Tesla adopted lithium iron phosphate (LFP) batteries, with nearly half of its production models using them by the first quarter of 2022. In August of this year, Tesla CEO Elon Musk announced that the company would be transitioning most of its entry-level vehicles—Model 3 and Model Y—and its shorter-range semi-trucks to using LFP batteries. For a regional hub, Tesla chose to set up shop in neighbouring Malaysia rather than in the nickel giant.

Tesla did not invent or even bring to market the first EVs, but it popularised and democratised them. Its move towards LFP batteries is one major reason that S&P Global forecasts that after 2030 the dominance of NMC batteries will wane in favour of LFP batteries. LFP batteries offer less range and high-end performance. But they are also less prone to catching fire and are made of much more globally abundant and cheaper raw materials. For most EV users, LFP batteries provide more than enough range and power.

This forecast does not include the effects of potentially market-disrupting frontier technologies like sodium-ion and solid-state batteries, upon which Toyota has placed a heavy bet. These technologies would further depress the relative demand for nickel.

There will still be a market for NMC batteries in performance-oriented EVs offering pavement-wrinkling torque and acceleration. But the global market in the future may be smaller than the current one—and with technology, disruption is rarely linear. The market may change even more quickly than S&P anticipates

FOR Indonesia to sustain nickel as an engine for growth and development within these landscapes, its priority should be to cultivate closer relationships with the United States and the EU. These markets and their comparatively affluent consumer bases will drive an appetite for higher-performance NMC-based EVs. Indonesia's relationship with the EU is seemingly on track to expand, with shared ambitions to conclude negotiations on a comprehensive Indonesia–EU free trade agreement (FTA) before Indonesia's 2024 election.

The outlook regarding the United States is less straightforward. In September, Indonesian President Joko Widodo proposed a critical minerals trade agreement with the United States during talks with Vice President Kamala Harris. A limited, critical minerals-specific FTA would allow Indonesian materials to qualify for the IRA's domestic and FTA partner tax incentives. The FTA would seemingly be consistent with the Biden administration's desire to avoid creating more comprehensive, multi-sector and multi-issue FTAs.

Cultivating tighter US and EU relationships should not come at the expensive of partnerships with Asian firms, including those in China and Korea. And EU and US partnerships will not be cost-free. Both the EU and the United States are concerned about Indonesia's use of export bans as a tool of economic policy. The EU has

Indonesia may find itself in a situation eerily similar to that of Saudi Arabia and its oil reserves—sitting atop plentiful resources whose value is set to wane as the EV sector booms

already challenged Indonesia's ban and won at the World Trade Organization.

The text of the IRA also specifically requires any minerals-specific FTA to commit parties to 'reduce or eliminate restrictions on exports' while allowing less extreme policies, like export taxes. And agreements with the EU and United States will bring heightened scrutiny of the environmental impacts of open-pit mining and new business rules that some in Indonesia's opposition view as too capital (vs. worker) friendly, allowing provincial governors to set minimum wages without input from trade unions and experts from civil society.

For Indonesia, the price of stronger EU–US partnerships may be substantial. But it would be preferable to seeing its nickel and related industrial ambitions become a casualty of changing chemistry and a shifting geopolitical landscape. [EAFQ](#)

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Indonesia doubles down on nickel export bans and downstreaming

KRISNA GUPTA

ECONOMISTS have long advised Indonesia to reduce its reliance on commodity exports and promote economic diversification. The Indonesian government has been pursuing this through the establishment of special economic zones and tax holidays. But in 2020, the COVID-19-induced recession led to a more draconian diversification approach with a ban on the export of all unprocessed nickel.

Using an export ban as an industrial policy instrument is controversial since it creates market distortions and its goals must be carefully stated and measured.

Nickel is an important material for the production of most rechargeable batteries and its significance in the global supply chain has increased dramatically with the pursuit of global net-zero ambitions. As Indonesia is the largest producer of nickel ores, President Joko Widodo (Jokowi) is sanguine about leveraging this advantage to increase the domestic value added from the nickel ore export ban.

