Building Up Competitiveness and the G7's Infrastructure Ambitions



Essays by: Michele Acciaro, Bart W. Édes, Stephen Ezell, John W. Fowler, Shihoko Goto, Kelsey Harpham, Kent Hughes, Shelby Lauter, John H. Matthews, Ingrid Timboe GEOECONOMICS AND INDO-PACIFIC ENTERPRISE INITIATIVE

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e purpose of this publication is to identify some of the areas for coop

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Aligning the G7's Strategic Interests and the Indo-Paci c's Infrastructure Needs

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Kent Hughes is a Public Policy Fellow at the Wilson Center and a IRUPHU 3UHVLGHQW RI WKH & RXQFLO RQ & RPSHWLWL Deputy Secretary of Commerce. At their meeting in June 2022, the G7 countries announced the Partnership for Global Infrastructure and Investment focused on the infrastructure

aid economic resilience. e concern is heightened when countries-are depen dent on a potential adversary. e Indo-Paci c is already attracting interna tional investments by G7 countries as they seek a more diverse supply chain. Investments in traditional and modern infrastructure will contribute to the e ectiveness of diversi ed supply chains.

e United States is committed to providing one-third of the total GDP to the tune of \$200 billion, which will be spent over the next ve years through grants and federal nancing.

Part of Washington's strategy is to encourage more private investments into projects as the G7 countries step up their commitment to infrastrnePhe these in turn will hurt innovation and competitiveness. At the same time, the talent dearth is seen across the board in all countries, and calls for more funding not only for research, but also to grow talent focused on the semiconductor industry from the ground up at universities in addition to providing nancial incentives to attract the best and brightest.

Yet semiconductors are hardly alone in requiring more funding and coor dinated support from the G7. Investing in water resources too is highlighted by John Matthews, Ingrid Timboe, and Kelsey Harpham of the Alliance for Global Water Adaptation. In Water as a Resilience Multiplier and an Inclusive Indo-Pacithey note that access to water, containing water, and risks posed by water as a destructive force due to climate change continue to rise rapidly. e authors call for greater awareness of the need for water resilience in the Indo-Paci c that can ultimately lead to greater social as well as economic security.

Even the best of strategies, however, cannot be put into action-without ad equate nancing. In International Financial Institutions and the In astructure Financing Gapart Édes of Canada's Asia Paci c Foundation points out that the G7's ambitious plan to boosting infrastructure nancing in developing countries cannot be donentott3 outsoonaet38(c)4.n ulsquavfiwevel6 nru

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States, commitments have been made not only to fund infrastructure, but Washington has also shown a renewed commitment to investments in re

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The June announcement of the Group of Seven's (G7) Partnership for Global Infrastructure and Investment (PGII) relects the shared urgency to secure global supply chains and compete with China's ambitious Belt and Road Initiative; importantly, it provides the nancial momentum to actually do so. Intended for low- and middle-income countries, the investment funds establish global supply chain resiliency as a top priority, alongside the expan sion of open trade and enhancement of national and regional security. How this investment will impact critical infrastructure and the semiconductor in dustry remains to be seen, but as a key arena for manufacturing, assembly, and testing, the Indo-Paci c region should be central to the G7's strategy.

While the PGII pledged over \$600 billion in sustainable infrastructure development, the announcement provided few details on where and how the money will be spents brie ng recommends more than 20 ways to invest in the semiconductor supply chain and o ers approaches for greater G7 coor dination that extends beyond nancial support. rough coordinated semi conductor innovation, ecosystem development, technology protections, talent expansion, and trade liberalization, the G7 can aid the region's industries, im prove supply chain resiliency, and build strategic in uence in the Indo-Paci c.

An Integrated and Costly Semiconductor Industry

e semiconductor industry is one of the world's most highly complex and in tegrated industries, enabling rapid leaps in technological development on one hand, while creating several points of vulnerability on the other. e global semiconductor network's reliance on free trade to transfer products, intellectual property (IP), and other goods re ects one such dependency. e Semiconductor Industry Association identi ed the following additional vulnerabilities threat ening semiconductor supply: geographic concentration of manufacturing, de sign, and other production; geopolitical tensions leading to security threats and material shortages; protectionist trade policies; talent shortages; and a lack of

new research funding.

