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The "One Belt, One Road" Initiative as Regional Public Good: Opportunities and Risks

INTRODUCTION

Economies benefit from quality infrastructure investment.[1] The World Bank developed a rule of thumb for a stimulation effect on economic growth arising from infrastructure investment—"[t]urning a $1 grant into $2 income."[2] That is, each dollar invested in transportation, energy, and residential infrastructure may generate a multiple expansion of output.[3] Generally, infrastructure investment promotes a "multiplier effect"[4]—an increase in spending of 1% of the GDP runs a multiplier effect as high as two and a half times more in three years.[5] However, the multiplier effect varies in different countries and in different sectors.[6] Empirical studies show that investment in infrastructure prior to the subprime crisis played a mainly positive role in China's economic growth.[7] For example, when testing provincial panel data from 1993 to 2004, the numbers show that transport investments created spatial spillover effects[8] on provincial economic growth, including both positive spatial clustering in developed eastern coast regions and negative spatial spillovers such as pollution.[9] Further

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1 Quality infrastructure investment is positively related to sustainable growth and development, economic efficiency, as well as environmental, social, and governance integration. *See* MINISTRY OF FIN. JAPAN, G20 PRINCIPLES FOR QUALITY INFRASTRUCTURE INVESTMENT 1, https://www.mof.go.jp/english/international_policy/convention/g20/annex6_1.pdf.

2 JOSEPH HANLON ET AL., JUST GIVE MONEY TO THE POOR: THE DEVELOPMENT REVOLUTION FROM THE GLOBAL SOUTH (2010).

3 David Alan Aschauer, *Is Public Expenditure Productive?*, 23 J. MONETARY ECON. 177, 179 (1989).

4 The "multiplier effect" arises from the injection of new demand. That is, an injection in the circular flow of extra income creates more spending, which further generates more income, and so on. Thus, any new injection of spending leads to an increase in income. Conversely, a withdrawal or a leak from the circular flow results in a downward multiplier.

5 The multiplier effects of an increase in spending of 1% of GDP from 2015 to 2017 in the U.K., China, India, U.S., and Japan were 2.5%, 2.2%, 2.0%, 1.7%, and 1.5% respectively. *See* Abhishek Dangra, *The Missing Piece in India's Economic Growth Story: Robust Infrastructure*, S&P GLOBAL (Aug. 2, 2016), https://www.spglobal.com/en/research-insights/articles/the-missing-piece-in-indias-economic-growth-story-robust-infrastructure.

6 *See generally id.* at 14–23.

7 *See* Xueliang Zhang, *Transport Infrastructure, Spatial Spillover and Economic Growth: Evidence from China*, 3 FRONTIERS OF ECON. IN CHINA 585 (2008).

8 "Spillover effect" in economics means that an economic event in one context may have an impact on other events in a seemingly unrelated context. The spatial spillover effect concerns externality of the spillover effect. It can be either negative or positive.

9 Zhang, *supra* note 7.

research, based on data from all thirty-one provinces from 1998 to 2007, shows that investment in both land and water transportation infrastructure, especially in areas with poor land transport infrastructure, had positively contributed to economic growth.[10] Also, infrastructure facilitates trade.[11] Participating countries benefit from economic growth and actual profits through promoting both cross-border and regional trade, as well as developing industrial parks and social infrastructure, including schools, hospitals, and healthcare.

However, the positive effects of infrastructure investment should not be exaggerated because poorly managed construction projects negatively affect economic development.[12] Even in China, massive infrastructure investment resulted in a heavy debt load.[13] In fact, there is an ongoing debate over the relationship between China's economic growth and its strategy of obsessive infrastructure investment.[14] Moreover, some developing countries may suffer from financial risks and a heavy debt burden. For instance, two risky infrastructure investments include the $15 billion China-Uzbekistan investment transaction, which is almost equal to 25% of Uzbekistan's GDP,[15] and the $24 billion China-Bangladesh agreement signed in October of 2016, which is around 20% of Bangladesh's GDP.[16]

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10 Junjie Hong et al., *Transport Infrastructure and Regional Economic Growth: Evidence from China*, 38 FRONTIERS OF ECON. IN CHINA 737 (2011).

11 *See* Philippa Dee et al., *Trade Facilitation: What, Why, How, Where and When?*, *in* INFRASTRUCTURE AND TRADE IN ASIA 28 (Douglas H. Brooks & Jayant Menon eds., 2008).

12 Nicklas Garemo et al., *Megaprojects: The Good, the Bad, and the Better*, MCKINSEY & CO. (July 2015), https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/megaprojects-the-good-the-bad-and-the-better.

13 China used to believe that an annual growth in infrastructure investment of 15%–18% could generate 8% economic growth. It turns out that massive investment in unproductive projects results in a boom initially, and then becomes a drag on economic growth. Overinvestment in unproductive infrastructure also results in heavy debts and economic fragility. *See* Atif Ansar et al., *Does Infrastructure Investment Lead to Economic Growth or Economic Fragility? Evidence from China*, 32 OXFORD REV. OF ECON. POL'Y 360 (2016).

14 *See* Gabriel Wildau, *China Infrastructure Investment Model Under Fire*, FIN. TIMES (Sept. 11, 2016), https://www.ft.com/content/b1d9177c-7650-11e6-bf48-b372cdb1043a; *see also* Ravi Prasad, *Roads to Nowhere: Asia's Risky Obsession with Infrastructure*, THE DIPLOMAT (Jan. 9, 2018), https://thediplomat.com/2018/01/roads-to-nowhere-asias-risky-obsession-with-infrastructure/.

15 Dipanjan Roy Chaudhury, *UN Warns About Financial Risks in China's One Belt One Road Project*, THE ECON. TIMES (May 25, 2017), https://economictimes.indiatimes.com/news/defence/un-warns-about-financial-risks-in-chinas-one-belt-one-road-project/printarticle/58831087.cms.

16 *Id.*

Over the last few years, the Belt and Road Initiative (BRI) expanded the previous One Belt, One Road project (OBOR) to five routes. The "belt" in OBOR refers to the land routes for road and rail transportation, which is called the "Silk Road Economic Belt."[17] The "road" in OBOR refers to the sea routes or the "21st Century Maritime Silk Road."[18] The three other routes are the Polar Silk Road,[19] the Green Silk Road (since 2017),[20] and the Digital Silk Road (since 2018).[21] As a long-term development strategy, the BRI is scheduled from 2013 to approximately 2049.[22] The BRI involves three objectives: (1) exporting overcapacity, (2) exporting soft power, and (3) realizing RMB internationalization. The OBOR map is centered on China and expands in five directions—North line A, North line B, Middle line, South line, and Central line.[23]

In sum, this Article contains four parts. First, Part I, "Supply and Demand of Infrastructure Investment," maps the supply and demand of the Asian infrastructure market, the imbalance between supply and demand for infrastructure investment, and the landscape of competing development visions. Next, Part II, "OBOR's Opportunities," discusses OBOR's opportunities and spillover effects as a regional public good.

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17 The "Silk Road Economic Belt" is a framework of "bringing together China, Central Asia, Russia and Europe (the Baltic); linking China with the Persian Gulf and the Mediterranean Sea through Central Asia and West Asia; and connecting China with Southeast Asia, South Asia and the Indian Ocean." NAT'L DEV. AND REFORM COMM'N, MINISTRY OF FOREIGN AFFAIRS & MINISTRY OF COMMERCE OF CHINA, VISION AND ACTIONS ON JOINTLY BUILDING SILK ROAD ECONOMIC BELT AND 21ST-CENTURY MARITIME SILK ROAD (2015), http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html.

18 *Id.* The "Silk Road Economic Belt" aims to "go from China's coast to Europe through the South China Sea and the Indian Ocean in one route, and from China's coast through the South China Sea to the South Pacific in the other."

19 THE STATE COUNCIL OF CHINA, CHINA'S ARCTIC POLICY (2018), http://www.catl.org.cn/2018-02/02/content_50391577.htm.

20 The "Green Silk Road" was also proposed by Russia in the *Green Silk Road Initiative Declaration*, GREEN SILK ROAD NETWORK (Nov. 18, 2016), http://greensilkroad.net/declaration/. The first Green Silk Road Fund was launched in Beijing in March 2015. *See* Liu Qin, *China's New Silk Road Could Expand Asia's Deserts*, THE DIPLOMAT (Sept. 10, 2016), https://thediplomat.com/2016/09/chinas-new-silk-road-could-expand-asias-deserts/.

21 The Digital Silk Road is an investment of $200 billion USD. *See China's Talks of Building a 'Digital Silk Road*,*'* THE ECONOMIST (May 31, 2018), https://www.economist.com/china/2018/05/31/china-talks-of-building-a-digital-silk-road.

22 Jonathan E. Hillman, *How Big Is China's Belt and Road?*, CTR. FOR STRATEGIC & INT'L STUD. (Apr. 3, 2018), https://www.csis.org/analysis/how-big-chinas-belt-and-road.

23 *One Belt One Road Initiative*, TOP CHINA TRAVEL, https://www.topchinatravel.com/silk-road/one-belt-one-road.htm (last visited Nov. 11, 2019).

Then, Part III, "OBOR's Risks," analyzes the major risks among the aforementioned barriers to investment, including (a) sovereign and credit risks, (b) political and corruption risks, (c) foreign exchange risks, (d) limited product offerings and liquidity constraints, and (e) deal implementation risks. Recent cases show that developing countries may suffer from financial risks and a heavy debt burden. Moreover, geopolitical factors matter, too. In particular, I examine the different visions of the United States and China surrounding how the OBOR program affects the existing international economic order.

Finally, Part IV, "OBOR's Financial Risks and Case Study," examines OBOR countries' financial risks, Pakistan's rising debt distress in the case of the China-Pakistan Economic Corridor (CPEC), and China's financial risks as a BRI lender. I conclude by showing that developing quality, sustainable, and inclusive infrastructure is imperative for developing countries and emerging economies in Asia.

I
SUPPLY AND DEMAND OF INFRASTRUCTURE INVESTMENT

A. Asia – The World's Most Dynamic Region

As the world's most dynamic region, Asia delivers about 60% of global growth.[24] In 2016, Asia's entire gross domestic product (GDP) increased 5.8%. Moreover, Asia's GDP was expected to increase 5.7% in both 2017 and 2018.[25] To keep up with competition, countries should invest in economic infrastructure each year, ranging from 3% of GDP for developed economies to 9% or more of GDP for emerging economies.[26] In 2014 it was estimated that, to keep Asian countries competitive, they should invest between $800 billion to $1.3 trillion annually until 2020.[27]

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24 ASIAN DEV. BANK, EXPANDING ECONOMIES IN ASIA DELIVER 60% OF GLOBAL GROWTH (Apr. 6, 2017), https://www.adb.org/news/expanding-economies-asia-deliver-60-global-growth-adb.

25 ASIAN DEV. BANK, ASIAN DEVELOPMENT OUTLOOK 2017: TRANSCENDING THE MIDDLE-INCOME CHALLENGE xii (2017), https://www.adb.org/sites/default/files/publication/237761/ado-2017.pdf.

26 WORLD ECON. FORUM, STRATEGIC INFRASTRUCTURE: STEPS TO PRIORITIZE AND DELIVER INFRASTRUCTURE EFFECTIVELY AND EFFICIENTLY 3 (2012), https://www.weforum.org/reports/strategic-infrastructure-steps-prioritize-and-deliver-infrastructure-effectively-and-efficiently.

27 PRICEWATERHOUSECOOPERS LLP, DEVELOPING INFRASTRUCTURE IN ASIA PACIFIC: OUTLOOK, CHALLENGES AND SOLUTIONS 7 (2014), https://www.pwc.com/sg/en/capital-projects-infrastructure/assets/cpi-develop-infrastructure-in-ap-201405.pdf.

According to an early report from the Asian Development Bank (ADB), the estimated demand for infrastructure investment from 2010 to 2020, which included energy, transportation, water, sanitation, and telecommunications, was $776 billion each year: $747 billion for national infrastructure and $29 billion for regional infrastructure.[28] These investments involved over 1,200 regional infrastructure projects.[29] While many countries cut back spending on infrastructure after the 2008 financial crisis, a conservative estimate for infrastructure investment during the same period shows $8.3 trillion in new investment.[30] In 2017, the ADB raised its prediction of Asia's infrastructure needs to $22.6 trillion from 2016 to 2030, which is $1.5 trillion per year. Correspondingly, the climate-adjusted needs are estimated at $26.2 trillion, which is $1.7 trillion per year, including $14.7 trillion for power, $8.4 trillion for transportation, $2.3 trillion for telecommunications, and $800 billion for water and sanitation.[31]

Within Asia, demand for infrastructure is not evenly allocated. China and Japan both heavily overinvested in infrastructure. Additionally, Singapore's infrastructure ranks the top in the world. The infrastructure investment needs for other subregions such as Central Asia, the Association of Southeast Asian Nations (ASEAN), and South Asia are 7.8%, 5.7%, and 8.8% of GDP, respectively.[32] Meanwhile, Asia's infrastructure deficit is another problem.[33] The ADB warned of an estimated 2.4% gap of projected GDP between actual and required spending on infrastructure from 2016 to 2020.[34]

Urbanization will play a key role in the development of Asia in two or three decades. The United Nations predicts that the world population (7.55 billion in 2017) will reach 8.55 billion in 2030, 9.77 billion in

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28 Biswa Nath Bhattacharyay, *Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010-2020*, at 20 (ASIAN DEV. BANK INST., Working Paper No. 248, 2010), http://www.adb.org/sites/default/files/publication/156103/adbi-wp248.pdf.