Domestic value creation is cited as Jokowi's primary goal. On paper, the results of the export ban are striking. Almost US\$14 billion has been invested in nickel smelter capacity in Indonesia. Maluku Utara and Sulawesi Tengah, Indonesia's nickel downstreaming provinces, experienced double-digit growth rates in 2021, driven primarily by

investment in the industry. Jokowi has highlighted how the ban has seen a 30-fold increase in the value of Indonesia's nickel-related exports.

Calculating domestic value added is not straightforward. Comparing nickel ore export values and their derivatives is misleading since downstream products also embody the cost of energy needed for production and other inputs.

Because Indonesia was one of the largest nickel ore exporters, the ban has led to an increase in the international price of nickel and its derivatives. Investors in smelters now enjoy a much cheaper domestic price for nickel ore and a much higher value for exports of nickel metal. On top of the tax holidays and cheap energy, which are crucial for capital and energy-intensive extraction, smelters are effectively subsidised by the government.

One may justify a reduction of short-term efficiency for future gain. The ultimate aim of nickel downstreaming is to position Indonesia as a major producer of electric vehicles (EVs), and achieving this may warrant a short-term loss. But the details matter and the challenges are apparent.

MOST of the nickel mined in Indonesia is more suitable for producing stainless steel than renewable batteries. General smelter incentives and the nickel export ban

skew investment towards stainless steel production instead of EVs. The government has had to introduce measures to stop the growth of stainless steel production—including taxing exports of ferronickel—to support the development of smelters for battery production and processing facilities for high pressure acid leaching.

The processing of nickel for use in EV batteries, however, comes with a significant environmental and carbon footprint. This is important if Indonesia wants to tap into the global market for EV products, particularly in Western markets. EVs and their components are generally still more expensive than conventional combustion engine vehicles, and the Indonesian market alone will not be large enough to build sufficient scale.

Accessing the EU and US markets is likely to be challenging. In addition to environmental concerns, both have their own industrial policies. The fact that the EU took legal action against Indonesia over the nickel export ban and won with US support does not help.

The Chinese market, which is larger and growing faster, is a potential market for Indonesian EV production. But the highest-selling EVs in China use nickel-free batteries. Global nickel scarcity creates incentives for producers to reduce or even eliminate nickel content in their batteries through technological innovation.

The Indonesian government is considering reducing its EV import tax to encourage the adoption of EVs domestically. While this policy may help Indonesia's domestic EV adoption goal, it runs counter to the aim of nickel downstreaming. Indonesian EV producers must compete with imported EVs, which may reduce the market share of domestically produced EVs even further and discourage investors from building an Indonesian EV industry.

By considering an import tax reduction for EVs, the Indonesian government implicitly acknowledges that building a domestic EV industry is at odds with its 2060 net-zero emissions goal. For now, a better bet may be to focus on electric scooters, which are easier to manufacture

and more affordable to domestic consumers. By tapping into this market first, Indonesia could gradually expand its industry for larger EVs.

Trade policy remains key. If the Indonesian government thinks the EU filing a case against Indonesia in the WTO is a form of 'forced export', it should navigate this diplomatically. If Indonesia wants to restrict its exports, it should not complain when the EU imposes controls on its imports from Indonesia. The Indonesian government needs to understand the reciprocal nature of WTO membership if it wants to negotiate this matter with partners.

Nickel is a small part of the whole EV value chain and building an EV industry requires much more than a ban on nickel exports. But Indonesia's

Using an export ban as an industrial policy instrument is controversial since it creates market distortions and its goals must be carefully stated and measured

PICTURE: ANTARA FOTO / JOJON / REUTERS



Streams of hot slag flow to a dumping site at a nickel processing plant in Sorowako, South Sulawesi province (October 2023).

nickel downstreaming policy is here to stay. Firms already committed to investing in Indonesia under conditions set by the policy have an incentive to resist change to the status quo. The government has to consider the country's reputation as an unpredictable investment destination if the resource-based downstreaming story is to be sold as one of Jokowi's biggest achievements when he ends his second term in 2024.