A Coordinated G7 Strategy

e complexities and prohibitive costs of manufacturing necessitate an allied approach to strengthening the supply ⁷c**Beiyo**nd the nancial support of the PGII, G7 nations should engage Indo-Paci c nations, of which there is some overlap, in a dialogue that seeks cooperative agreements and a-shared under standing of extant threats in the supply chain. rough coordinated technology development, ecosystem support, and technology protections, G7 leaders can comprehensively bolster the semiconductor industry in the Indo-Paci c.

Technology Development

To augment future technological innovations, G7 leaders must invest in ad vanced manufacturing cooperation and collaborative, pre-competitive R&D. Funding should be targeted to encourage reciprocal R&D agreements and integrated research partnerships among universities, private institutions, government agencies, and public-private associations. A key vulnerability at certain points of the supply chain is the high degree of geographic specializa tion, which can lead to bottlenecks and other disruptions. In fact, the Boston Consulting Group has identi ed more than 50 points of high geographical concentration across the supply chain where one single region accounts for over 65 percent of the market share at a certain point in the semiconductor supply chain. To start, channel investments where infrastructure already exists. For instance, G7 funds could go toward existing design rms in India or manufacturing hubs in S6 (sa)]TJ1nts 6 (e a)oxuurck8r.4 (t)-5.9 0 (d)-36 (u)3

and engineering programs, particularly at the graduate level. Further, immi gration laws must facilitate the ow of global talent and ensure that education programs are able to attract international students.

Yet, if G7 leaders truly want to evade the worst threats of the talent short age, they must think outside of the typical boxes of education investments and changes to immigration law. Further, the talent pipeline must be addressed comprehensively, not just at the levels of training and recruitment. Some ideas for an unconventional G7 talent strategy could involve the following:

- Targeted education for impactivestment in education and training centers could be targeted to match national competencies and strengths for example, education investment in Japan could emphasize silicon and semiconductor manufacturing equipmeistapproach would ensure simultaneously diverse yet complementary training that strategically prepares workers throughout the industry. Another opportunity for targeted programs could be to accelerate training in speci c technical areas where the need is greatest. In such cases, governments should work with the private sector and universities to identify and II training gaps.
- A competitive recruitment and engagement pleabundance of so ware and consumer technology jobs creates signi cant talent pool competition. In order to compete for high-skilled workers, G7 nations need an engaging recruitment plan that attracts applicants through e ective marketing and branding and matches recent graduates with relevant work based on skills and interests. e marketing strategy, in particular, is key to recruiting diverse candidates. By communicating the tremendous impact of semiconductors in everyday life, as well as the scope of specialties and room for growth in the semiconductor industry, the marketing plan could engage new applicants who would otherwise enter adjacent eld[®].

¹⁹ Semi village

²⁰ Loh LaCroix, 2021.

- Train for crisis management climate and health crises of the last two years are not isolated events; rather, crises will inevitably grow worse and become more disruptive. Supply chain resiliency requires a exible workforce that can adapt to unforeseen challenges and crises, whether they be climate-related, political, or global health-related. Training for crisis management should involve predictive analysis instruction and cross-functional training, as duties are likely to shi in a time of crisis. In order to navigate crises, the semiconductor workforce must be agile, exible, and alert to new challenges.
- Upskill current talentInvestment must be made throughout the talent pipeline, including current talent. Upskilling workers is important for adapting to new technologies and, even more so, is crucial for talent retention. Nurturing current talent ensures comprehensive reinforcement of the talent supply chain at all stages.
- More exible industryEmployees in the semiconductor industry report lower worker satisfaction levels than those of other tech companie³. is nding clearly poses retention challenges, but when taken together with other trends in the employment market, it signals the need for the industry to change its workstyle, particularly with regard to worker exibility. Elsewhere in the tech market, employees are still able to work from home, a pandemic practice that appeals to many who do not wish to return to the o ce or to relocate, if needed. Some parts of the industry are also seen as more attractive than others due to real and perceived di erences in compensation, bene ts, and career opportunities. Improving talent pipelines will ultimately require more exible o ces and attractive bene ts in order to compete.