29 *Id.* at 16.

30 *Id.* at 20.

31 ASIAN DEV. BANK, MEETING ASIA'S INFRASTRUCTURE NEEDS: HIGHLIGHTS at xi (2017), https://www.adb.org/publications/asia-infrastructure-needs.

32 *Id*. at xiv.

33 According to ADB, Asia needs to invest $1.7 trillion per year on infrastructure from 2016 to 2030, but the financial gap is as large as 5% of GDP. *See id.* at xiii, xvi.

34 Michael Peel & Tom Mitchell, *Asia's $26tn Infrastructure Gap Threatens Growth, ADB Warns*, FIN. TIMES (Feb. 28, 2017), https://www.ft.com/content/79d9e36e-fd0b-11e6-8d8e-a5e3738f9ae4.

2050, and 11.18 billion in 2100.[35] The United Nations further predicts an increase of 2.5 billion in urban population by 2050, and Asia and Africa contain nearly 90% of all new urban inhabitants.[36] By 2050, two-thirds of the world's inhabitants will live in cities.[37] To reduce air pollution and greenhouse gas emissions (GHGs) and to realize low-carbon development, the world should spend at least $1 trillion per year in clean energy because demand for energy could increase more than one-third by 2040.[38]

In 2015, 59.8% and 16.1% of the world's population lived in Asia and Africa, respectively. Nearly 80% of the world's inhabitants will likely live in Asia and Africa by 2050.[39] Because high population density is tied to urbanization, demand for urban infrastructure in Asia and Africa will be great. Regarding the ASEAN countries, according to the ADB, the need for infrastructure investment in Southeast Asia from 2016 to 2030 will be $2.76 trillion. Because many relatively small projects are valued between $5 million and $70 million, Singapore will provide bank loans for small and medium enterprises (SMEs) across the region to obtain opportunities to participate in many projects.[40]

B. Gaps and Imbalance in Infrastructure Investment

Globally, infrastructure investment needs range from $5 to $7 trillion each year. Yet, developing countries' annual investment needs range from $3.5 to $4.5 trillion each year, which includes needs related

35 Dep't of Econ. & Soc. Aff., Rep. on the World Population Prospects: The 2017 Revision: Key Findings and Advance Tables, U.N. Working Paper No. ESA/P/WP/248, at 1 (2017), https://population.un.org/wpp/Publications/Files/WPP2017_KeyFindings.pdf.

36 Dep't of Econ. & Soc. Aff., Rep. on the World Urbanization Prospects: The 2014 Revision, Highlights, U.N. Doc. ST/ESA/SER.A/352, at 2 (July 10, 2014), https://population.un.org/wup/Publications/Files/WUP2014-Highlights.pdf.

37 Dep't of Econ. & Soc. Aff., Rep. on the World Urbanization Prospects: The 2018 Revision, U.N. Doc. ST/ESA/SER/A/420, at xix (2019), https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf.

38 Julia Zuckerman et al., *Investing at Least a Trillion Dollars a Year in Clean Energy* 3 (New Climate Economy, Working Paper, 2016), https://newclimateeconomy.report/workingpapers/wp-content/uploads/sites/5/2016/05/NCE_CleanEnergy_financing_final_web-Copy.pdf.

39 Gerhard K. Heilig, U.N. World Population Prospects, the 2015 Revisions (Sept. 7, 2015), http://www.gerhard-k-heilig.com/main/ppt/ISES_WPP2015_Rev8_Final.pdf.

40 Wong Wei Han, *Helping SMEs Tap Asia's Boom in Infrastructure*, THE STRAITS TIMES (Apr. 15, 2017), http://www.sgsme.sg/news/money/helping-smes-tap-asias-boom-infrastructure.

to basic infrastructure and social infrastructure.[41] However, according to the United Nations Conference on Trade and Development (UNCTAD), current infrastructure finances do not meet infrastructure needs. For example, based upon their economic growth rates in 2014, the annual gap for Least Developed Countries (LDCs) to meet the Sustainable Development Goal (SDG) investment needs should be around $1.6 trillion.[42] In fact, emerging markets and developing countries account for nearly two-thirds of global infrastructure investment needs, including: China–34%; India–8%; Middle East–4%; Other Emerging Asia–6%; Eastern Europe–4%; Africa–2%; and Latin America–6%.[43]

However, over the last decade, global economies underinvested in infrastructure. During the last decade, many countries, including both developed and developing economies, underinvested in infrastructure because of impacts arising out of the global financial crisis. In 2007, the Organisation for Economic Co-operation and Development (OECD) estimated that the world would need to invest approximately 3.5% of its GDP in infrastructure each year until 2030 to preserve current economic growth and social development trends.[44]

Potentially, there are various financing sources of $120 trillion on the basis of assets under management (AUM) of global institutional investors in 2015: (i) banks–$40.2 trillion; (ii) investment companies–$29.0 trillion; (iii) insurance companies–$26.5 trillion; (iv) public pensions and superannuation plans–$10.9 trillion; (v) sovereign wealth funds–$6.3 trillion; (vi) infrastructure operators and developers–$3.4 trillion; (vii) infrastructure and private equity funds–$2.7 trillion; (viii) endowments and foundations–$1 trillion.[45] If these public and private sources of capital are effectively invested in sustainable infrastructure projects, that can reduce the investment gap.

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41 U.N. Conference on Trade and Development, *World Investment Report 2014*, at xi, http://unctad.org/en/PublicationsLibrary/wir2014_en.pdf.

42 *Id.*

43 Jonathan Woetzel et al., *Bridging Infrastructure Gaps: Has the World Made Progress?* MCKINSEY & CO. 4 (Oct. 2017), https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/bridging-infrastructure-gaps-has-the-world-made-progress.

44 Org. for Econ. Co-Operation and Dev., *Mapping Policy for Electricity, Water and Transport* 13 (June 2007), https://www.oecd.org/futures/infrastructureto2030/40953164.pdf.

45 Aaron Bielenberg et al., *Financing Change: How to Mobilize Private-Sector Financing for Sustainable Infrastructure*, MCKINSEY & CO. 14 (Jan. 2016), https://newclimateeconomy.report/workingpapers/workingpaper/financing-change-how-to-mobilize-private-sector-financing-for-sustainable-infrastructure/.

Of that $120 trillion, about 87% is directly or indirectly owned by high-income countries and 11% is owned by upper middle-income countries.[46] By 2020, AUM is estimated to be: $43 trillion in the Asia-Pacific, which accounts for more than 40% of global AUM; $42 trillion in Europe; $4 trillion in the Middle East and Africa; $2 trillion in Latin America and the Caribbean; and $31 trillion in North America.[47] Due to the enormous investment gap in infrastructure, the world could lose $1 to $1.3 trillion each year until 2030.[48] Table 1 shows infrastructure investment gaps over the next two decades.

Table 1. *Gaps Between Infrastructure Financing Needs and Supply of Investments*

Initiative	Financing Needs for Infrastructure	Supply of Investments	Investment Gap
McKinsey Global Institute (MGI)	At least $57 trillion in new infrastructure from 2016 to 2030;[49] $3.7 trillion per year from 2017 to 2035 to keep up with GDP growth; $1 trillion should be added to realize the UN SDGs.[50]	Globally, over $5 trillion AUM is available each year.[51] Infra-structure investment could double from 2016 to 2030.[52]	$5.5 trillion spending gap between 2017 and 2035.[53]

(cont'd on next page)

46 *Id*. at 20.

47 *Id.*

48 Daniel Wiener & Nathanael Didillon, *Financing Sustainable and Resilient Infrastructure by Creating a New Asset Class for Institutional Investors*, GLOB. INFRASTRUCTURE BASEL FOUND. 8 (June 2016), http://www.gib-foundation.org/content/uploads/2014/03/Financing_Sustainable_and_Resilient_Infrastructure_GIB.pdf.

49 Nicklas Garemo et al., *The Infrastructure Conundrum: Improving Productivity*, MCKINSEY & CO. (July 2015), https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/the-infrastructure-conundrum-improving-productivity.

50 Woetzel et al., *supra* note 43, at 2.

51 Tyler Duvall et al., *Making the Most of a Wealth of Infrastructure Finance*, MCKINSEY & CO. (June 2015), https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/making-the-most-of-a-wealth-of-infrastructure-finance.

52 Sriram Changali, Azam Mohammad & Mark van Nieuwland, *The Construction Productivity Imperative: How to Build Megaprojects Better*, MCKINSEY & CO. (June 2015), https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/the-construction-productivity-imperative.

53 Woetzel et al., *supra* note 43, at 5.

Initiative	Financing Needs for Infrastructure	Supply of Investments	Investment Gap
New Climate Economy (NCE)	Demand for $93 trillion from 2015 to 2030 or $6.4 trillion a year.[54]	$6.4 trillion a year from 2015 until 2030.[55]	The gap is even larger, considering a low-carbon scenario.
B20[56]	$60–70 trillion by 2030.	$45 trillion already available to invest.	$15–20 trillion.
G20 "Global Infrastructure Hub" (GIB)[57]	$94 trillion by 2040.	$79 trillion investment current trends.[58]	Investment gap of $15 trillion by 2040.
UNEP[59]	Demand for $93 trillion from 2016 to 2030.	Private Investment: $1–1.5 trillion a year; Public spending: $1.5 trillion a year.[60]	The gap is $39–51 trillion; Shortfall of $2.5–3.5 trillion a year by 2030.

Using the 70% "rule of thumb," the need for an economy's GDP to remain at a fundamental level is approximately $2.6 trillion in 2013,

54 THE NEW CLIMATE ECON. (NCE), INFRASTRUCTURE INVESTMENT NEEDS OF A LOW-CARBON SCENARIO 3 (Nov. 2014), https://newclimateeconomy.report/workingpapers/wp-content/uploads/sites/5/2016/04/Infrastructure-investment-needs-of-a-low-carbon-scenario.pdf.

55 *Id*.

56 B20 INFRASTRUCTURE & INVESTMENT TASKFORCE POLICY SUMMARY 3 (July 2014), http://www.g20.utoronto.ca/b20/B20-2014-infrastructure-recs.pdf.

57 Global Infrastructure Hub, *Forecasting Infrastructure Investment Needs and Gaps*, GLOBAL INFRASTRUCTURE HUB, https://outlook.gihub.org/ (last visited Nov. 11, 2019).

58 "Current trends" means growth calculated only in accordance with changes in every country's economic and demographic fundamental data.

59 The United Nations Environment Programme (UNEP), *Sustainable Infrastructure and Finance: How to Contribute to a Sustainable Future* 9 (U.N. Env't Prog. Inquiry Working Paper 16/09, 2016), http://wedocs.unep.org/bitstream/handle/20.500.11822/7756/-Sustainable_infrastructure_and_finance_-_How_to_contribute_to_a_sustainable_future-2016Sustainable_Infrastructure_and_Finance_-_How_to_Contribute_to_.pdf?sequence=3&isAllowed=y.

60 *Id.* at 11.

$3.0–3.5 trillion by 2020, and $4.1–4.8 trillion by 2030.[61] The world's infrastructure investment needs from 2015 to 2030 are between $57 and $93 trillion. The world needs to invest $3.3 trillion per year, or $49 trillion from 2016 to 2030, to keep pace with the projected average economic growth rate of 3.3% of global GDP.[62]

In addition, the OECD's estimation indicates that the world will spend $6.3 trillion a year from 2016 to 2030, including $4.9 trillion on "core infrastructure" and $1.4 trillion on primary energy supply chain and energy demand.[63] However, a study conducted by PwC and Oxford Economics indicates that the world will spend over $9 trillion per year on infrastructure by 2025.[64] Although the abovementioned organizations make different predictions based on their own criteria, the consensus is that the infrastructure investment needs in the next one or two decades are increasing, and the expectation that the world will spend enough money on improving infrastructure is optimistic.

Considering the climate-adjusted factor (CAF),[65] the International Energy Agency (IEA) estimates that investment will need to shift toward climate-friendly technologies in the global energy industry by at least $150 billion per year by 2020.[66] Furthermore, countries in the East Asia and Pacific (EAP) Region will have an investment shortage of up to $80 billion.[67]

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61 RICHARD DOBBS ET AL., INFRASTRUCTURE PRODUCTIVITY: HOW TO SAVE $1 TRILLION A YEAR, MCKINSEY & CO. 4 (Jan. 2013), https://www.mckinsey.com/~/media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure_Full%20report_Jan%202013.ashx.

62 Jonathan Woetzel et al., *Bridging Global Infrastructure Gaps*, MCKINSEY & CO. 5 (June 2016), https://www.mckinsey.com/~/media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure_Full%20report_Jan%202013.ashx.

63 MARIANA MIRABILE ET AL., ORG. FOR ECON. CO-OPERATION AND DEV., TECHNICAL NOTE ON ESTIMATES OF INFRASTRUCTURE INVESTMENT NEEDS: BACKGROUND NOTE ON ESTIMATES OF INFRASTRUCTURE INVESTMENT NEEDS 6 (July 2017), https://www.oecd.org/env/cc/g20-climate/Technical-note-estimates-of-infrastructure-investment-needs.pdf.

64 PRICEWATERHOUSECOOPERS LLP, CAPITAL PROJECT AND INFRASTRUCTURE SPENDING: OUTLOOK TO 2025, at 7 (2014), https://www.pwc.com/gx/en/capital-projects-infrastructure/publications/cpi-outlook/assets/cpi-outlook-to-2025.pdf.