For the next Indonesian president, downstreaming will not get any easier. Government funding will be constrained by the debts of past infrastructure projects and the construction of Indonesia's new capital city. Global uncertainty and high-interest rates won't help either. As renewable industries become more complex, factors like a predictable supply chain, proper law enforcement, market access, human resources

and technology will become even more important. The Indonesian government has to address these issues to improve Indonesia's business environment. Relying on export bans is no magical solution in framing Indonesia's industrial policy. [EAFQ](#)

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FALSE PROMISE

Import substitution industrialisation in India

ARVIND PANAGARIYA

EXPECTATIONS that import substitution in India might succeed this time around are premised on the twin assumptions that the policy is being implemented in a very different environment from the past and that the instruments being deployed are also different. But the country's previous import substitution episodes also differed from one another along these dimensions and every one of them failed.

If proponents for import substitution industrialisation judge its success purely on its ability to establish and sustain the targeted industry, one could concede to their argument. With merchandise imports at 21 per cent of GDP in 2022 as opposed to less than 5 per cent in 1970, the economy offers considerable scope for import

substitution. The large volumes of imports of many products testify to the existence of a domestic demand for them. Denying entry to their imports will create space for the emergence of domestic suppliers of those same products or close substitutes.

But such success would be no different from the previous rounds of import substitution, which India pursued for several decades after independence. During that era, India successfully established numerous industries—including steel, aluminium, fertiliser, chemicals and automobiles—behind a protective wall.

This time—with no investment licensing, less rigid labour and capital markets, no restrictions placed on large-scale production, freer entry of foreign investors and the absence of

restrictions on technology imports—the domestic supply response is likely to be quicker. The difference between import prices and domestic production costs is also smaller, limiting the welfare loss due to distortion caused by the import tariffs.

The true success of import substitution must be judged not by its ability to create and sustain protected industries, but by its capacity to accelerate the entire economy's growth, however. The case for import substitution crumbles along this metric. Products that receive protection often cost more to produce at home than abroad, while the opposite is true of unprotected products. Protection supports the higher-cost products by incentivising resources to move into them and out

of the lower-cost products.

A common fallacy among policymakers is that import substitution can be pursued successfully alongside export promotion to boost GDP. That fails to appreciate that with a fixed volume of resources available at a point in time, supporting a subset of industries means discouraging others.

An examination of the total import and export series for any country over a 10-year period or longer demonstrates that when import substitution successfully cuts the total imports, it also cuts total exports.

Import duties on inputs are one channel through which import duties undermine exports and the final import substitute products. Such duties reduce the profitability of final goods using the inputs, whether they are exported or sold domestically. A more general channel through which tariffs undermine exports is real exchange rate appreciation. Currency appreciation results in the exporter earning fewer Indian rupees for every US dollar's worth of exports.

Two mutually reinforcing recent developments have further undermined the success of an activist import substitution industrialisation policy. First, as a result of advances in transportation and communication technologies, the cost of moving goods and information over long distances has decreased significantly. Second, modern technology has given rise to complex products of mass consumption, such as smartphones and tablets, with substantial design and information-related content. It has also made it possible to break up the production processes of old and new products more efficiently.

These developments have meant that efficiency is achieved by locating product innovation, product design,



Prime Minister Narendra Modi welcomes guests the G20 Summit in New Delhi (September 2023).

production of components and assembly across many nations, depending on their cost advantages. The iPhone is a good example—its innovation, design, manufacture of numerous components and assembly are spread over two dozen countries. Import substitution industrialisation discourages industrialisation by placing obstacles in the way of this international specialisation.