²¹ Ondrej Burkacky, Ulrike Kingsbury, Andrea Pedroni, Guilietta Poltronieri, Matt Schrimper, and Brooke Weddle, "How semiconductor makers can turn a talent challenge into a competitive advantage," McKinsey & Company, September 7, 2022, https://www.mckinsey.com/our-insights/ how-semiconductor-makers-can-turn-a-talent-challenge-into-a-competitive-advantage.

billion in global economic growth over 10² y exatts. the adoption of a socalled ITA-3, signatory countries could also spur deeper participation in global value chains and faster adoption of new ICT technologies, the impact of which could have tremendous ripple e ects throughout the semiconductor industry.

Multiple and Multi-layered Alignments

Lastly, G7 nations could raise the e ciency of the Indo-Paci c's multiple and multi-layered national alignments. As a very large and diverse region, varying geopolitical, national, and economic interests compel the formation of many alliances. However, the presence of distinct yet sometimes overlap CHAPTER THREE

e Challenge to Cultivate Global Semiconductor Talent

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Backend manufacturing begins by slicing the wafers produced in the frontend processes into individual chips and then assembled and packaged into protective plastic or ceramic frames and encased in a resin shell to be come usable in electronic devices. Finally, the chips are thoroughly tested to determine their operating characteristics, such as the speed for-a micropro cessor. While backend processing requires sophisticated equipment, it is not as capital-intensive as the frontend. Backend processing does not require the same level of highly treD9800.6 (e1.3 (v)-15.3 (i)7 (c)-0.6 (e)-8.1 (s)-15.5 (. F(s

Part of the problem for Taiwan is the fact that the over 3,000 engineers and corporate leaders from Taiwan have accepted employment in China. response, the second thing that the Taiwanese government has done is to tell recruiting rms to remove listings for high-tech positions based in China.

ose rms that violate this rule will be subject to nes and those nes will be greatest for those job openings in the semiconductor industry. It should be noted that this is also a signal to the US that Taiwan views China as a major threat.

Growing South Korea's tech talent

e South Korean semiconductor industry is faced with a signi cant talent

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China has set a target of 2035 to be fully self-su cient in tecR⁰ lay d2035 some believe that they will lead the global semiconductor industry by 2030 due to its growing market size and domestic production ²cd party. though China plans to invest about US\$150 billion by 2030 to ramp up its semiconductor manufacturing capacity, the biggest obstacle to achieving self-su ciency is not funding, but is a chronic shortage of **talena** reportedly needs 400,000 more semiconductor employees to meet its goals. ²³ China's biggest talent challenge is the need for chip manufacturing talent. Even though China has numerous excellent universities that turn out a sig ni cant number of graduates with advanced degrees in microelectronics and communications, they su er the same issue faced by their competitors—many of the top graduates prefer to go to work for internet Imast dition, they need engineers with practical work and leadership experience as they try to close the gap on their competition.

China has reacted to the current and future talent shortage by doing what most of their competitors have done. ey have established integrated cir cuit schools at two of the top Chinese universities: Tsinghua University and Peking University. ese new schools will provide the students with classroom knowledge and hands-on experience. e Chinese government has given tax breaks, incentives, and subsidies to Chinese semiconductor companies to scale up production. Chinese companies have been increasing wages for their key semiconductor talent which has resulted in a somewhat larger number of Chinese students who studied abroad (mainly the US) returning to their

²⁰ Gaikwad, Sumeet, "Opportunities with China's semiconductor push", Asia Fund Managers, July 18, 2022, https://www.asiafundmanagers.com/us/opportunities-with-chinas-semiconductor-push/.

²¹ Williams, Lara, "China will lead the global semiconductor industry by 2030 due to its growing market size and domestic production capacity", Investment Monitor, July 25, 2022, https://www.investmentmonitor. ai/analysis/china-lead-global-semiconductor-growth-2030.

²² u, Tracy, "China's semiconductor talent shortage poses biggest obstacle to Beijing's chip self-su ciency ambitions, SMIC founder says", South China Morning Great ber 18, 2021, https://www.scmp.com/ tech/tech-war/article/3156576/chinas-semiconductor-talent-shortage-poses-biggest-obstacle-beijings.