65 The climate-adjusted factor (CAF) includes climate mitigation and climate proofing costs. When climate-related adjustments are counted, the infrastructure investment gap becomes larger.

66 WORLD BANK, GREEN INFRASTRUCTURE FINANCE: FRAMEWORK REPORT 7 (2012), http://documents.worldbank.org/curated/en/343711468343734503/pdf/684910PUB0EPI0067926B09780821395271.pdf.

67 *Id.*

However, there is an imbalance between supply and demand on the Asian infrastructure market. For example, China and Japan have heavily invested in the regional infrastructure.[68] And, Singapore has the finest infrastructure in the world.[69] But many developing countries in Asia have underinvested in infrastructure, while the investment gap between supply and demand has widened. There is also an imbalance of financial feasibility between developing countries and developed countries. Globally, there are $120 trillion in assets held by banks and institutional investors, but 87% of the $120 trillion is ultimately owned (directly or indirectly) by developed countries.[70]

In Asia, the annual infrastructure investment gap from 2016 to 2020 is projected to be between $330 billion (baseline) and $460 billion in a climate-adjusted scenario.[71] Considering the climate-adjusted factor, China's overall investment gap is 1.2% of its GDP until 2020 due to China's uneven infrastructure development between inland and coastal zones; Asia's climate-adjusted investment gap (except the People's Republic of China) would be 5% of the remaining economies' GDP.[72]

C. Competing Development Visions

In 2013, China proposed a multitrillion-dollar program—the "One Belt, One Road" (OBOR) program (also called the "Belt and Road" Initiative). The China-led OBOR program may partially fill the infrastructure finance gap between supply and demand.[73] However, the OBOR program has its own objectives of exporting overcapacity, soft power, and renminbi internationalization. China has invested around

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68 Bloomberg, *Japan Still Leads in Southeast Asia Infrastructure Race, Even as China Ramps up Belt and Road Investments: Report*, S. CHINA MORNING POST (June 23, 2019), https://www.scmp.com/news/asia/southeast-asia/article/3015732/japan-still-leads-southeast-asia-infrastructure-race-even.

69 Reuters, *Singapore Has the Best Infrastructure in the World: Survey*, BUS. TIMES, (Mar. 14, 2017), https://www.businesstimes.com.sg/government-economy/singapore-has-the-best-infrastructure-in-the-world-survey.

70 Woetzel et al., *supra* note 62, at viii.

71 ASIAN DEVELOPMENT BANK, MEETING ASIA'S INFRASTRUCTURE NEEDS: HIGHLIGHTS, at xv (2017), https://www.adb.org/sites/default/files/publication/227496/special-report-infrastructure.pdf.

72 *Id.*

73 *See* Alicia García-Herrero, *China Can't Finance the Belt and the Road Alone*, BRUEGEL (May 12, 2017), https://bruegel.org/2017/05/china-cannot-finance-the-belt-and-road-alone/.

$1 trillion in the OBOR initiative.[74] Some estimations of the OBOR investment range between $1 trillion and $8 trillion—a wide range of estimates due to the lack of transparency in this mega-program.[75]

Yet, OBOR goes beyond the scope of the Silk Road Economic Belt (SREB) and the Maritime Silk Road (MSR). Historically, China has been a continental power. China pursued a "maritime rising"—by guaranteeing access to its "near seas" periphery to expand to the "far seas"—and became a sea power after an economic boom. The dominant paradigm of Chinese elites is that being a sea power is a step toward becoming a global power.[76] The new "Silk Road" program aims to build or to participate in financing port development projects. By July 2018, China invested in forty-two overseas ports in thirty-four countries as part of the OBOR program.[77] OBOR also targets facilitating mega-connectivity through railways and roads, information and communications technology (ICT) projects, and special economic zones.[78] Over sixty countries joined the OBOR program, including eight South Asian countries, eleven Southeast Asian countries, five Central Asian countries, sixteen West Asian and North African countries, sixteen Central Asian countries, six countries of the Commonwealth of Independent States (CIS), as well as Mongolia and Russia.[79]

Around the world, there are competing visions of development strategies. Globally, the G20 established the Global Infrastructure (GI) Hub,[80] and other institutions have proposed the Global Infrastructure

74 Jane Perlez & Yufan Huang, *Behind China's $1 Trillion Plan to Shake Up the Economic Order*, N.Y. TIMES (May 13, 2017), https://www.nytimes.com/2017/05/13/business/china-railway-one-belt-one-road-1-trillion-plan.html.

75 Jonathan E. Hillman, *How Big Is China's Belt and Road?*, Commentary for CTR. FOR STRATEGIC & INT'L STUD. (Apr. 3, 2018), https://www.csis.org/analysis/how-big-chinas-belt-and-road.

76 *See generally* TOSHI YOSHIHARA & JAMES R. HOLMES, RED STAR OVER THE PACIFIC: CHINA'S RISE AND THE CHALLENGE TO U.S. MARITIME STRATEGY (2013).

77 Janne Suokas, *China Invests in 42 Overseas Ports Under Belt and Road Project*, GB TIMES (July 27, 2018), https://gbtimes.com/china-invests-in-42-overseas-ports-under-belt-and-road-project.

78 *See* THE ECONOMIST CORPORATE NETWORK, "ONE BELT, ONE ROAD": AN ECONOMIC ROADMAP (March 2016), https://www.iberchina.org/files/2016/obor_economist.pdf.

79 TOP CHINA TRAVEL, *supra* note 23.

80 The "Global Infrastructure (GI) Hub" is a G20 initiative to connect the global infrastructure community. *See About Global Infrastructure Hub*, GLOBAL INFRASTRUCTURE HUB (last visited Nov. 11, 2019), https://www.gihub.org/about/about/.

Initiative (GII)[81] and the Global Infrastructure Facility (GIF).[82] Regionally, ASEAN launched the "Master Plan on ASEAN Connectivity 2025"; Africa has the "Silk Road" program; and the European Union has the "Trans-European Transport Network." At the national level, China initiated the BRI, and Japan proposed the "Partnership for High Quality Infrastructure." If these development visions are cooperative, there can be many belts and roads as a regional or international public good.

On the other hand, competition exists between some development strategies. Accompanying the looming "Economic Iron Curtain,"[83] there is a game of chess between China and the United States. Based on concerns such as human rights, debt sustainability, environmental protection, and the governance of the BRI, the Trump administration has proposed the Free and Open Indo-Pacific Strategy (FOIP). The FOIP, to some extent as a countermeasure against the BRI, pursues free, fair, and reciprocal trade.[84] According to Vice President Pence, the Indo-Pacific region ranges broadly "from the United States to India, from Japan to Australia, and everywhere in between—where sovereignty is respected, where commerce flows unhindered and where independent nations are masters of their own destinies."[85] This strategy rests on three pillars: (1) "prosperity," which covers two-thirds of the global trade valued at more than $1.8 trillion each year ($1 trillion from the U.S. and the rest from other economic sources); (2) "security," which is the foundation of the first pillar and includes military support

81 The "Global Infrastructure Initiative (GII)" is convened by McKinsey & Company for major projects and infrastructure. *See Welcome to GII*, GLOBAL INFRASTRUCTURE INITIATIVE, https://www.globalinfrastructureinitiative.com/about (last visited Nov. 9, 2019).

82 The "Global Infrastructure Facility" (GIF) is a partnership to support bankable infrastructure projects in design, preparation, structuring, technical assistance, and implementation. Its funding partners, including governments, global financiers and private sector investors, provide financial contributions to the operation of GIF. *See What Is the GIF?*, GLOBAL INFRASTRUCTURE FACILITY, https://www.globalinfrafacility.org/what-is-the-gif (last visited Nov. 9, 2019).

83 Enda Curran, *Paulson Warns of 'Economic Iron Curtain' Between U.S., China*, BLOOMBERG (Nov. 7, 2018), https://www.bloomberg.com/news/articles/2018-11-07/paulson-warns-of-economic-iron-curtain-between-u-s-china.

84 DEPT. OF DEF., INDO-PACIFIC STRATEGIC REPORT: PREPARATION, PARTNERSHIP, AND PROMOTING A NETWORKED REGION 3–4 (June 1, 2019), https://media.defense.gov/2019/Jul/01/2002152311/-1/-1/1/DEPARTMENT-OF-DEFENSE-INDO-PACIFIC-STRATEGY-REPORT-2019.PDF.

85 Mike Pence, *The United States Seeks Collaboration, Not Control in the Indo-Pacific*, WASH. POST (Nov. 9, 2018), https://www.washingtonpost.com/opinions/mike-pence-the-united-states-seeks-collaboration-not-control-in-the-indo-pacific/2018/11/09/1a0c330a-e45a-11e8-b7593d88a5ce9e19story.html?noredirect=on&utm term=.1943bf33560d.

and protection of free navigation and overflight; and (3) collaboration and accountability to "support transparent and responsive government, the rule of law and the protection of individual rights."[86] Additionally, the United States issued the *Better Utilization of Investments Leading to Development Act of 2018* and established the United States International Development Finance Corporation (USIDFC) as a successor of the Overseas Private Investment Corporation (OPIC). The Build Act of 2019 and the USIDFC are committed to promoting private investment in regional infrastructure and assisting economic development, especially in less developed countries.

As many international experts have noticed, the FOIP strategy and the BRI are competing development strategies.[87] The competition between the two major development strategies will reshape global development and disrupt the international economic order.

II
OBOR'S OPPORTUNITIES

A. The OBOR Program as a Regional Public Good

At the Belt and Road Forum in May 2017, President Xi described OBOR as an open and inclusive "brand of cooperation" and an international public good provided by all participants; he also stressed that OBOR was open to all.[88] OBOR is a multitrillion-dollar program. By January 2017, China announced investments of more than $900 billion (including planned and ongoing investments) in more than sixty countries.[89] During the 2017 APEC CEO Summit, President Xi announced China's economic plan for the next fifteen years: import $24 trillion worth of goods, invest $2 trillion outbound, and attract $2 trillion inbound.[90]

Generally, good infrastructure improves productivity, although the exact relationship between infrastructure, development, and economic

86 *Id.*

87 *See* TOMOTAKA SHOJI, "BELT AND ROAD" VS. "FREE AND OPEN INDO-PACIFIC": COMPETITION OVER REGIONAL ORDER AND ASEAN, (Jan. 9, 2019), http://www.nids.mod.go.jp/english/publication/commentary/pdf/commentary088e.pdf.

88 Ju Peng, *Xi Elaborates on Inspiration Behind Belt and Road Initiative*, XINHUA NET (May 15, 2017), http://news.xinhuanet.com/english/2017-05/15/c_136285408.htm.

89 *See* Don Weinland, *China Warned of Risk to Banks from One Belt, One Road Initiative*, FIN. TIMES (Jan. 26, 2017), https://www.ft.com/content/6076cf9a-e38e-11e6-8405-9e5580d6e5fb.

90 Xi Jinping, Pres. of China, Address at the APEC CEO Summit (Nov. 11, 2017) (transcript available at http://news.xinhuanet.com/english/2017-11/11/c_136743492.htm).

growth is under debate. According to the World Bank, an increase of 1% in the stock of infrastructure corresponds with an increase of 1% in GDP.[91] This association is clear especially in the early stage of emerging markets. For example, China invested 1.3% of its annual Gross National Product (GNP) in updating transportation infrastructure during the 1980s and achieved an annual growth of around 8% for freight and 12% for passengers in transport expansion.[92] Thus, infrastructure matters in boosting economic growth.

B. Infrastructure, Trade, and Economic Growth

There is an endogenous relationship between economic growth and infrastructure investment.[93] For example, ICT improvement increases trade flows.[94] The Asian Development Bank Institute (ADBI) issued a working paper on how infrastructure affected trade and economic growth in ASEAN, China, India, Japan, and South Korea. That paper analyzed the relationship between transport, ICT, soft infrastructure, and trade flows; see Table 2.

91 WORLD BANK, WORLD DEVELOPMENT REPORT 1994: INFRASTRUCTURE FOR DEVELOPMENT 2 (1994), https://openknowledge.worldbank.org/bitstream/handle/10986/5977/WDR%201994%20-%20English.pdf?sequence=2&isAllowed=y.

92 *Id*. at 18.

93 Jani Luoto, *Aggregate Infrastructure Capital Stock and Long-Run Growth: Evidence from Finish Data*, 94 J. DEV. ECON. 181, 191 (2010); Abouzar Zangoueinezhad & Adel Azar, *How Public-Private Partnership Projects Impact Infrastructure Industry for Economic Growth*, 41 INT'L J. SOC. ECON. 99 (2014).

94 Zhongwei Xing, *The Impacts of Information and Communications Technology (ICT) and E-Commerce on Bilateral Trade Flows*, 15 INT'L ECON. & ECON. POL'Y. 565 (July 2018).