Scepticism towards import substitution industrialisation should not be mistaken for pessimism about India's economic prospects. Despite returning to a mild form of ISI, India has been taking the right steps in nearly all other dimensions. In addition to removing rigidities in the

product and factor markets through liberalising economic reforms, it has been building its infrastructure at breakneck speed, focusing on roads, railways, waterways, bridges, airports, ports and digital platforms.

The central government and some state governments have also been courting multinational corporations to become the 'Plus One' in their 'China Plus One' strategy. Pursuit of import substitution industrialisation notwithstanding, these administrations are cognisant of the importance of engaging with world markets. In this context, India can enhance its appeal to multinational corporations as the 'Plus One' destination by engaging like-minded countries in free trade

agreements (FTAs).

To its west, India has launched the India–Middle East–Europe Economic Corridor. Its impact can be greatly amplified by the conclusion of FTAs with the EU and the United Kingdom. India's engagement with its partners to the east is even more important. Ideally, this would have been best accomplished by joining the Regional Comprehensive Economic Partnership (RCEP). But this has lost political salience in the wake of the recent eruption of the border dispute with China. The next best option is to strengthen the FTA with ASEAN and seek entry into the other large FTA of the region, The Comprehensive and

Progressive Agreement for Trans-Pacific Partnership (CPTPP). Without these moves, India risks giving China a free hand in the region.

The effect of the Indian policy regime, which includes import substitution, has been to cut the imports of certain products, but not imports and exports taken as a whole. Total merchandise imports have continued to flourish, rising from a pre-COVID-19 peak of US\$518 billion in 2018 to US\$721 billion in 2022. Merchandise exports have risen from US\$337 billion in 2018 to US\$456 billion in 2022. Services exports have performed even better.

If history is any guide, ten years

from now import substitution devotees will claim that India's success was due to its pursuit of import substitution, despite contrary advice from free trade ideologues. After all, the myth of industrial policy's contribution to the success of South Korea, Taiwan, China and Singapore continues to endure. But this claim is incorrect. India will succeed not because of import substitution, but in spite of it. [EAFQ](#)

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PRESSURES ON OPENNESS

The export-led model is evolving, not dying

JAYANT MENON

WHILE the rise in anti-globalisation sentiment may have preceded COVID-19, the pandemic reinforced it, leading to an increase in protectionism throughout East Asia and around the world. Many of the barriers to labour mobility introduced during the pandemic have been slow to come down and, in some countries, still have not been completely reversed.

Export controls first imposed on personal protective equipment expanded to include food and other items—indeed, any product where excess demand threatened domestic

sufficiency or inflation. Indonesia, Malaysia and the Philippines have been using such measures more liberally than their ASEAN neighbours.

Industrial policy has enjoyed a major return to popularity in the United States, with the introduction of the *Inflation Reduction Act* (IRA) and the *CHIPS and Science Act* in August 2022. The return of industrial policy is driven by a combination of the need to address climate change challenges through clean energy transitions as well as geostrategic concerns that focus on reducing

dependence on China. In Asia, one example is the unabashedly nationalist industrial policy platform of Indian Prime Minister Narendra Modi's *Atmanirbhar Bharat* or 'self-reliant India'. It appears to be driven by an underlying suspicion of the professed virtues of trade liberalisation and powerful political interests anchored in national interests.

To some, these developments signal the end of the export-led model in spearheading growth in the region. Similar predictions were made soon after the 2008 Global Financial Crisis (GFC), when current account



Cranes move cargo at a container terminal in Jiangsu province (China 2023).

imbalances came to dominate the global economy. The focus then was to rebalance sources of economic growth by shifting them from the external sector to domestic demand. Though much attention has focused on China, other Asian countries with sizeable current account surpluses also proposed rebalancing. The International Monetary Fund (IMF) was prominent in calling for China to rebalance in the early 2010s. The fact that it is still calling for it in 2023 suggests that the expected rebalancing has not happened.