CHAPTER FOUR

Water as a Resilience Multiplier for an Inclusive Indo-Paci c

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n concluding the September 2021 uad meeting with the heads of India, Australia, and Japan, President <u>Biden proclainate</u> the future of each of our nations—and indeed the free world—depends on a free and open Indo-Paci c enduring and ourishing in the coming decades." As the world's most dynamic and populous region, the Indo-Paci c is full of potential, but it is not without its challenges. Almost all of the Indo-Paci c nation<u>si loave</u> " hydrologies Jakarta through subsidence. In rural areas, expanded groundwater pumping has increased the feasibility of irrigated agriculture, which has an-overall posi tive e ect on food security in the short term. Such pumping is almost uni versally unregulated and has led to wide<u>spread</u> overex**straction**es exacerbated with "clean" solar-fueled pumps. As groundwater o en provides a back-up source of water during periods of surface water scarcity, the loss of these aquifers is particularly alarming and may produce the perverse result of undermining food security over the medium to long term.

Increased water-related climate ULVNVIRU,QGR 3DFL"F QDWLRQV

Most of the region is already highly explore water related climate risks including melting glaciers, more frequent and intense typhoons or cyclones, sea level rise, and more powerful droughts. Such risks a ect the ability of water service providers to maintain reliable and pro table operations; these challenges for water services are only increasing. According to a recent OECD report, in order to meet their sustainable development targets under SDG 6, most Indo-Paci c countries will need to allocate between 1 and 2 percent of their GDP on water supply and sanitation infrastructure over the next decade. Given that most water infrastructure is designed to last for y years or more, uncertainty about future climate is a serious threat to planning and designing resilient infrastructure. Many countries may in e ect be investing in designs and systems that are outdated at the time that they launch operations because they depend on a traditional and widespread past-predicts-the-future plan ning methodologies.

Moving Beyond Crisis: Developing Systemic Solutions for Systemic Threats

Water resilience must be a key part of ensuring the future growth of the Indo-Paci c, and water resilience must also be integral to the strategy to promote sustainable growth. Most water interventions by donor countries have focused on traditional WASH (water sanitation, hygiene, and health) projects, such as expanding urban water utilities or provisioning rural household clean water programs. ese programs will remain regionally important and indeed have expanded through internal investment processes, such as India's aggressive en gagement with SDG 6. Water resilience, however, is an approach that seeks to transform sector- and ministry-speci c programs designed to expand spe ci c areas of growth, such as energy generation capacity, to de ning the water linkagesbetween sectors and ensuring that these programs are invested with attention to the potential synergies and con icts. Recognizing the transfor mative, disruptive role of climate change is central to water resilience.

Water resilience assumes three factors, namely:

- Climate change is a new and unfamiliar disruptive force that will in uence the region in profound ways for at least decades to come. While the existing political and economic systems are designed for a "stationary" (i.e., xed) climate, climate change is rapidly stranding infrastructure, governance, and policy agreements as o en unspoken assumptions about "normal" climate conditions are profoundly violated. Climate change is, in e ect, a profound threat multiplier.
- 2. Water is arguably the medium of most negative climate inappacts many of these impacts are challenging to predict with the accuracy necessary for traditional planning, design, and operational functions.
- 3. Infrastructure for energy production, data processing, storage, transportation, manufacturing, clean water, and the food system last over climate-relevant lifespansinging from a few decades to a century or longer, but they are not designed for the range of climate conditions they will face over these periods. While existing infrastructure and policy

systems are declining in functionality as a result of essentially unforeseen climate impacts, new investments and approaches remain unlikely to go beyond de-risking a narrow set of climate imp**as**tsnew

and the threat of increasingly extreme pluvial ood events, in addition to un precedented wild res and exceptional heat that stresses the state's energy sys tem. Many of these issues have resonance throughout the Indo-Paci c.