Table 2. *Infrastructure, Trade Flows, and Economic Growth*

	Coefficiency Between Infrastructure and Trade Flows	**Examples and Specific Effects**
Transport Infrastructure and Trade Flows	Improvement in road and port infrastructures positively affects trade in both exporting and importing economies.	E.g., an increase of 10% in road density brings a 1% increase in trade.[95]
Information and Communications Technology (ICT)	The increase of ICT infrastructure brings an increase of 0.5%–0.9% of GDP for exporters and 0.4%–0.6% for importers.[96]	E.g., a 10% increase in the number of telephone lines and cell phones brings over 1% economic growth.[97]
Soft Infrastructure	Simplifying administrative procedures helps reduce 5% of time to export and increase imports by 4%.[98]	E.g., a 10% increase in the amount of required documentation for exports decreases trade by 5.5%.
Agriculture and Manufacturing Export	Airports and container port traffic affect manufacturing export significantly. Road infrastructure affects agricultural exports.	E.g., a 10% increase in transport infrastructure, such as paved road, may result in over 5% economic growth.
Infrastructure and Trade	Improved infrastructure facilitates trade between Asian countries.	E.g., intra-Asia trade increased by over 200% from 2003 to 2013 due to reduced trade costs created by improved infrastructure.
Infrastructure and Economic Growth	Quantity-related transport infrastructure has a coefficient of 5% or more; however, merely increasing the quantity of infrastructure may not lead to sustainable development.	E.g., a 10% increase in the quantity of roads creates over 5% in economic growth.

95 Normaz Wana Ismail & Jamilah Mohd Mahyideen, *The Impact of Infrastructure on Trade and Economic Growth in Selected Economies in Asia* 16 (Asian Dev. Bank Inst. Working Paper No. 553, 2015), https://www.adb.org/sites/default/files/publication/177093/adbi-wp553.pdf.

96 *Id.* at 18.

97 *Id.* at 25.

98 *Id.* at 21.

The ADBI working paper concludes that although the quality and quantity of infrastructure are equally important, enhancing the quantity of infrastructure promotes economic growth, whereas enhancing the quality of infrastructure leads to increased productivity and sustainable development.[99] This research suggests that infrastructure development promotes trade expansion and regional integration.

C. Quality Infrastructure and Strategic Infrastructure

In 2017, the OECD set a framework for infrastructure governance. After surveying twenty-five countries, the OECD report listed ten governance challenges: vision, integrity, delivery, regulation, consultation, coordination, value, data, performance, and resilience.[100]

The definition of "quality infrastructure" evolves with advances in technology.[101] Quality infrastructure is supposed to use the best available technology to pursue reliable and resilient development in line with international safeguards and standards of environment, society, and governance (ESG).[102] Furthermore, quality infrastructure should optimize an efficient value chain in the flow of project preparation, design, construction, implementation, and maintenance.

Strategically developing infrastructure stimulates economic growth and sustainable development.[103] Some developing countries in Asia are still building basic infrastructure.[104] Although both quality infrastructure and basic infrastructure play an essential role in the economic growth of emerging economies and developing countries,

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99 *Id*. at 26.

100 *See* ORG. FOR ECON. CO-OPERATION AND DEV., GETTING INFRASTRUCTURE RIGHT: THE TEN KEY GOVERNANCE CHALLENGES AND POLICY OPTIONS (March 2017), http://www.oecd.org/gov/getting-infrastructure-right.pdf.

101 Daniel F. Runde, *Quality Infrastructure: Ensure Sustainable Economic Growth*, CTR. FOR STRATEGIC & INT'L STUD. (Jan. 9, 2017), https://www.csis.org/analysis/quality-infrastructure.

102 *Id.*

103 *See* PRICEWATERHOUSECOOPERS LLP & WORLD ECONOMIC FORUM, STRATEGIC INFRASTRUCTURE – STEPS TO PRIORITIZE AND DELIVER INFRASTRUCTURE EFFECTIVELY AND EFFICIENTLY 2 (Sept. 2012), http://www3.weforum.org/docs/WEF_IU_Strategic Infrastructure_Report_2012.pdf.

104 CANDICE BRANCHOUX ET AL., ESTIMATING INFRASTRUCTURE FINANCING NEEDS IN THE ASIA-PACIFIC LEAST DEVELOPED COUNTRIES, LANDLOCKED DEVELOPING COUNTRIES, AND SMALL ISLAND DEVELOPING STATES (2018), https://www.mdpi.com/2227-7099/6/3/43.

quality infrastructure matters more for sustainable development.[105] Strategic infrastructure helps improve investment efficiency.

D. Spillover Effects of Infrastructure and Development Strategy

Infrastructure facilitates trade.[106] Generally, developing quality infrastructure improves productivity.[107] According to the World Bank, a 1% increase in the stock of infrastructure corresponds with a 1% increase in GDP.[108] Returns on infrastructure investment in boosting economic growth is clear, especially during the early stages of emerging markets, such as in China and India.[109]

Research shows that investments in transportation infrastructure, prior to the global financial crisis, played a positive role in China's economic growth. Provincial panel data from 1993 to 2004 showed that investments in transportation infrastructure affected China's economic growth.[110] Other research conducted in 2011 showed that investments in both land and water transportation infrastructure significantly affected economic growth based on data from all thirty-one provinces between 1998 and 2007.[111] Additionally, panel data from 1999 to 2009 indicated that port investments by central and local governments also affected economic growth.[112]

The positive effects created by developing infrastructure are not absolute, however, as poorly managed infrastructure investments can negatively affect economic growth. Evidence from Africa serves as

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105 Strategic infrastructure key to ensure the economic and social infrastructure needed to accommodate population growth. Quality infrastructure (QI) is regarded as a drive to boost economic growth. Unlike quality infrastructure, strategic infrastructure provides necessary physical infrastructure in a country or state.

106 Teddy Y. Soobramanien & Collin Zhuawu, *Infrastructure for Trade Development*, TRADE HOT TOPICS 1 (March 1, 2014), https://www.oecd-ilibrary.org/docserver/5jz5m7pkrqf8-en.pdf?expires=1571076894&id=id&accname=guest&checksum=10F1DA3E45241D04BE18DFEA1C9785F2.

107 *See* Nicklas Garemo et al., *The Infrastructure Conundrum: Improving Productivity*, MCKINSEY & CO. (July 2015), https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/the-infrastructure-conundrum-improving-productivity.

108 WORLD BANK, *supra* note 91.

109 Jonathan Wheatley, *Does Investing in Emerging Markets Still Make Sense?*, FIN. TIMES (July 15, 2019), https://www.ft.com/content/0bd159f2-937b-11e9-aea1-2b1d33ac3271.

110 Xueliang Zhang, *Transport Infrastructure, Spatial Spillover and Economic Growth: Evidence from China*, 3 FRONTIERS ECON. CHINA 595, 597 (2008).

111 Junjie Hong et al., *Transport Infrastructure and Regional Economic Growth: Evidence from China*, 38 TRANSP. 737, 750 (2011).

112 Lili Song & Jianing Mi, *Port Infrastructure and Regional Economic Growth in China: A Granger Causality Analysis*, 43 MAR. POL'Y & MGMT 456 (2016).

an example. Unlike East and South Asia's experience, where infrastructure development contributed to higher growth and lower inequality, infrastructure development in sub-Saharan Africa did not stimulate inclusive economic development due to inadequate infrastructure and corruption.[113] Even for many Asian countries, which have made progress in construction and growth, other components such as economic transformation and innovation play a key role in economic development; otherwise, these countries may fall into the "middle-income trap."[114]

In addition, spending too much on infrastructure can negatively affect long-term economic development. For example, between 1992 and 2011, China spent approximately 9% of its GDP annually on construction infrastructure (e.g., transportation, water, power, and telecommunications) alone.[115] Even though investing in infrastructure (including residential infrastructure) is the most important engine driving the economy, especially after the global financial crisis, the infrastructure-driven approach can create a heavy burden of debt.

E. Enhancing Connectivity and Regional Integration

Constructing railroads, highways, information and communication technology (ICT) projects, and special economic zones helps create mega-connectivity.[116] The OBOR initiative aims to enhance connectivity by constructing highways, railroads, ports, cables, pipelines, and other transportation. China signed memorandums with more than forty countries to jointly construct the "One Belt, One Road" project. By the end of 2015, China built 19,000 kilometers of high-speed railroads, which is the world's largest rail network; in addition, China plans to build another 30,000 kilometers by 2020.[117]

The BRI may also enhance people-to-people connectivity. China expects to establish goodwill with other countries and cultivate an

113 *See* Olu Ajakaiye & Mthuli Ncube, *Infrastructure and Economic Development in Africa: An Overview*, 19 AFR. ECONOMIES J., at i3, i7 (2010).

114 MILKEN INST., NEW MODELS FOR FINANCING INFRASTRUCTURE IN ASIA 3 (2017), http://milkeninstitute.org/reports/new-models-financing-infrastructure-asia.

115 Ian Talley, *U.S. Looks to Work with China-Led Infrastructure Fund*, WALL ST. J. (Mar. 22, 2015), https://www.wsj.com/articles/u-s-to-seek-collaboration-with-china-led-asian-infrastructure-investment-bank-1427057486.

116 *See* WORLD BANK ET AL., THE TRANSFORMATIONAL USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN AFRICA 13–14 (Enock Yonazi et al. eds., 2012).

117 Reuters, *China to Increase High-Speed Rail Network to 30,000 km by 2020*, INDIA EXPRESS (Apr. 21, 2016), http://indianexpress.com/article/business/business-others/china-to-increase-high-speed-rail-network-to-30000-km-by-2020/.

enlarging "circle of friends." On the other hand, as many observers have noticed, the BRI is China-centered. Some countries are concerned about the benefits from the OBOR project because the gains may be lopsided. For instance, Pakistan, Nepal, and Myanmar canceled the $14 billion dollar Diamer-Bhasha Dam project. There, Myanmar announced that it was no longer interested in big hydroelectric power projects.[118]

III
OBOR'S RISKS

A. Political and Geopolitical Risks

Political risks include factors such as political stability, government effectiveness, rule of law, democratic accountability, corruption, and the nationalization of the military. Many countries associated with OBOR pose significant political risks, especially those in the Middle East and Central Asia, according to the Regional Political Risk Index,[119] Marsh Political Risk Index Map,[120] New Coface Political Risk Index,[121] and Corruption Perceptions Index.[122]

Infrastructure investments in OBOR countries that pose significant political risks are vulnerable to nationalization, expropriation, and other takings. For instance, a host country may nationalize or privatize public infrastructure, although nationalization occurs more often in

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118 Saibal Dasgupta & Anjana Pasricha, *Pakistan, Nepal, Myanmar Back Away From Chinese Projects*, VOA (Dec. 4, 2017), https://www.voanews.com/a/three-countries-withdraw-from-chinese-projects/4148094.html.

119 "Regional Political Risk Index" measures overall risk of a given country by calculating 17 risk components, such as turmoil, financial transfer, direct investment, and export. It is developed by the PRS Group, Inc. *See* PRS GROUP, REGIONAL POLITICAL RISK INDEX, https://www.prsgroup.com/regional-political-risk-index-4/ (last visited Nov. 7, 2019).

120 "Marsh Political Risk Index Map" provides a global view on analyzing political, economic, financial, and industry risks, based upon data from Fitch Solutions. *See* MARSH, POLITICAL RISK MAP 2019, https://www.marsh.com/us/campaigns/political-risk-map-2019.html (last visited Nov. 7, 2019).

121 "New Coface Political Risk Index" is a global index to measure security risks and political and social risks of 159 countries. *See* NEW COFACE POLITICAL RISK INDEX IN 159 COUNTRIES, https://www.coface.com/News-Publications/News/New-Coface-Political-Risk-Index-in-159-countries (last visited Nov. 7, 2019).

122 "Corruption Perceptions Index" is published annually by Transparency International. It ranks 180 countries and territories on a scale from 0 to 100 regarding public sector corruption. *See* TRANSPARENCY INT'L, CORRUPTION PERCEPTIONS INDEX 2018, https://www.transparency.org/cpi2018 (last visited Nov. 7, 2019).

developing countries and emerging economies.[123] In a host country with weak investor protection regimes, confiscation and expropriation of funds occur frequently.[124] Creeping expropriations such as discriminatory taxes, price controls, license cancellation, or changes of law disrupt infrastructure investments.[125] Investment returns may also suffer from sovereign risk or transfer risk when capital is frozen by foreign government action or new policies.[126]

Infrastructure investments are also vulnerable to geopolitical events such as international conflicts, power shifts, policy shifts, political instability, social unrest, and political interventions. Politically unstable countries, especially, magnify these risks. Political turmoil in countries such as Syria, Afghanistan, Saudi Arabia, and Lebanon can directly or indirectly affect foreign direct investment (FDI). Yet, the BRI is not backed by an investment insurance facility like the Multilateral Investment Guarantee Agency (MIGA) to mitigate political risks in developing countries.[127]

The Myitsone Dam project in Myanmar illustrates how political risks affect infrastructure investments. The Myitsone Dam was supposed to be the first dam developed by the State Power Investment Corporation, one of China's largest electricity manufacturers.[128] The contract price of the dam was $3.6 billion, under which Myanmar would receive 10% of its electricity for free for fifty concessional

123 ROBERTO CHANG, CONSTANTINO HEVIA & NORMAN LOAYZA, PRIVATIZATION AND NATIONALIZATION CYCLES (2009).

124 *See* U.N. Conference on Trade and Development, *Expropriation: UNCTAD Series on Issues in International Investment Agreements II*, 73–76, UNCTAD/DIAE/IA/2011/7 (2011), https://unctad.org/en/Docs/unctaddiaeia2011d7_en.pdf.

125 *Id.* at 11 (defining creeping expropriation as "the incremental encroachment on one or more of the ownership rights of a foreign investor that eventually destroys (or nearly destroys) the value of his or her investment or deprives him or her of control over the investment").

126 Duncan H. Meldrum, *Country Risk and Foreign Direct Investment*, SEMANTIC SCHOLAR 3, 5, https://pdfs.semanticscholar.org/b9c7/070060615472671 00bf9b411a3aa951f3111.pdf (last visited Nov. 8, 2019).