Trade growth has been slowing in East Asia for some decades. While it averaged over 8 per cent in the years leading up to the 2008 GFC, it slowed to around 5.2 per cent after 2010 and is expected to fall to 4.4 per cent in the post-pandemic years. When normalised by GDP, the slowdown is

less pronounced but still significant.

In less than a year, the 2022 IRA and CHIPS Acts have already had significant direct and indirect effects on the East Asian region, especially on China and Southeast Asia. The subsidies linked to domestic content requirements in these statutes have shifted sourcing patterns, while restrictions on the exports of advanced microchips to Chinese firms have directly affected trade. The World Bank's October 2023 East Asia Update documents show how these laws have reduced exports to the United States from China and ASEAN countries and increased those from the United States–Mexico–Canada Agreement (USMCA) countries. With the nexus between trade and investment, global FDI flows have also slowed since the GFC, to a decade-low just before the pandemic hit, when it fell even further.

These are worrying trends, but it is important to look beyond these numbers to determine whether rumours of the death of the export-led model are exaggerated. Underlying drivers of the current trend favouring industrial policy and other forms of protectionism may represent either transitory forces or a more permanent shift in direction. And there are questions about how accurately the statistics capture the rapidly changing nature of globalisation and the associated changes in international production, trade and investment flows.

The direct impact of US industrial policy extends beyond its borders by providing preferential treatment to FTA partners and thereby discriminating against others. It may also have spillover effects by contributing to an already growing

The main reason why the export-led model is likely to survive, in one form or the other, is the region's long-standing commitment to free and open trade

appetite for similar policies in the East Asian region and around the world. This tit-for-tat policy game is not confined to tariffs but also applies to subsidies and other instruments of protection as countries try to compete on a playing field that is growing increasingly uneven.

THE question is whether this shift will permanently change Asia's commitment to open and free trade and investment. Some commentators claim that the United States' shift to a more nationalist trade policy, driven by domestic industrial interests and national security concerns, will be durable. Can Asia afford to follow the same path?

At the G7 Summit in Tokyo in May 2023, US President Joe Biden tried to clarify that the objective of US economic relations with China was not to decouple from it but to de-risk and diversify. Biden has repeated the 'de-risk, not decouple' mantra several times since, most recently at the United Nations General Assembly in September 2023.

These statements should be welcomed by East Asian countries whose manufacturing supply chains

are intricately linked to China. Given the highly interdependent nature of production through supply chain networks, policies that directly impact China reverberate throughout the region. But this stance may not translate directly into action. The United States may stall punitive measures initially, followed by a reversal or reduction. On the other hand, Biden's statements may turn out to be simply a play on words. If it is mostly a ratcheting-up of the rhetoric, as many fear, then the real risk of further escalation in tensions, and increased supply chain disruption, will remain.

Elon Musk recently described the economic relationship between China and the global economy as akin to conjoined twins, implying that the two were inseparable. If this is true of the global economy, it is even more true for ASEAN. ASEAN's supply chains remain China-centred and the idea that they should decouple from China is both impractical and imprudent. There may be room, however, for diversification. Over-reliance on one or a few countries carries obvious risks. ASEAN's economic prospects are heavily dependent not just on China, but also the United States. Reducing dependence on both countries through diversification would also reduce risk.

While diversifying trade patterns will increase the resilience of trade flows, and therefore the sustainability of the export-led model, the two-decade steady decline in the region's trade growth rate is a cause for concern. While supply chains are shortening, and some policy-induced reshoring has taken place, the slowdown has mainly affected goods rather than services trade. The potential for growth in trade in services, especially intermediate

services, is huge and technological change related to digitalisation will further reduce barriers to trade in services.

This has led some commentators to assert that globalisation is not dead but is simply transforming. Similarly, if the export-led model of old is dead or dying, then it may be superseded by one in which the composition and the pattern of trade changes, but not its role or importance. The composition will shift away from goods towards services while the pattern of trade will be determined less by efficiency and more by geopolitical factors.