Newsom's essential focus, beginning with **a x201(b**) ve orderhas been to reorient state agencies to water resilience. Beginning in August 2022, Newsom announced a new state watethalatransitions state policies and program way from a scarcity mind-set to one more of abundance." at is, how can the state radically adapt to emerging climate conditions, especially around water scarcity, in ways that can actually fuel prosperity and attract ad ditional social and capital investment? If climate change is a threat multiplier, C.6 (a)-20.1 .6 (a)-20.1 6/.1 (r)27 (,)].333 Td [((t)2.4 (,)]TJ /T1_0 c -0.0i)-15.2 (n NDCs de ned a new class of national level climate planners (NDC focal points) who report national climate ambitions to the global community.

e processes of stakeholder engagement expand the set of criteria used to determine project success (e.g., quality of life, ecological resilience) and also reinforce inclusive, equitable growth through such methods as "shared vision planning." e US made this transition with groups such as the US Army Corps of Engineers decades ago and is well placed to facilitate capacity building. Such bottom-up approaches strengthen civil society, transparency, and democratic processes but o en require some transition support from more experienced external actors for technical and senior decision makers. Expanding support for initiatives such as the e Coalition for Disaster Resilient Infrastructure (CDRI) and its Infrastructure for Resilient Island States (IRIS) project or the USAID and Australia Mekong Safeguards Program (Mekong Safeguards) is one way to support transparent, locally developed infrastructure invest ments. Adopting existing tools and frameworks for bottom-up infrastruc ture development such as the World Bank's Decision and the World B the Asian Development Bank's recent water resilience guidance UNESCO's Climate Risk Informed Decision Analysis (CRIDA) may also be bene cial.

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nature-based solution (snowpack) to another (aquifers). ese approaches could be transformative in much of southern Asia and, potentially, in island regions as well.

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Road Initiative, which continues to prometen nocratic, incremental, and industry-oriented approaches to development. e events of the past two years have clearly demonstrated that the challenges facing the region can not be e ectively addressed with incremental change. CHAPTER FIVE

e G7 Challenge in Facing China's Infrastructure Ambitions

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approach has o en improved living conditions and economic growth, but in recent decades, development assistance projects have also been seen to favor Western businesses in general. Assistance has o en followed patterns reminiscent of old colonial areas of in uence, and has increasingly attached conditions to funding aimed at advancing the regional political agendas of European countries, such as reducing migration, and in North America, try ing to counteract global terrorism.

From the COVID-19 pandemic to international terrorism and cross-bor der migration, many of the truly destabilizing phenomena of modern times are global in nature. ese challenges have highlighted the limitations of global institutions and have come under scrutiny from some quarters as being sources of instability themselves. e traditional approach towards managing risk and instability has been that of prevention, cooperation and strengthen ing democratic institutions. However, this approach has not been able to pre vent crises that have unfolded rapidly or that involved territories that were peripheral to global reach, either because they are situated in failed states, or in marginalised economies, or under the control of countries that are placed outside of the main multilateral collaboration.

e climate crisis is a clear example where developing an approach to a global challenge that most likely will a ect developing economies dispropor tionately has been met with resistance o en speci cally by those economies that are to bene t the most from such approach. e reasons for the limited success of multilateral approaches to ght the climate crisis are multifaceted. A common denominator is the decreasing willingness of the political elites in developing economies to accept policies driven by a western political agenda, which can be seen as the result of the weakening hold of the global North on the global South. e role of multinationals has come under greater scrutiny too between the wealthiest and less prosperous nations.

At the same time, the strategic importance of Africa, Central, and South East Asian countries is increasing in view of the rebalancing of the geopolitical power towards the Indo-Paci c. As a bipolar world order crumbled with the collapse of the Soviet Union, a more fragmented, and arguably more balanced, world order is emerging, as the interests of countries that are not great powers are increasingly re ected. While a new form of multilateralism, where coun tapsew(ea)-29.8 .6 (u)-8.9 (c)-0.6 (e o7 (c i)-75.2 (i7(l)-4.5 (a)2.3.3 (o)0 (o)10.1

e overall project expanded over time, rst with the inclusion in 2013 of the Maritime Silk Road during a visit in Indonesia, then adding a wide array of projects to include the Northern Sea Route, and more recently, projects in Africa and South America. Initiatives are underway too to include cyberspace and outer space. e strategy did not, however, emerge in a vacuum, but is actually an extension of previous strategies, including the Great Western Development Strategy known as Open Up the West P, ragcathe Going Out Strategy (chuqu zhanlue $\leq \uparrow$ () aimed at incentivizing Chinse businesses to invest abroad. e project is complementary to(n)10.4 China globally, and increase control on peripheral provinces and neighbor ing countries. e diversity of the projects makes it di cult to see a coher ent pattern behind the investment, but it could be argued that the BRI is a long-term strategy to take advantage and create growth opportunities. In the minutes of the meeting of the Central Committee of the Communist Party of China from November 2013, o cials noted that will set up development oriented nancial institutions, accelerate the construction of in astructure con necting China with neighboring countries and regions, and work hard to build a Silk Road Economic Belt and a Maritime Silk Road to form a new pattern of all-around opportunities