127 MIGA provides political risk insurance against losses caused by currency inconvertibility and transfer restrictions in the host country. MIGA is one of the five organizations of the World Bank Group. *See About Us*, MULTILATERAL INV. GUARANTEE AGENCY, https://www.miga.org/about-us (last visited Nov. 7, 2019).

128 The State Power Investment Corporation (founded in December 2002) was one of the five largest state-owned electricity producers in China. The other four are China Huaneng, Datang, Huadian, and China Guodian Corporation.

periods, then full ownership of the dam fifty years later.[129] Asia World, which is subject to sanctions due to involvement in drug dealings, owned 5% of the project. The project, however, was suspended in 2011 by Myanmar's former military government due to public opposition and environmental issues.[130] China insisted that the contract was still valid and pushed the Burmese government to resume the project. Now, the decision to resume may be a dilemma for the special committee led by the leader of Myanmar's civilian government, Daw Aung San Suu Kyi.[131] If the committee resumes this project, Suu Kyi will upset those who protested this project, including some NGOs. If the commission declines to resume the Myitsone Dam project, Myanmar—in addition to possibly angering China, its largest trade partner—will have to pay the State Power Investment Corporation $800,000,000 and any other amounts stemming from cancellation, which the developer claims is around ¥300,000,00. However, the parties involved in the project could possibly compromise by, for example, agreeing to build a smaller hydropower plant with less environmental impact.[132]

The Myitsone Dam project should remind Chinese decision makers of the various political risks associated with BRI projects. As a practical long-term investment consideration to attract private investors, a political risk insurance system is necessary to protect against situations such as sovereign debt default, political violence, expropriation, terrorism, and other political turbulence.

More importantly, the BRI may substantially change the balance of power in the region, in addition to challenging the development strategies established by the World Bank Group and other development institutions.

B. Economic Risks

Like any other investment, investors should consider the inherent economic risks, such as inflation, price fluctuations, demand, cash flow, taxes, and operational risks involving design, construction,

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129 Mike Ives, *A Chinese-Backed Dam Project Leaves Myanmar in a Bind*, N.Y. TIMES (Mar. 31, 2017), https://www.nytimes.com/2017/03/31/world/asia/myanmar-china-myitsone-dam-project.html.

130 Thomas Fuller, *Myanmar Backs Down, Suspending Dam Project*, N.Y. TIMES (Sept. 30, 2011), https://www.nytimes.com/2011/10/01/world/asia/myanmar-suspends-construction-of-controversial-dam.html.

131 Ives, *supra* note 129.

132 *Id.*

maintenance, cost, and management. However, these risks should already be calculated into the project's cost.

Infrastructure projects are normally conducted in three phases: (i) building or construction, (ii) operation, and (iii) transfer.[133] The operation, maintenance, and management of an infrastructure project may affect its returns. Generally, operation and maintenance costs account for half of the expenditures for an infrastructure project. Particularly inadequate management and maintenance in developing countries will quickly deteriorate railways, bridges, highways, and other infrastructure.[134] For example, the deteriorating railways and roads in Bangladesh are a serious problem for local transportation, for which the ADB created a road master plan and long-term railway investment program for the country.[135] Another example is the Coca Codo Sinclair Hydroelectric Dam in Ecuador, which began operation in 2016.[136] More than 7,648 cracks were found in the dam's machinery two years after operation began, due to substandard steel and inadequate welding.[137] The dam also faces other problems, such as sand and silt clogs, abrupt earthquakes, and volcanic eruptions.[138] These examples indicate that quality infrastructure is essential for sustainable development.

C. Legal and Regulatory Risks

Legal risks of the OBOR project concern the fairness, speediness, and effectiveness of the judicial system; enforceability of contracts; discrimination against foreign companies; antitrust and unfair competition; lack of safeguards for intellectual and other property; and

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133 The Economist Intelligence Unit's risk assessment report assesses the operational, security credit, and sovereign risks of a project in a host country. *See generally* ECONOMIST INTELLIGENCE UNIT, PROSPECTS AND CHALLENGES ON CHINA'S 'ONE BELT, ONE ROAD': A RISK ASSESSMENT REPORT (2015), http://www.eiu.com/public/thankyou_download.aspx?activity=download&campaignid=OneBeltOneRoad.

134 *See* ASIAN DEV. BANK, ISSUES IN ROAD MAINTENANCE (2013), https://www.adb.org/sites/default/files/linked-documents/Issues-Road-Maintenance.pdf.

135 ASIAN DEV. BANK, BANGLADESH: ROAD MAINTENANCE AND IMPROVEMENT PROJECT, at X (2014), https://www.adb.org/sites/default/files/in435-14.pdf.

136 *Coca Codo Sinclair Hydroelectric Project*, POWER TECH., https://www.power-technology.com/projects/coca-codo-sinclair-hydroelectric-project/ (last visited Nov. 7, 2019).

137 Nicholas Casey & Clifford Krauss, *It Doesn't Matter if Ecuador Can Afford This Dam. China Still Gets Paid.*, N.Y. TIMES (Dec. 24, 2018), https://www.nytimes.com/2018/12/24/world/americas/ecuador-china-dam.html.

138 *Id.*

the integrity of accounting standards.[139] Generally speaking, regulatory risks concern changes in laws and regulations that affect a certain industry or market.[140] Delays in acquiring necessary licenses or permits, stalled transfers of ownership, difficulties in acquiring land, contractual risks, and transparency of procurement procedures—all of which are legal or regulatory risks—may disrupt infrastructure projects.[141]

In particular, infrastructure projects and the construction industry may be susceptible to corruption. Corruption can occur at any stage of an infrastructure project, from design, construction, and operation, to transfer or privatization of infrastructure.[142] The OECD's survey indicates that about 40% of foreign bribery cases occurred in three sectors: construction, transportation and storage, and information and communication.[143] During the anti-corruption movement led by President Xi, 1.34 million officials, including 200 government officials of vice-ministerial rank and above, were punished by the commencement of the 19th Nation Party Congress in October 2017. The Chinese government announced it would continue to do so until "complete victory" was achieved.[144] Even still, China is one of the more corrupt nations according to the TRACE Bribery Risk Matrix.[145]

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139 *See generally* O. O. Odimabo & C. F. Oduoza, *Risk Assessment Framework for Building Construction Projects' in Developing Countries*, 2 INT'L J. OF CONSTRUCTION ENGINEERING AND MGMT. 143, 146 (2013).

140 *See* STRATEGIC INFRASTRUCTURE INITIATIVE & BOS. CONSULTING GRP., MITIGATION OF POLITICAL & REGULATORY RISK IN INFRASTRUCTURE PROJECTS (2015), http://www3.weforum.org/docs/WEF_Risk_Mitigation_Report14.pdf.

141 Michael Gibbs, *Transferring Ownership from Developer to Utility*, N. AM. WIND POWER (2009).

142 *See* Jill Wells, *Corruption in the Construction of Public Infrastructure: Critical Issues in Project Preparation*, 8 U4 ISSUE 1 (2015), https://www.u4.no/publications/corruption-in-the-construction-of-public-infrastructure-critical-issues-in-project-preparation.

143 ORG. FOR ECON. CO-OPERATION AND DEV., GETTING INFRASTRUCTURE RIGHT: THE TEN KEY GOVERNANCE CHALLENGES AND POLICY OPTIONS 3 (2017), https://www.oecd.org/gov/getting-infrastructure-right.pdf.

144 Lim Yan Liang, *19th Party Congress: China to Strengthen Anti-graft Measures, Expand Party Supervision*, STRAITS TIMES (Oct. 18, 2017), http://www.straitstimes.com/asia/east-asia/19th-party-congress-anti-graft-campaign-has-overwhelming-momentum-says-xi-jinping.

145 *See TRACE Bribery Risk Matrix*, TRACE, https://www.traceinternational.org/trace-matrix (last visited Nov. 7, 2019).

"In many of the 80-plus counties that the BRI aims to connect, corruption is endemic."[146] A research report shows that transparency of Chinese corporations ranked the lowest of the five BRICS countries.[147] Over the past few years, major cases concerning transnational bribery and transnational corruption, including the 1Malaysia Development Berhad (1MDB) scandal,[148] the Patrick Ho Chi-Ping case,[149] and the BTA Bank case,[150] have revealed embezzlement, corruption, bribery, and money laundering along the Belt and Road. Additionally, most BRI countries rank in the bottom 50% of the TRACE Bribery Risk Matrix, and ten BRI countries rank among the twenty-five countries with the highest risk of serious corruption.[151]

Corruption in BRI countries arises from the low level of the rule of law or a high level of kleptocracy.[152] Many BRI countries, including Bangladesh, Ecuador, the Philippines, Malaysia, Equatorial Guinea, and Sri Lanka, are vulnerable to bribery and embezzlement.[153] Moreover, China ranks 82 out of 126 countries in the WJP Rule of Law

146 Jonathan E. Hillman, *Corruption Flows Along China's Belt and Road*, CTR. FOR STRATEGIC & INT'L STUD. (Jan. 18, 2019), https://www.csis.org/analysis/corruption-flows-along-chinas-belt-and-road.

147 "BRICS" refers to the national economies of Brazil, Russia, India, China, and South Africa. TRANSPARENCY INT'L, TRANSPARENCY IN CORPORATE REPORTING: ACCESSING EMERGING MARKET MULTINATIONALS 34–39 (Susan Côté-Freeman ed., 2016), https://issuu.com/transparencyinternational/docs/2016_transparencyincorporatereporti?e=2496456/37122985.

148 1MDB is Malaysia's sovereign fund. That fund of over $4.2 billion was used in irregular transactions. Najib Razak, former Malaysian Prime Minister, who was liable for corruption and other criminal charges, was ousted in a general election in 2018. *See* Shamim Adam, et al., *How Malaysia's 1MDB Scandal Shook the Financial World*, WASH. POST (Apr. 29, 2019), https://www.washingtonpost.com/business/how-malaysias-1mdb-scandal-shook-the-financial-world-quicktake/2019/08/28/f183b7c2-c95b-11e9-9615-8f1a32962e04_story.html.

149 United States v. Chi Ping Patrick Ho, No. 17 Cr. 779 (LAP) (S.D.N.Y. Mar. 11, 2019). *See also* Press Release, Department of Justice, Patrick Ho, Former Head of Organization Backed by Chinese Energy Conglomerate, Sentenced to 3 Years in Prison for International Bribery and Money Laundering Offenses (Mar. 25, 2019), https://www.justice.gov/usao-sdny/pr/patrick-ho-former-head-organization-backed-chinese-energy-conglomerate-sentenced-3.

150 Paolo Sorbello, *UK Court Slaps Huge Fine on Khrapunov in BTA Case*, THE DIPLOMAT (Sept. 24, 2018), https://thediplomat.com/2018/09/uk-court-slaps-huge-fine-on-khrapunov-in-bta-case/.

151 Will Doig, *The Belt and Road Initiative Is a Corruption Bonanza*, FOREIGN POL'Y (Jan. 15, 2019), https://foreignpolicy.com/2019/01/15/the-belt-and-road-initiative-is-a-corruption-bonanza/.

152 Will Doig, *Corruption Bonanza*, FOREIGN POL'Y (Jan. 15, 2019), https://foreignpolicy.com/2019/01/15/the-belt-and-road-initiative-is-a-corruption-bonanza/.

153 DANIEL KLIMAN ET AL., GRADING CHINA'S BELT AND ROAD 6, 10 (2019), https://www.cnas.org/publications/reports/beltandroad.

Index 2019.[154] Rankings of other countries in the WJP Rule of Law Index 2019 and the TRACE Bribery Risk Matrix (2018) are as follows:

Bangladesh	112 out of 126; 182
Ecuador	87 out of 126; 136
Equatorial Guinea	105 out of 126; 194
Malaysia	51 out of 126; 63
Philippines	90 out of 126; 100
Sri Lanka	63 out of 126; 148

These rankings account for the causal relation between the rule of law and corruption rate in the abovementioned countries.

Moreover, Asian commercial arbitration organizations may have difficulty arbitrating conflicting interests between BRI countries. Thus, the enforcement of arbitration awards may be a problem because of the inadequate quality of the rule of law in some BRI countries. Therefore, developing an organization like the International Centre for Settlement of Investment Disputes (ICSID) helps solve regional settlement of disputes.[155]

D. Social and Environmental Risks

Assessing and managing social and environmental issues can be critical in infrastructure and energy projects. These issues include, but are not limited to, labor and working conditions, labor strikes, pollution prevention and abatement, demolition and relocation, biodiversity conservation and ecological protection, risks to indigenous people, and risks to cultural heritage.[156] In January 2018, a Center for Strategic and International Studies (CSIS) investigation indicated that 89% of contractors in Chinese-funded BRI transport projects in thirty-four countries were Chinese.[157] Other studies show that the share of Chinese

154 The World Justice Project (WJP) Rule of Law Index 2019 measures countries' rule of law performance across eight factors: constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice. WORLD JUSTICE PROJECT, RULE OF LAW INDEX 2019, at 6 (2019).

155 International Centre for Settlement of Investment Disputes (ICSID) was set up in 1966 by the World Bank Group (WBG) for investor-state dispute settlements in international investment. ICSID is one of the five organizations of WBG.

156 *See* GLOB. REPORTING INITIATIVE, SUSTAINABILITY TOPICS FOR SECTORS: WHAT DO STAKEHOLDERS WANT TO KNOW? 21–31 (2013), https://www.globalreporting.org/resourcelibrary/sustainability-topics.pdf.