Recent research by the World Bank and the IMF warns that the trend of premature deindustrialisation and the spread of automation and digital technologies has made the traditional development model of export-led manufacturing seen in East Asia less viable for developing countries to replicate in the future. The World Bank study goes so far as to suggest that a services-led export model is the only alternative for developing countries. While debate continues on the respective roles that services and manufacturing play in different developing economies, there is growing agreement that diversification must increase within, not just between, these sectors.

Rapid growth in digital trade is related to this compositional shift towards services. Digital trade did not exist when the trade slowdown started two decades ago. It is rapidly evolving to include trade in digital goods and services, digitally ordered goods and services and digitally delivered services. Digitalisation increases the scale, scope and speed of trade. It will affect assessment of the viability of the export-led model in at least three ways.

First, digital goods and services

are likely to make up most future trade growth, while digitalisation will facilitate future services trade growth. Second, reported statistics on trade may underestimate the true volume of digital trade, given a host of measurement difficulties. As the most rapidly growing component of trade, some of which is in place of conventional trade flows, the underestimation of digital trade volume may have significantly exaggerated the extent of the trade growth slowdown.

Third, many of the barriers that inhibit goods trade in developed countries do not apply to services trade, accounting for its rapid growth, while the increasing use of the digital medium enhances the ability of traders to circumvent existing barriers, reducing the effectiveness of protectionist policies. New technologies and business models are challenging the way that international trade and investment policy is made. As far as the performance of the export-led model is concerned, the above factors suggest that trade may be growing a lot faster than statistics suggest, and further that this trend is only likely to increase.

THERE are several reasons why the export-led model is unlikely to die anytime soon. Though the shift towards embracing industrial policy may represent more than a transitory phenomenon in the United States, the fact that Washington's security-driven trade policy has favoured friend-shoring and near-shoring more than reshoring implies a change in the pattern rather than the volume of trade. Such policies have so far favoured countries which have FTAs with the United States, especially USMCA countries, at the expense of China and ASEAN member states.

This could change if Indo-Pacific Economic Framework members succeed with efforts to improve market access provisions, or if attempts by ASEAN countries like Indonesia and the Philippines to sign limited FTAs for critical minerals materialise. Japan's recent foray into industrial policy is also aimed at reducing reliance on imports from China, by offering incentives to its firms to relocate their imports to ASEAN countries though with relatively limited impact so far.

Again, this will mainly change the pattern rather than the significance of trade. Similarly, the rapid growth in digital trade is altering the product composition of trade, as new digital goods and services are traded and modes of delivery change. To the extent that these changes affect volumes of trade, the trade statistics probably underestimate their true significance given measurement difficulties that lead to under-reporting.

The main reason why the export-led model is likely to survive, in one form or the other, is the region's long-standing commitment to free and open trade, which has facilitated massive economic transformation and social progress. This experience cannot be denied, overlooked or forgotten. The growth and spread of supply chains in the region has underpinned its economic success and is largely irreversible.

There is evidence that this commitment is still present. Recently, Malaysia decided to remove price controls and subsidies on sensitive agricultural products, while reiterating its commitment to openness. Malaysia had questioned the need to return to pre-pandemic levels of dependence on foreign workers deemed critical to retaining the competitiveness of its tradable goods sector. But pragmatism

has trumped nationalism and the policy of openness to such flows has been reinstated.

The Philippines has removed the long-standing and controversial foreign equity limitation on public services, allowing 100 per cent foreign ownership in all public service sectors outside of public utilities, but including railways and airports.

These are indicators of the region's commitment to openness, reaffirming its openness credentials even during uncertain times when the temptation to turn inward is at its highest. The ASEAN-led Regional Comprehensive Economic Partnership initiative with its open rules of origin at a time of global pressures against liberalisation is another credential.

If there is a risk to the export-led model, then it is likely to come from outside rather than within the region. But whether the region's long-standing commitment to openness will be sufficient to withstand the disruption from a sharp escalation in geopolitical tensions that leads to fragmentation remains the primary challenge. **EAFQ**

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