Chinese Globalization: BRI and the Future of Higher Education

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Abstract

Since World War II, the United States and its allies have overseen a global order built on trade liberalization and the development of a Western model of global integration. That order now appears to be winding down. Beyond the era of “Western hegemony”, Asia is returning to the patterns of commerce and cultural exchange that thrived long before European colonialism and American predominance (Khanna, 2019). Underwriting Asia’s resurgence is the return of China. This paper charts China’s rise and Chinese globalization focusing on China as a global technology leader, detailing AI and Chinese human capital development, before turning to China’s global higher education to provide an interpretation of Chinese Globalization.

Keywords

Chinese globalization – Belt and Road Initiative – AI – human capital development

Introduction

Since World War II, the United States and its allies have overseen a global order built on trade liberalization and the development of a Western model of global
integration. That order now appears to be winding down. Beyond the era of “Western hegemony”, Asia is returning to the patterns of commerce and cultural exchange that thrived long before European colonialism and American predominance (Khanna, 2019). Underwriting Asia’s resurgence is the return of China. Chinese President Xi Jinping’s signature “Belt and Road Initiative” (BRI), stretches across Asia, the Middle East, Africa, Europe, and Latin America, representing the largest infrastructure project in history. This paper charts China’s rise and Chinese globalization focusing on China as a global technology leader, detailing AI and Chinese human capital development, before turning to China’s global higher education to provide an interpretation of Chinese Globalization.

Building on decades of domestic investments in ports, pipelines, rail, and telecommunications, China’s expanding supply chain empire is now underwriting the emergence of a multipolar system. BRI forms a central component of President Xi’s “Major Country Diplomacy” (大国外交) strategy, underscoring China’s broader leadership ambitions. Gathering emerging markets in its orbit, China’s BRI reimagines the world as a single complex network of supply chains, trade arteries, and communication grids. Indeed, China’s economic expansion now exerts a gravitational pull on the world economy (Economist, 2018).

Supported by an enormous supply-chain infrastructure, China’s immense capacity for steel, concrete, and iron now supports hundreds of projects criss-crossing Europe, Africa, Asia and Latin America. More than markets alone, BRI serves as a platform for Eurasian integration and a new phase in Chinese globalization. Taken to its logical conclusion, China’s BRI represents the early stages of an immense Eurasian trading system and a post-American world order. One industry that will benefit enormously from BRI is the higher education industry.

This essay considers the long-term impact of BRI on the changing landscape of higher education with a particular focus on artificial intelligence (AI). We
argue that China’s higher education planning across emerging and developing countries represents a new stage in globalization. We further speculate that the axis of higher education is shifting away from Western countries and toward China, even as AI becomes a source of competitive advantage. Just as Anglo-American power has been ceding ground to China in terms of trade, investment, and technological innovation, so China’s growing influence in education across developing and emerging economies could represent a tipping point in the global order. While English-speaking countries have dominated higher education for centuries, this may be changing.

China Rising

First described as the “Silk Road Economic Belt”, China’s BRI projects represent the culmination of decades of domestic infrastructure investment in the pursuit of Chinese modernization. Beginning as overland routes for road and rail transportation through landlocked Central Asia, BRI has since expanded to include vast swathes of global infrastructure investment around the world. The stated objective of BRI is to develop a transcontinental investment program that aims at combining infrastructure development with economic integration along the route of the historic Silk Road.

BRI envisages developing six major economic cooperation corridors and several key maritime pivot points across Eurasia. The “Belt” in BRI refers to the “Silk Road Economic Belt”, while the “road” refers to Indo-Pacific sea routes connecting China to Southeast Asia, South Asia, the Middle East, Europe, and Africa. This includes transport, energy, mining, information technology and communications, but also industrial parks, special economic zones (SEZ), tourism and urban development. On land, this Eurasian land bridge includes six economic corridors:

1. New Eurasian Land Bridge Economic Corridor (NELBEC)
2. China – Mongolia – Russia Economic Corridor (CMREC)
3. China – Central Asia – West Asia Economic Corridor (CCWAEC)
4. China – Indochina Peninsula Economic Corridor (CICPEC)
5. Bangladesh – China – India – Myanmar Economic Corridor (BCIMEC)
6. China – Pakistan Economic Corridor (CPEC)

More recently, China’s State Council Information Office has published a 2018 white paper advancing the country’s “Arctic Policy” with the aim of adding additional trade routes to BRI in the Arctic as well. BRI has no formal institutionalized body and its implementation is spread across a wide range of actors
and stakeholders. The overseeing agency for BRI is the “Office of the Leading Group on Promoting the Implementation of Belt and Road Initiatives” which is under the National Development and Reform Commission (NDRC). The group plays a significant role in guiding and coordinating work related to five key priorities including policy coordination, connectivity, trade promotion, financial integration, and intercultural development.