157 James Kynge, *Chinese Contractors Grab Lion's Share of Silk Road Projects*,

companies in Chinese-funded BRI projects are substantially higher than the share of the host countries, ranging from 60% to 80%.[158]

Policies focusing on sustainable infrastructural development may challenge environmental practices in developing countries. For example, the Paris Climate Agreement came into force on November 4, 2016, and 170 parties have ratified it.[159] Moreover, other rules, such as the *UN Global Compact*, *UNEP Responsible Investment Principles*, *IFC Social and Environmental Sustainability Performance Standards*, *OECD Guidelines for Transnational Corporations*, and the *Extractive Industries Transparency Initiative Plan*, have also been implemented and must be followed. These internationally accepted rules may not apply in some developing countries or countries with low rule of law rankings.

Sustainability, transparency, and inclusion have been a serious challenge for infrastructure governance of BRI projects.[160] In 2011, Myanmar suspended the $3.6 billion Myitsone Dam, a 6,000 megawatts (MW) hydropower project with the State Power Investment Corporation, due to environmental issues and an uneven disbursement of electricity output between China's Yunnan province and Myanmar.[161] The dam project was finally canceled in 2018, and the suspension left Myanmar $800 million in debt to China.[162] In another example, Pakistan rejected the $14 billion Diamer-Bhasha Dam project and requested that Beijing exclude it from the China-Pakistan Economic Corridor (CPEC) framework in November 2017.[163] The

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FIN. TIMES (Jan. 24, 2018), https://www.ft.com/content/76b1be0c-0113-11e8-9650-9c0ad2d7c5b5.

158 Tania Ghossein et al., *Public Procurement in the Belt and Road Initiative*, WORLD BANK GROUP, MTI Discussion Paper No. 10, (Dec., 1 2018), http://documents.worldbank.org/curated/en/143241544213097139/Public-Procurement-in-the-Belt-and-Road-Initiative.

159 Paris Agreement of the United Nations Framework Convention on Climate Change, Apr. 22, 2016, T.I.A.S. No. 16-1104 (entered into force Nov. 4, 2016).

160 *See* Jamie P. Horsley, Challenging China to Make Good Project Governance a Centerpiece of the Belt and Road Initiative 4 (Dec. 2018) (unnumbered working paper) (on file with sponsoring organization), https://law.yale.edu/sites/default/files/area/center/china/document/horsley_china_bri-good_governance_infrastructure.pdf.

161 Tom Fawthrop, *Myanmar's Myitsone Dam Dilemma*, THE DIPLOMAT (Mar. 11, 2019).

162 Jeff Opperman, *Following Dam Cancellation, Myanmar Can Lead on Sustainable Energy*, FORBES (25 January 2018), https://www.forbes.com/sites/jeffopperman/2018/01/25/following-dam-cancellation-myanmar-can-lead-on-sustainable-energy/#3d2e01f22fbe.

163 Dipanjan Roy Chaudhury, *Pakistan Rejection of China's Dam Aimed at Showing OBOR in Line with Global Rules*, ECON. TIMES (July 12, 2018), https://economictimes.indiatimes.com/news/defence/pakistan-rejection-of-chinas-dam-aimed-at-showing-obor-in-line-with-global-rules/articleshow/61715963.cms.

original estimated project cost was $5 billion, but it later increased to $14 billion.[164] The hydropower project was located in Pakistan-occupied Kashmir (PoK), a disputed territory. As a result, it was difficult to secure funding.[165] BRI projects, such as the Sri Lanka coastline development project and Coca Codo Sinclair Hydroelectric Dam in Ecuador, have also had a negative effect on the environment.[166]

As a result of these negative environmental effects, many BRI projects have encountered a series of disruptions since late 2017. In November 2017, a few countries, including Pakistan, Nepal, and Myanmar, canceled a few hydropower projects with Chinese companies,[167] whose value amounted to nearly $20 billion.[168] For example, Nepal canceled the $2.5 billion Budhi Gandaki hydroelectric project in November 2017, which was signed by the former pro-Beijing government with China Gezhouba Group Corporation.[169] Meanwhile, Nepal turned to India and permitted GMR Group and Satluj Jal Vidyut Nigam Limited to each build a 900-MW hydropower project.[170]

IV
OBOR'S FINANCIAL RISKS AND CASE STUDY

For major investment projects like OBOR, economists and policy analysts typically examine a variety of financial risk factors.[171] These factors range from debt sustainability, investment efficiency, macroeconomic projections, country classification and debt carrying capacity, to risk of external debt, overall risk of public debt, and financial risk ratings.[172]

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164 *Id.*

165 *Id.*

166 KLIMAN ET AL., *supra* note 153.

167 *See* Dasgupta & Pasricha, *supra* note 118.

168 *Id.*

169 Gopal Sharma, *Nepal Scraps $2.5 Bln Hydropower Plant Deal with Chinese Company*, REUTERS (Nov. 13, 2017), https://www.reuters.com/article/nepal-china-hydropower/nepal-scraps-2-5-bln-hydropower-plant-deal-with-chinese-company-idUSL3N1NJ3HD.

170 *Id*.

171 Antonio J. Monroy Antón, Gema Sáez Rodríguez & Ángel Rodríguez López, *Financial Risks in Construction Projects*, 5 AFR. J. BUS. MGMT. 12,325 (Dec. 7, 2011).

172 INT'L DEV. ASS'N, ADDRESSING DEBT VULNERABILITIES IN IDA COUNTRIES: OPTIONS FOR IDA19 (2019), http://documents.worldbank.org/curated/en/296411555639304820/pdf/Debt-Vulnerabilities-in-IDA-Countries-Policy-Options-for-IDA19.pdf.

A. OBOR's Financial Vehicles

China developed a series of financial vehicles for OBOR, including Asian Infrastructure Investment Bank (AIIB), Silk Road Fund (SRF), and New Development Bank (NDB). Additionally, China's policy banks, including the China Development Bank (CDB) and the Export-Import Bank of China, and state-owned banks (such as Industrial and Commercial Bank of China, China Construction Bank, Bank of China, and Agriculture Bank of China) are major lenders of various OBOR projects.[173] China also organized quite a few intergovernmental investments, such as the China ASEAN Fund (CAF), the China Eurasia Cooperation Fund, the Eurasia Economic Union (EAEU), and the China-Africa Development Fund.[174]

The AIIB was founded in December 2015 as a multilateral development bank.[175] As of August 27, 2018, it had 44 regional members, 23 nonregional members, and 20 prospective members.[176] AIIB uses a three-tier governance structure, including the Board of Governors, the Board of Directors, and management.[177] A majority of Governors representing not less than two-thirds of the total voting rights of the members shall be composed of a quorum for meetings of the Board of Governors.[178] The Board of Directors and management such as the President, five Vice-Presidents, and Officers of the Bank are responsible for the general operation of the Bank. The AIIB does not have a residential Board of Directors.[179]

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173 Belt and Road News, *Financing and Funding for the Belt & Road Initiative* (May 17, 2019), https://www.beltandroad.news/2019/05/17/financing-and-funding-for-the-belt-road-initiative/.

174 JIN SHENG, NAT'L UNIV. OF SING., CTR. FOR BANKING AND FIN. LAW, DEVELOPMENT FINANCE IN THE CONTEXT OF 'ONE BELT, ONE ROAD' INITIATIVE: AN EVOLUTION OR DEVOLUTION? 5 (2018), https://law.nus.edu.sg/cbfl/pdfs/reports/CBFL-Rep-1806.pdf.

175 AIIB, *AIIB's Charter Enters into Force on 25 December 2015* (Dec. 25, 2015), https://www.aiib.org/en/news-events/news/2016/20160116_001.html.

176 *About AIIB*, ASIAN INFRASTRUCTURE INV. BANK, https://www.aiib.org/en (last visited Nov. 9, 2019).

177 Natalie Lichtenstein, *Governance of the Asian Infrastructure Investment Bank in Comparative Context*, in AIIB YEARBOOK OF INTERNATIONAL LAW 56 (2018), https://www.aiib.org/en/about-aiib/who-we-are/yearbook/_download/governance-aiib-comparative.pdf.

178 AIIB, *Articles of Agreement*, art. 24.2, https://www.aiib.org/en/about-aiib/basic-documents/_download/articles-of-agreement/basic_document_english-bank_articles_of_agreement.pdf [hereinafter AIIB Articles of Agreement].

179 *Id.* Article 27.1.

Under the AIIB's Corporate Procurement Policy, there are four procurement methods: direct purchasing, competitive procurement (with eight exceptions stipulated in Article 7.3), framework agreements, and retroactive contracts.[180] Direct purchasing applies to orders for goods and services estimated at less than $10,000, and direct purchasing can be issued by User Departments.[181] Corporate Procurement is normally open to competitive tendering, subject to the Corporate Procurement Policy and the Directives.[182] For all purchase orders and contracts estimated at $70,000 or more, a Technical Evaluation Committee (TEC) is required to evaluate the technical proposals.[183] The AIIB can also use framework agreements to save delivery time.[184]

In China's OBOR strategy, the New Development Bank (NDB) is an important partner of the AIIB. In 2009, after the Global Financial Crisis (GFC), the BRICS countries started to alter the global financial architecture, although the International Monetary Fund (IMF) finally made a major reform in January 2016 by increasing BRICS' voting share to 14.7%, very close to a blocking share of 15%.[185] To some extent, BRICS Bank's purpose is to challenge the existing order of international financial institutions and act as a rival of the WBG and the IMF; however, NDB operates more slowly than AIIB.[186] In April 2016, the NDB issued its first set of loans, and, in July 2016, the NDB issued its first $448 million green bonds in China's interbank bond market.[187] These green bonds are yuan-denominated with a five-year tenor.[188] The NDB also planned to lend $2.5 to $3 billion for projects

180 AIIB, *Corporate Procurement Policy*, art. 7 (Jan. 2016), https://www.aiib.org/en/policies-strategies/_download/corporate-procuremen-policy/corporate-procurement-policy.pdf.

181 *Id*. at art. 7.1.

182 *Id*. at art. 7.2.2.

183 *Id*. at art. 7.2.3.

184 *Id*. at art. 7.4.

185 *See* Klemens Witte, *The BRICS: Building a New International Financial Order?*, DOC RES. INST. (Sep. 6, 2017), https://doc-research.org/2017/09/brics-new-international-financial-order.

186 *See* Hongying Wang, *The New Development Bank and the Asian Infrastructure Investment Bank: China's Ambiguous Approach to Global Financial Governance*, 50 DEV. AND CHANGE 221 (2019).

187 *BRICS Bank to Issue $448 Million of Yuan Green Bonds*, NEW DEV. BANK (July 12, 2016), https://www.ndb.int/media/brics-bank-issue-448-million-yuan-green-bonds.

188 *Id.*

in 2017.[189] The possible loan portfolio of NDB will reach an estimated $45–65 billion, and the likely loan portfolio of the AIIB will reach an estimate close to Inter-American Development Bank (IADB)'s $120.4 billion by 2025 respectively.[190] This estimation indicates the AIIB will have a greater loan portfolio than the NDB and, as a result, a potentially greater operational scale than NDB.

The NDB set up a self-managed Contingency Reserve Arrangement (CRA) of $100 billion in July 2014.[191] The initial contributions of member states are as follows: China contributed $41 billion; Brazil, India, and Russia each contributed $18 billion; and South Africa contributed $5 billion.[192] This arrangement ideally provides liquidity support and short-term balance of payment pressures at the request of any member state. Access to the precautionary and liquidity instruments is limited to a multiple of a member's contribution. Thus, China's access rate is limited to a multiplier of 0.5; Brazil, India, and Russia each have access to a multiplier of 1; and South Africa has access to a multiplier of 2.[193] Thus, the NDB's emergency reserve pool is much smaller when compared with the IMF's reserve pool, which is able to lend $1 trillion to its member countries.[194]

Both NDB and AIIB were initiated by emerging economies and, as a result, have similar objectives and common interests. These objectives and common interests include providing financial resources for infrastructure connectivity and sustained development projects in emerging economies and developing countries.[195] Despite these common objectives, unlike the AIIB's shareholding structure and voting rules, the NDB follows the principle of stakeholder equality—each of five member countries contributes 20% of its start-up capital

189 *BRICS New Development to Finance $2.5-3 Bln Worth Projects in 2017*, NEW DEV. BANK NEWSROOM (June 17, 2016), https://www.ndb.int/media/brics-new-development-bank-finance-2-5-3-bln-worth-projects-2017/.

190 Chris Humphrey, *Developmental Revolution or Bretton Woods Revisited? The Prospects of the BRICS New Development Bank and the Asian Infrastructure Investment Bank* 15 (Overseas Dev. Inst., Working Paper No. 418, 2015), https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9615.pdf.

191 Treaty for the Establishment of a BRICS Contingent Reserve Arrangement, art. II(a), July 15, 2014, http://www.brics.utoronto.ca/docs/140715-treaty.html.

192 *Id.* at art. II(a)(i–v).

193 *See id*. at art. V(a)(i–v).

194 *The IMF at a Glance*, INT'L MONETARY FUND (Mar. 22, 2019), https://www.imf.org/en/About/Factsheets/IMF-at-a-Glance.

195 *See Asian Infrastructure Investment Bank and New Development Bank Sign Memorandum of Understanding to Promote Cooperation*, ASIAN INFRASTRUCTURE INV. BANK (Apr. 1, 2017), https://www.aiib.org/en/news-events/news/2017/20170401_001.html.