Xi is the driving force of the BRI. At a Beijing forum in 2017, he referred to it as the project of the century and addedxbaafige will replace estrangement, mutual learning will replace clashes and coexistence will replace a sense of supe ity". Beyond the humanistic objectives of the project, it is clear that the BRI is rst and foremost a project to the bene t of China. is is summarized in the words of China's vice-minister for foreign a airs, Le Yucheng in a 2018 inter view to the Financial Timtes of want to get rich, build road's rst

e main impact of the BRI has been felt in the Indo-Paci c, particularly in countries bordering China, such as Vietnam, Myanmar, Pakistan, and Kazakhstan. At rst glance, the model adopted so far does not seem to be characterized by a coherent vision, but more by an opportunistic investment policy. Rather than completing a prede ned puzzle, the Chinese investment plan makes one think more of a mosaic image, whose nal design, made up of the various infrastructure 'tiles', only makes sense in a long-term vision. On closer examination, however, one realizes that to understand the BRI it is necessary to abstract from a cost-bene t analysis of a single project, from the perspective of global industrial policy, with important geopolitical and eco

in uence that Beijing seems to be eager to command, have been sources of concern for EU policy makers.

Investment in maritime infrastructure in Europe, that included ports such as Piraeus, in Greece, Zeebrugge in Belgium, and Vado Ligure in Italy have been seen as particularly controversial part of the BRI strategy. e decision by the Italian government in early 2022, to openly support the BRI has in creased tension among EU members. Italy is also the rst G7 country to do so as well. For China, Italian support for BRI was a great win on the inter national stage, and from the perspective of the Italian government it was an opportunity hard to miss. As Bruno Maçães argued in a recent opinion piece: " e game gets even more interesting once you realize that EU states can use th China lever to reopen contro ersial European issues, going far beyond bilatera economic flèsBut beyond the political dimension of the maritime-compo nent of the BRI in Europe, there is a need to understand the role-Chinese in vestments play in developing European ports is only part of a broader strategy that has its focus on Southeast Asia.

e Maritime Silk Road resulted in several controversial port projects in the Indo-Paci c that made European countries disdainful if not even suspi cious of Chinese investment in Europe. In particular some project appeared of little economic potential such as the port of Kyaukpyu in Myanmar, or even debt traps, as in the case of Sri Lanka's port of Hambantota.

e lack of commercial activity made it impossible for the port's opera tors to repay debts to China, and the port was handed over to China in 2017 on a 99-year lease. Meanwhile, ballooning costs associated with the China Pakistan Economic Corridor that includes expansions in the port of Gwadar, is now under Chinese operation for 40 years through a build-operate-transfer agreement. ere are others deals and investment0.6 (s)-5.perep

such activities will materialise in concrete projects. How private interests will be negotiated with the priorities set up in the Partnership for Global Infrastructure and Investment and the EU strategy for cooperation in the Indo-Paci c are only some of the issues which will need to be addressed moving forward. Uncertainty is a major concern to the success of such ambit tious initiatives, and with elections going on in various countries in Europe and the mid-term elections planned in the USA for November 2023, priori ties in relation to the Indo-Paci c might need to be revisited. China might be awaiting the most propitious moment to provide its strategic response to

International Financial Institutions Key to Meet the Infrastructure Financing Gap

Bart W. Édes LV D 'LVWLQJXLVKHG)HOORZ DW WKH \$VLD RI & DQDGD DQG D 3URIHVVRU RI 3UDFWLFH DW 0F*LO IRU WKH 6WXG\ RI ,QWHUQDWLRQDO 'HYHORSPHQW + 1RUWK \$PHULFDQ 5HSUHVHQWDWLYH RI WKH \$VLDQ 'H in Washington, D.C. At the June 2022 G7 summit, leaders from the world's richest countries announced the launch of the Partnership for Global Infrastructure and Investment (PGII) to mobilize up \$600 billion in public and private in vestments by 2027. e goal was to meet the infrastructure needs of low- and middle-income countries, and the Biden administration declared it would o er one-third of the mobilized amount through grants, federal nancing, and private sector investments.

e White House memorandumset forth the administration's approach to executing PGII, highlighting infrastructure-related priorities that "will be especially critical for robust development in the coming decades: climate and energy security, digital connectivity, health and health security, and gender equality and equity."