($100 billion) and enjoys 20% of the total voting power.[196] In short, no single NDB member state has veto power.[197]

Chinese policy banks, commercial banks, and state-owned enterprises have invested $900 billion in the OBOR Initiative;[198] however, sovereigns nations with identifiable OBOR projects received speculative grades regarding potential credit risk and market risk, ranging from the "B" to "BBB."[199] In addition, even if this strategy enlarges China's economic and geopolitical influence and brings forth alternative development finance in the current global financial system, infrastructure financing projects face challenges associated with low return with high risk.[200] For example, of the seventy-one OBOR initiative countries,[201] nearly half do not have credit ratings. Moreover, of the OBOR initiative countries with a credit rating, only 58.8% reached ratings of "BBB" or above.[202]

The BRI is an extension of China's long-term, national "going global" strategy. The CDB played a key role in its implementation. The CDB financed Chinese investments overseas with low interest rates and long-term loans, becoming the largest development bank in the process.[203] Specifically, the CDB opened the overseas market through financing Huawei and ZTE.[204] Huawei received $10 billion each year

196 *See* AIIB *Articles of Agreement*, *supra* note 178, at art. 6, 10.

197 *See id.* at art. 6.

198 *See Embracing the BRI Ecosystem in 2018*, DELOITTE (Feb. 13, 2018), https://www2.deloitte.com/us/en/insights/economy/asia-pacific/china-belt-and-road-initiative.html?icid=dcom_promo_featured%7Cin;en.

199 *China's One Belt, One Road Initiative Brings Risks*, FITCH RATINGS (Jan. 25, 2017), https://www.fitchratings.com/site/pr/1018144.

200 Ben Hillman, *Silk Road Blocks: The Problem with China's One Belt, One Road Policy*, POL'Y F. (Nov. 2015), https://crawford.anu.edu.au/files/uploads/crawford01_cap_anu_edu_au/2015-11/silk_road_blocks.pdf.

201 The OBOR Initiative includes sixty-five countries that house 41.3% of the global population. Additionally, the economic aggregate in this region is up to US$27.4 trillion, which accounts for 38.2% of the global economic aggregate. Many OBOR countries are developing countries lacking the infrastructure necessary for water, roads, and electricity. Thus, developing infrastructure in this region through the OBOR initiative will greatly benefit 4.67 billion people and a large portion of the global population. *See* BELT AND ROAD INITIATIVE, https://www.beltroad-initiative.com/belt-and-road/ (last visited Nov. 19, 2019).

202 *Fitch Credit Rating for Each Country*, CHARTSBIN, http://chartsbin.com/view/1176 (last visited June 28, 2019).

203 China Development Bank, *About CDB*, http://www.cdb.com.cn/English/gykh_512/khjj/ (last visited Nov. 2019).

204 *See* Alessandro Provaggi, *China Development Bank's Financing Mechanisms: Focus on Foreign Investments* 3 (2013).

from CDB after 2004.[205] In 2004, CDB agreed to provide a credit line of $10 billion for Huawei to develop overseas customers, and in 2009 this credit line was tripled to $30 billion.[206]

B. OBOR Countries' Financial Risks

Financial risks may directly or indirectly threaten any project's completion. Many OBOR countries adopt foreign exchange control or capital control policies.[207] Aside from the risk of currency depreciation, foreign investors will have to avoid losses from the inability to convert local currency into foreign exchange or transfer constraints of outbound funds in the host country. Moreover, factors including illiquidity premium, Greenfield risk premium, and emerging market risk premium also affect an infrastructure project's returns.[208] Some counterparty developing countries may suffer from heavy debt burden and financial risks. A research report issued by the Centre for Global Development (CGD) in March 2018 found that twenty-three countries were "at risk of debt distress today" due to OBOR lending.[209] In particular, eight of the countries (Djibouti, Tajikistan, Kyrgyzstan, Laos, Maldives, Mongolia, Pakistan, and Montenegro) were "vulnerable to debt distress due to future OBOR-related financing."[210] It is reported that Pakistan may have to ask the International Monetary Fund (IMF) for a bailout, as its economy is heavily indebted.[211] As a matter of fact, debt sustainability has become a serious challenge for many BRI loan recipients.[212]

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205 *Id.*

206 *Huawei a Key Beneficiary of China Subsidies That US Wants Ended*, RFI (May 30, 2019), http://www.rfi.fr/en/contenu/20190530-huawei-key-beneficiary-china-subsidies-us-wants-ended.

207 IMF, *Capital Control Measures: A New Dataset*, WP/15/80 (Apr. 2015), https://www.imf.org/external/pubs/ft/wp/2015/wp1580.pdf.

208 HKMA Infrastructure Financing Facilitation Office, *Reference Term Sheet for Infrastructure Investments in Emerging Markets*, https://www.iffo.org.hk/docs/default-source/Default/reference_infra_term_sheet.pdf?sfvrsn=0 (last visited Nov. 19, 2019).

209 JOHN HURLEY ET AL., CTR. FOR GLOBAL DEV., EXAMINING THE DEBT IMPLICATIONS OF THE BELT AND ROAD INITIATIVE FROM A POLICY PERSPECTIVE 6 (2018), https://www.cgdev.org/publication/examining-debt-implications-belt-and-road-initiative-a-policy-perspective.

210 *Id*. at 11.

211 Salman Masood, *Pakistan to Accept $6 Billion Bailout from I.M.F.*, N.Y. TIMES (May 12, 2019), https://www.nytimes.com/2019/05/12/world/asia/pakistan-imf-bailout.html?rref=collection%2Fbyline%2Fsalman-masood&action=click&contentCollection=undefined&region=stream&module=stream_unit&version=search&contentPlacement=2&pgtype=collection.

212 HURLEY ET AL., *supra* note 209, at 11–19.

C. The Case of China-Pakistan Economic Corridor (CPEC): "Debt Trap"?

The China-Pakistan Economic Corridor (CPEC), a 3,218-kilometer-long route, connects the Pakistani port of Gwadar to the Chinese city of Kashgar.[213] In November 2015, China and Pakistan reached an agreement on the CPEC, after negotiations and the signing of a memorandum of understanding on this more than fifteen-year-long project.[214] In its early phase, China provided $46 billion as a commitment for investment and concessional loans in highways, railways, and pipelines. The CPEC Projects are composed of twenty-one energy projects (fifteen power projects, four actively promoted projects, and two potential energy projects), eight infrastructure projects, the twelve projects of the Gwadar Sea Port, four rail-based mass transit projects, and three ICT projects.[215] By early 2017, China had invested $62 billion in the CPEC,[216] which is regarded as the flagship of the BRI routes.[217] It is estimated that the actual cost will be $75 billion, and China plans to complete most construction in 2020.[218]

From the China side, building the CPEC will shorten the maritime transport from the Middle East to Shanghai for China's oil freight. This will save time and transaction costs because the current distance accounting for 80% of China's oil freight to Shanghai via the Strait of Malacca is nearly 16,000 kilometers.[219] After the Gwadar Sea Port comes into operation, the distance will be shortened to less than 5,000 kilometers.[220] Compared with other OBOR routes, the CPEC appears

213 DELOITTE, HOW WILL CPEC BOOST PAKISTAN ECONOMY?, https://www2.deloitte.com/content/dam/Deloitte/pk/Documents/risk/pak-china-eco-corridor-deloittepk-noexp.pdf.

214 *Id*.

215 China-Pakistan Economic Corridor, *CPEC Projects Progress Update*, CHINA-PAKISTAN ECONOMIC CORRIDOR, http://cpec.gov.pk/progress-update (last visited June 28, 2019).

216 Salman Siddiqui, *CPEC Investment Pushed from $55b to $62b*, THE TRIBUNE (Apr. 12, 2017), https://tribune.com.pk/story/1381733/cpec-investment-pushed-55b-62b/.

217 Yasir Arrfat, *Challenges and Solutions in Building CPEC-A Flagship of BRI* 1 (Ctr. of Excellence for CPEC Islamabad Working Paper No. 17, Issue 1, 2018), https://cpec-centre.pk/wp-content/uploads/2018/06/WP17-Challenges-and-Solutions-in-Building-CPEC-A-Flagship-of-BRI.pdf.

218 DELOITTE, *supra* note 213.

219 *Id*.

220 *Id*.

to have less opportunity costs in acquiring land and compensation.[221] In this forty-year deal, China obtained 91% of shares in gross revenues from the Gwadar Sea Port, as well as 85% of the shares from revenues of the free-trade zone around the port. China will operate the Gwadar Port for forty years through build-operate-transfer (BOT), and China plans to recoup its CPEC expenditure by 2020 from the earnings of the Gwadar Port.[222] Along with the major share of earnings, companies in the 2,282-acre free-trade zone around Gwadar Port, including factories, warehouses, logistics hubs, and display centers, are exempted from customs duties and provincial and federal taxes.[223]

As far as Pakistan is concerned, the government of Pakistan expects that the CPEC will directly create 700,000 jobs from 2015 to 2030 and boost its economic growth up to 2.5%.[224] Nevertheless, there are critiques against some contractual terms of the Gwadar Port agreement between Pakistani authorities and the China Overseas Port Holding Company.[225] Mir Hasil Bizenjo, Pakistan's Federal Minister for Ports and Shipping, disclosed that Pakistan would pay back $16 billion for loans from Chinese banks at rates of more than 13% (including 7% insurance charges).[226] Some Senators worried that this deal might be a heavy debt burden and may undermine Pakistan's national interests.[227] Business people argued that infrastructure, roads, machinery, and other facilities would not be in workable condition after forty years and that upgrading and maintenance would have substantial costs.[228] Additionally, contractors and subcontractors associated with the China Overseas Port Holding Company are offered "an exemption from income and sales taxes, and federal excise duties, for a period of 20 years, besides a 40-year tax holiday granted for imports of equipment,

221 *See* CRISIS GROUP REPORT, ASIA, NO. 297, CHINA-PAKISTAN ECONOMIC CORRIDOR: OPPORTUNITIES AND RISKS (June 29, 2018), https://www.crisisgroup.org/asia/south-asia/pakistan/297-china-pakistan-economic-corridor-opportunities-and-risks.

222 F.M. Shakil, *Bad Terms: Pakistan's Raw Deal with China over Gwadar Port*, ASIA TIMES (Nov. 28, 2017), https://www.asiatimes.com/2017/11/article/bad-terms-pakistans-raw-deal-china-gwadar-port/.

223 *Id*.

224 Syed Kamal Hussain Shah, *CPEC Boost Pakistan Economy*, CHINA-PAKISTAN ECONOMIC CORRIDOR (June 20, 2017), http://www.cpecinfo.com/cpec-news-detail?id=MzI4NA==.

225 Jamil Anderlini, Henny Sender & Farhan Bokhari, *Pakistan Rethinks Its Role in Xi's Belt and Road Plan*, FIN. TIMES (Sept. 9, 2018), https://www.ft.com/content/d4a3e7f8-b282-11e8-99ca-68cf89602132.

226 Shakil, *supra* note 222.

227 *Id.*

228 *Id.*

material, plant, appliances and accessories for port and special economic zone."[229] It turns out that Pakistan had to ask the IMF for a bailout because its economy is heavily indebted.[230] For Pakistan and other distressed OBOR countries, debt sustainability has become a serious challenge for many OBOR loan recipients.

Of the sixty-eight BRI partner countries, twenty-seven countries' sovereign debt was "junk rated," or below investment grade, and fourteen countries' sovereign debt was not rated at all, according to the three major international credit rating agencies: Standard & Poor's, Moody's, and Fitch Ratings.[231] In addition, eight countries (Djibouti, Tajikistan, Kyrgyzstan, Laos, Maldives, Mongolia, Pakistan and Montenegro) are at risk of debt distress due to BRI lending.[232]

D. Debt Sustainability

A research report issued by the Center for Global Development (CGD) in March 2018 found that twenty-three BRI countries were "significantly or highly vulnerable to debt distress,"[233] assessed by transparency, project pipeline, project implementation, and debt-growth dynamics.[234] Eight of the twenty-three countries (Pakistan, Djibouti, Kyrgyzstan, Mongolia, Tajikistan, Maldives, Montenegro and Laos) are already in trouble due to increased BRI lending.[235] There are between thirty-one and thirty-five heavily indebted poor countries (HIPC), including eight heavily debt-distressed Asian countries.[236] Since 2017, BRI has encountered barriers in Malaysia, Sri Lanka, Thailand, Cambodia, Nepal, the Philippines, and Pakistan due to "debt trap."[237]

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229 *Id.*

230 Masood, *supra* note 211.

231 *China's Silk Road Cuts Through Some of the World's Riskiest Countries*, BLOOMBERG (Oct. 26, 2017), https://www.bloomberg.com/news/articles/2017-10-25/china-s-new-silk-road-runs-mostly-through-junk-rated-territory.

232 *See generally* HURLEY ET AL., *supra* note 209.

233 *See id*. at 28.

234 *See id.* at 26–27.

235 *See id.*

236 *See id.*

237 *See id.* Hurley, Morris and Portelance first analyzed BRI countries' debt to China—"debt-trap diplomacy." "Debt trap" has attracted the attention of other researchers; *see* Kari Lindberg & Tripti Lahiri, *From Asia to Africa, China's "Debt-Trap Diplomacy" Was Under Siege in 2018*, QUARTZ (Dec. 28, 2018), https://qz.com/1497584/how-chinas-debt-trap-diplomacy-came-under-siege-in-2018/. *See also* Tim Fernholz, *Eight Countries in Danger of Falling into China's "Debt Trap,"* QUARTZ (Mar. 8, 2018), https://qz.com/1223768/

The CGD report examined cases where China provided debt relief for debt-distressed BRI countries—from 100% tax relief, to exchanges for debt-to-equity, long-term lease of land, ports, or other infrastructure.[238] The CGD report proposed three recommendations on how to fix the BRI-related debt distress. The first recommendation was to turn the BRI from China-centered into a multilateral mechanism. The second recommendation was to introduce lending standards.[239] For example, China may join the Paris Club and adopt the Paris Club's collective action approach. Alternatively, China can consider the "G20 Operational Guidelines for Sustainable Financing" to pursue its leadership in this international mega-infrastructure scheme. The third recommendation was that China becomes a donor.[240]

It is widely reported that in 2017 Sri Lanka had to grant China Merchants Group (which paid $1.12 billion for 85% of shares of Hambantota Port in the Indian Ocean) a ninety-nine-year lease on the Port in order to avoid a debt default.[241] Although the Beijing government has conducted strong propaganda, the China-centered Belt and Road Initiative has recently encountered barriers. Out of a fear of the debt trap and Beijing's growing geopolitical influence, Malaysia suspended multiple China-funded BRI projects in August 2018, including the $20 billion East Coast Rail Link and two gas pipelines valued at $2.3 billion.[242] Meanwhile, Myanmar trimmed its high-interest rate loans from China CITIC Group from $7.3 billion to $1.3 billion for the Kyaukpyu Deepwater Port in Rakhine state. This port was regarded as the BRI's key pillar to link the Indian Ocean and Yunnan Province, and it avoided the Malacca Straits for China's oil pipelines.[243] Pakistan, a recipient of China's $62 billion lending for

china-debt-trap-these-eight-countries-are-in-danger-of-debt-overloads-from-chinas-belt-and-road-plans/.

238 HURLEY ET AL., *supra* note 209, at 20.

239 *Id.* at 21–25.

240 *Id*. at 23–25.

241 *See* Ankit Panda, *Sri Lanka Formally Hands Over Hambantota Port to Chinese Firms on 99-Year Lease*, THE DIPLOMAT (Dec. 11, 2017), https://thediplomat.com/2017/12/sri-lanka-formally-hands-over-hambantota-port-to-chinese-firms-on-99-year-lease/.

242 Malaysia agreed to relaunch the East Coast Rail Link construction after China cut off about 30% of the project's cost. The Export-Import Bank of China would finance 85% (namely $10.7 billion) of the rail link project. *See generally* Vincent Thian, *China to Fund 85% of Malaysia's Revived Rail Project*, STARTRIBUNE (July 25, 2019), http://www.startribune.com/china-to-fund-85-of-malaysia-s-revived-rail-project/513178542/.

243 Yuichi Nitta, *Myanmar Cuts Cost of China-Funded Port Project by 80%*, NIKKEI ASIAN REVIEW (Sept. 28, 2018), https://asia.nikkei.com/Spotlight/Belt-and-Road/Myanmar-cuts-cost-of-China-funded-port-project-by-80.

railway, highways, and Gwadar Port, evaluated its ballooned international debts and approached the IMF for a bailout.[244]

Debt unsustainability makes many BRI-participating countries reconsider their projects.[245] In late 2017, a few countries, including Pakistan, Nepal, and Myanmar, canceled a few hydropower projects with Chinese companies, valued at $20 billion.[246] For example, Nepal canceled the $2.5 billion Budhi Gandaki hydroelectric project, which was signed by the former pro-Beijing government with China Gezhouba Group Corporation in November 2017.[247] Meanwhile, Nepal turned to India and permitted GMR Group and Satluj Jal Vidyut Nigam Limited (two Indian companies) to build a 1,400-MW hydropower project each.[248] In mid-November 2017, it was reported that Pakistan rejected the $14 billion Diamer-Bhasha Dam and requested that Beijing exclude that dam from the (CPEC) framework.[249] The original estimated project cost was $5 billion, but later it increased to $14 billion.[250]

E. The Escalating Trade Conflicts and China's Own Financial Risks

Over the last decade, China has experienced quite a few rounds of mass financialization, ranging from the four-trillion-yuan economic stimulus scheme in 2008,[251] local governments' off-budget fiscal

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244 *See* Shezad Lakhani, *The IMF Repeats Old Mistakes in Its New Loan Program for Pakistan*, THE DIPLOMAT (Aug. 3, 2019), https://thediplomat.com/2019/08/the-imf-repeats-old-mistakes-in-its-new-loan-program-for-pakistan/.

245 *See generally* Marshall W. Meyer & Minyuan Zhao, *China's Belt and Road Initiative: Why the Price Is Too High*, WHARTON U. OF PA. (Apr. 30, 2019), https://knowledge.wharton.upenn.edu/article/chinas-belt-and-road-initiative-why-the-price-is-too-high/.

246 Saibal Dasgupta & Anjana Pasricha, *Pakistan, Nepal, Myanmar Back Away from Chinese Projects*, VOA (Dec. 4, 2017), https://www.voanews.com/a/three-countries-withdraw-from-chinese-projects/4148094.html.

247 Gopal Sharma, *supra* note 169.

248 Maria Abi-Habib, *How China Got Sri Lanka to Cough Up a Port*, N.Y. TIMES (June 25, 2018), https://www.nytimes.com/2018/06/25/world/asia/china-sri-lanka-port.html.

249 Dipanjan Roy Chaudhury, *Pakistan Rejection of China's Dam Aimed at Showing OBOR in Line with Global Rules*, THE ECON. TIMES (July 12, 2018), https://economictimes.indiatimes.com/news/defence/pakistan-rejection-of-chinas-dam-aimed-at-showing-obor-in-line-with-global-rules/articleshow/61715963.cms.

250 *Id*.

251 *See* Yanping Li & Chia-Peck Wong, *China Announces 4 Trillion Yuan Economic Stimulus (Update 2)*, BLOOMBERG (Nov. 9, 2008), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aIpq7IF4BM9Q.

stimulus, and a boom of municipal corporate bonds from 2012 to 2016, to the credit-fueled stimulus after 2016.[252] Each round has strengthened China's financial leverage and debt-to-GDP ratio.[253] In November 2017, Mr. Zhou Xiaochuan, China's former Central Bank Governor, warned of China's potentially "sudden, contagious and hazardous" financial risks, as well as high leverage ratio, liquidity risk, credit risk, cross-sector, and cross-market shadow banking.[254]

In addition, oversupply of currencies has become serious after the global financial crisis.[255] Accompanying the three rounds of Quantitative Easing in 2008, 2010, and 2012, inflows of hot money (massive liquidity) flushed into China and other emerging markets.[256] At the same time, China printed tremendous amounts of currency.[257] In 2012, China accounted for almost half of new money supply and became the largest money printer in the world.[258] In July 2019, China's M2 reached CNY 191.94 trillion.[259]

The competition between the Belt and Road Initiative and the Indo-Pacific Strategy occurs in the context of an escalating trade war and geopolitical tensions. The United States adding tariffs on $550 billion worth of Chinese goods and products has impacts on both Chinese exports and the Chinese financial sector.[260] Furthermore, the trade conflicts have expanded to energy, technology, human rights, currencies, and the financial markets.[261] The macroeconomic

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252 *See* Diane Vazza & Xu Han, *Credit Trends: Demystifying China's Domestic Debt Market*, S&P GLOB. (Feb. 19, 2019), https://www.spglobal.com/en/research-insights/articles/credit-trends-demystifying-china-s-domestic-debt-market.

253 *See id*.

254 *China's Central Bank Chief Warns of "Sudden, Contagious and Hazardous" Financial Risks*, BLOOMBERG (Nov. 4, 2017), https://www.bloomberg.com/news/articles/2017-11-04/china-s-zhou-warns-on-mounting-financial-risk-in-rare-commentary.

255 Gabriel Widau, *China Central Bank Warns of Excessive Money*, FIN. TIMES (Nov. 2, 2018), https://www.ft.com/content/2dfb0008-de8d-11e8-8f50-cbae5495d92b.

256 *Id.*

257 In August 2019, M2 reached CNY 193.55 trillion. PEOPLE'S BANK OF CHINA, Money Supply, http://www.pbc.gov.cn/diaochatongjisi/116219/116319/3750274/3750284/index.html (last visited Nov. 5, 2019).

258 Tyler Durden, *China Accounts for Nearly Half of the Global Money Supply*, ZEROHEDGE (Aug. 2, 2013), http://www.zerohedge.com/news/2013-02-08/china-accounts-nearly-half-worlds-new-money-supply.

259 PEOPLE'S BANK OF CHINA, *supra* note 257.

260 *See generally* Dorcas Wong &Alexander Chipman Koty, *The US-China Trade War: A Timeline*, CHINA BRIEFING (Sept. 23, 2019), https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/.

261 Patti Domm, *Trade War Turns into 'Nasty' Currency War as US Calls China Manipulator for First Time Since '90s*, CNBC (Aug. 5, 2019), https://www.cnbc.com/2019/

consequences will substantially affect China's financing of BRI projects.

CONCLUSION: INVESTMENT EFFICIENCY TOWARD PRODUCTIVITY

There are three pillars for sustainable development and productivity growth: innovation, human capital, and infrastructure.[262] Of these three pillars, infrastructure, as one of the largest sectors, matters substantially for global economic growth, but construction has a poor record in productivity.[263] Over the past two decades, although the world has spent 13% of global GDP (approximately $10 trillion annually) on construction-related goods and services, this sector only ever increases 1% productivity each year.[264] Compared with the growth rates over the past two decades in other sectors, such as 3.6% in manufacturing and 2.8% in the world economy, the construction sector could boost its productivity and increase its value added by $1.6 trillion a year, or 2% of the world's GDP.[265] A McKinsey & Company research report in 2017 indicates that acting in concert in certain areas, such as reshaping regulatory and contractual frameworks, improving engineering processes and procurement, applying new materials and digital technology, and focusing on reskilled manpower, would boost this sector's productivity by 50%–60%.[266]

On the other hand, the investment efficiency is not good. According to the McKinsey Global Institute, 40% of the world's infrastructure investments (or about $1 trillion a year) was not spent effectively, or could have been saved.[267] For example, improving the selection of bankable projects and optimizing the infrastructure portfolio could save two hundred billion dollars; through streamlining delivery, global infrastructure investment $400 billion could save; and it could reduce

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08/05/trade-war-heads-to-currency-war-as-us-calls-china-manipulator.html. *See generally* Saheli Roy Choudhury, *Sanctions over China's Human Rights Could Strengthen US Position in Trade Talks, Says Economist*, CNBC (Oct. 20, 2019), https://www.cnbc.com/2019/10/10/sanctions-over-china-human-rights-may-strengthen-us-position-in-trade-talks.html.

262 *See* ASIAN DEV. BANK, *supra* note 25.

263 *See id*.

264 FILIPE BARBOSA, ET AL., REINVENTING CONSTRUCTION: A ROUTE TO HIGHER PRODUCTIVITY 6, MCKINSEY GLOBAL INSTITUTE REPORT (Feb. 2017).

265 *Id*. at 1.

266 *Id*. at 7–10.

267 DOBBS ET AL., *supra* note 61, at 4.

$200 billion in demand management (including $100 billion in "operations and reduction of transmission and distribution losses" and $100 billion in optimized maintenance).[268] As mentioned previously, there is a potential to improve 60% of current infrastructure productivity.[269] Through improving project preparation, structuring, and delivery, global infrastructure productivity can be increased by $20 trillion by 2030.[270]

Investment efficiency leads to higher productivity, as both underinvestment and overinvestment do harm to economic growth and lead to economic fragility.[271] Three methods can be used in savings, each with different benefits: (1) optimizing project portfolios could save $200 billion a year around the world; (2) streamlining delivery could speed up timelines and thus generate savings of up to $400 billion a year; (3) boosting asset utilization, optimizing maintenance planning, and improving the effectiveness of demand-management approaches of existing infrastructure could save up to $400 billion a year globally.[272] Furthermore, both public infrastructure investment and private sector investment are important for development finance.[273] The key issue is how to coordinate different development strategies to promote trade and economic growth. To boost productivity growth, the OBOR program, as well as other regional or international infrastructure initiatives, must value quality, sustainable, and inclusive infrastructure.

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268 *Id*. at 5. Exhibit E2.

269 RICHARD DOBBS ET AL., INFRASTRUCTURE PRODUCTIVITY: HOW TO SAVE $1 TRILLION A YEAR 32, MCKINSEY GLOBAL INSTITUTE REPORT (Jan. 2013), https://www.mckinsey.com/~/media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure_Full%20report_Jan%202013.ashx.

270 B20 AUSTRALIA, B20 INFRASTRUCTURE & INVESTMENT TASKFORCE POLICY SUMMARY 12, B20 AUSTRL. (July 2014), http://www.g20.utoronto.ca/b20/B20-2014-infrastructure-recs.pdf.

271 *See* Ansar et al, *supra* note 13, at 360–390.

272 *See* B20 AUSTRALIA, *supra* note 270, at 5–7.

273 *See* Daniel Gurara, et al., *Trends and Challenges in Infrastructure Investment in Low-Income Developing Countries*, IMF Working Paper No. WP/17/233, (Nov. 7, 2017), https://www.imf.org/en/Publications/WP/Issues/2017/11/07/Trends-and-Challenges-in-Infrastructure-Investment-in-Low-Income-Developing-Countries-45339.