In their joint communiqué, G7 leaders recognized the role multilateral de velopment banks (MDBs) play in leveraging private capital in particular. e new G7 resource mobilization e ort envisions joint action with the MDBs and other nancing institutions to consolidate a pipeline of bankable proj ects, improve project preparation capabilities, and align support for policy and regulatory frameworks for sustainable infrastructure investments.

As international nancial institutions, the MDBs provide loans and grants as well as technical assistance and policy advice- to low-income and middleincome countries to promote economic and social development. ese institu tions allow donor nations including G7 countries to share the cost of develop ment interventions. MDBs are able to provide aid on a larger scale than many development cooperation agencies operated by individual countries such as USAID and Germany's GIZ.

e MDBs also set high standards for projects when it comes to environ mental, social, and governance issues. ey can act as a force multiplier too by crowding in nancing from other public and private nance institutions when preparing loans for major infrastructure projects. MDBs also seriously consider a country's debt burden before approving loans (something not done by China in its overseas lending). In short, they promote high quality and sus tainable infrastructure development in ways that complement and reinforce the PGII's objectives.

¹ https://pm.gc.ca/en/news/statements/2022/06/28/g7-leaders-communique

e Biden administration has directed the U.S. Secretary of the Treasury to consult with other federal o cials to develop a plan for engaging the MDBs to promote investment and increase private-capital mobilization for low- and middle-income countries, and coordinate with like-minded partners in the plan's execution. In addition, White House has pushed for the chief executive of the U.S. Development Finance Corporation "to develop a plan to enhance engagement with national and international development nance institutions," including MDBs, to mobilize private capital. ese plans must propose actions to facilitate commercial nancing to developing countries.

All G7 countries are shareholders in the major MDBs, namely the African Development Bank (AfDB); Asian Development Bank (ADB); European Bank for Reconstruction and Development (EBRD); Inter-American Development Bank (IDB); and the World Bank. Collectively, the G7 mem bers, together with other traditional donor countries such as Australia and several Western European countries hold a large share in the MDBs. ey entrust these institutions with large sums of capital for use in tackling eco nomic, social, and environmental challenges in the developing world. G7 countries played a key role in raising \$93 billion for the most recent cycle of the International Development Assocrationassist the world's poorest countries to boost their economies and support their populations in the midst of multiple crises.

Given their substantial shareholdings in the MDBs, G7 countries can exert considerable in uence on the decisions on MDB boards of governors and di rectors, particularly when they work in concert on shared interests. e MDBs are very well placed to advance progress on the key infrastructure-related pri orities identi ed by the Biden administration in the context of the PGII and its focus on key issues including energy security, climate risks, digital connec tivity, health and health security, and gender equality).

Climate change is a good example of multilateral consensus and coopera tion. Eight leading MDBs committed \$66 billion for climate nance in 2020. is gure was complemented by \$85 billion in co- nancing from public and

² e International Development Association, more commonly known as "IDA", is the part of the World Bank Group that provides development assistance to poor countries. It provides zero to low-interest loans and grants to these countries for projects and programs to increase economic growth, reduce inequalities, and raise living standards.

private sources. e MDBs have substantially boosted their funding of cli mate adaptation and mitigation projects in recent years, and have identi ed climate action as a priority in their plans for the coming years." e ADB has teamed up with the Green Climate Fund to support the ASEAN Catalytic Green Finance Facility, which aims to mobilize more than \$4 billion in public and private nancing for green infrastructure projects across Southeast Asia. e bank has also partnered with other international donors to provide nancing for the restoration, conservation and management of coral reefs in Fiji, Indonesia, the Philippines and the Solomon Islands.

Knowledge, and Strategies to Meet This Critical Challenge

On energy security, the MDBs have long been major funders of energy proj ects and have increasingly promoted renewable energy in their portfolios. For example, the ADB recently approved a \$600 million loan to Indonesia's state-owned power company to improve the reliability and resiliency of elec tricity services on the island of Java, and to promote the use of clean energy. e EBRD has put together a \$74 million nancing package to construct the largest renewable project in Central Asia, a green eld wind power plant in the Navoi region of Uzbekistan.

e ADB, Japan International Cooperation Agency, and the International Finance Corporation, the private sector arm of the World Bank Group, are among those contributing funds to the Uzbek project. e EBRD has also brought in Natixis, a leading French corporate and investment bank, provid ing a recent example of how the MDBs generate project co- nancing from the private sector.

e MDBs are also investing to promote digital connectivity, as high lighted in a joint repoptublished earlier this year by ve MDBs. e report observes that "MDBs have assisted developing economies to adopt new digi tal technologies and harmonized procedures and practices to expand trade; represented a ve-fold increase in digital infrastructure commitments by the institution over the past ve years.

MDBs have traditionally provided much more nancing for hard, physi cal infrastructure projects than projects in the social sectors. But these institutions have typically responded with robust lending and grant packages in the wake of health emergencies, as has been the case during the COVID-19 pandemic. For example, nancing for health accounted for around 3 percent of the ADB's total commitments 2019. In 2021, the share of health com mitments soared to about one-quarter of the bank's business. Although the Manila-based(-)8.6 (b)0.6 (a)-20.6 (s)-s12736 (, t)-13.3-17.6-6 (m)mc-13.3-13he

With growing attention to environmental, social and governance consider ations and limited room for growth in mature markets, institutional investors are open to increasing their exposure to large infrastructure projects in more challenging country contexts, so long as the conditions are right. One thing that MDBs could do is adopt more pooled investment approaches to diversify risk. New nancial products could be introduced to cater to the varying risk appetites of di erent institutional investors.

e Organization for Economic Cooperation and Developmented as ommended several actions to mobilize institutional investors for sustainable development. Among them: make investment regulations more exible in countries hosting sizable pension funds and insurance companies, encourage greater institutional asset allocation towards developing countries, increase availability and incentives for blended nance to reduce deal risk, and en hance transparency of asset distribution by institutional investors.

Given their decades of experience in preparing and nancing-infrastruc ture projects in developing countries, the MDBs are natural partners for in stitutional investors seeking to diversify their investments toward what they consider more frontier and emerging markets (as shown by the IFC example). G7 countries should take a more active role in promoting and facilitating co operation between the MDBs and institutional investors.

Improve Use of Existing MDB Capital

e way that MDBs are structured and operate, and the high credit ratings of their sovereign shareholders, enable these institutions to borrow from world capital markets at comparatively low rates. MDBs use the relatively cheap funds generated through bond issues to on-lend to borrowing governments at lower rates than those governments could access on their own. Leading credit rating agencies continue to award the MDBs very high ratings because they maintain low risk pro les. (MDBs also rely on member contributions, earn ings from lending operations, and repayment of loans).

MDBs are intent on keeping these high ratings (typically AAA), and thus operate in a very conservative fashion. ey keep relatively high levels of capital, which sacri ces room for further lending to support critical development

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related crises translates into an eventual need for more resources at these and other MDBs. e AsDB and EBRD have not seen a general capital increase in over a decade.

Earlier this year, the boards of governors at IDB and its private sector arm, IDB Invest, mandated a proposal for a capital increase for IDB Invest. is would be accompanied by changes in the way that IDB Invest operates. e envisioned new model for IDB Invest involves the origination of projects with greater impact, more de-risking of private sector investment, and the use of new nancial and technical tools to mobilize capital. is planned move should provide inspiration for capital increases at other MDBs, including at ADB and EBRD, which operate in an environment of growing expectations.

Climate change presents a serious threat to sustainable development, and the e ort to tackle it will be won or lost in Asia given the continent's enor mous population and booming economies. It is thus critical that ADB's share holders provide the institution with more resources to leverage in supporting low- and midlle-income countries in the adoption of climate adaptation and mitigation measures. e EBRD is likely be called upon to ramp up-its invest ment in the Ukraine to help that war-ravaged state rebuild and modernize a er its ongoing war with Russia. Discussions should begin now on capn(s)-15.5