Chinese Globalization

In addition to its importance as a vast trade network for Chinese goods and services, BRI offers a platform for a long-term strategic shift around advanced Chinese technologies. This includes electric vehicles (EV), telecommunications, robotics, AI, semiconductors, clean energy, technologies, advanced electrical equipment, rail infrastructure and maritime engineering. China is spending billions of dollars on research in genomics, quantum computing, robotics, and advanced materials (Economist, 2019).

Critics of BRI suggest that it is more aspirational than real. Building on accusations of “debt-trap diplomacy” and neocolonialism, the United States government has been a particularly vocal critic of BRI. However, research by Deborah Bräutigam (Bräutigam, 2010) and others contest this. Where the United States has largely prioritized security agreements and a vast military-industrial architecture, China’s expanding influence has been underwritten by global trade and an array of economic partnership agreements. Trade volume between China and its BRI participating countries was more than 6 trillion US dollars between 2013 and 2018. China’s import from and export to BRI participating countries totalled 300 billion dollars in the first quarter of 2019, up 7.8% year-on-year and occupying 28.6% of the country’s total foreign trade volume in the period. In fact, China’s foreign direct investment (FDI) in these countries has exceeded 80 billion dollars.3

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2 In Africa, Chinese conglomerates have already become positioned to capitalize on the continent’s need for technology, trade, and manufacturing. China’s investments encompass utilities, port construction and agriculture but also telecommunications. Indeed, Chinese telecom providers now dominate Africa’s billion-user mobile phone market.
3 According to the Chinese government, China’s trade volume of goods with BRI countries is reported to have reached an eight-year high in 2021 totalling 11.6 trillion yuan, a new high over the past eight years and a year-on-year increase of 23.6 percent, accounting for 29.7 percent of China’s total foreign trade. China’s foreign direct investment in BRI countries, was nearly 139 billion yuan, up by nearly 8% over the previous year representing 15% of all outbound investment.
Even as United States seeks to bolster its influence in Asia through a series of economic and security agreements (i.e., the Quadrilateral Security Dialogue, the Australia-United Kingdom-United States Partnership, the Indo-Pacific Economic Framework for Prosperity), Asian economic integration has begun reshaping the Asian region. Together, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP) agreements reflect this changing reality. RCEP alone integrates a third of the global economy ($29.7 trillion) and a third of the world’s population (2.2 billion people) into the largest free trade bloc in the world.

China as a Global Technology Leader

Alongside its expanding influence across export and manufacturing, China is increasingly focused on domestic consumption and a long-term shift towards high technology industries – especially AI. With some of the world’s largest technology companies (e.g., Alibaba, Baidu, ByteDance, and Tencent), technological innovation has become an integral part of Beijing’s broader strategic planning. China aims to be a “world-leader” in AI by 2025 with a core AI industry exceeding RMB 400 billion (USD 60.3 billion) and an AI-related industry exceeding RMB 5 trillion (USD 754.0 billion).

Looking further into the future, China seeks to become the world’s primary AI innovation center by 2030. As part of “Made in China 2025” (published in 2015), the Chinese government has focused on AI as a key lever for economic advancement. “Made in China” targets ten strategic advanced technology manufacturing industries, including advanced information technologies and robotics alongside technologies in aviation, maritime, rail, new energy vehicles, electrical generation, agricultural machinery, new materials, and pharmaceuticals.

More recently, the State Council’s “New Generation Artificial Intelligence Development Plan” published in 2017 prioritizes the mass application of AI to industries across the country. Chinese economic planning has emphasized the need for indigenous innovation to reduce the country’s dependence on other countries for high-end manufacturing. More concretely, China’s global share of research papers in the field of AI has expanded dramatically from 4.26% (1,086) in 1997 to 27.68% in 2017 (37,343), surpassing the United States (China AI Development Report, 2018). China produced around one-third of both AI journal papers and AI citations worldwide in 2021. In terms of economic investment, China accounted for nearly one-fifth of global private
investment funding in 2021, attracting $17 billion for AI start-ups (Zhang et al., 2022).

AI and Chinese Human Capital Development

A significant feature of China’s economic success has been a strategic focus on education and human capital development. While China’s focus on labor-intensive industries has followed other Asian economies, the country’s ambivalence towards market-led development prescribed by the Washington Consensus (i.e., neoliberalism) has enabled it to catch up to the developed world even as the vast majority of developing countries have made little progress. In fact, much of China’s economic growth is rooted in the government’s capacity to marshal the capabilities of its sprawling population.

With the largest workforce in the world, Chinese education has been pivotal to its accelerated economic development. Chinese workers and their labor productivity have grown tenfold over the past 30 years even as the country’s GDP has increased by 13 times. At the same time, China’s enormous pool of cheap labor has begun to shrink as mass migration from agriculture to urban employment has slowed. Like much of the advanced world, China is now aging and the country’s debt levels are rising.

Given these challenges, the Chinese government has begun focusing on innovation in order to support rising productivity and improved skills development. By 2030, up to 220 million Chinese workers, or 30 percent of the workforce, may need to transition between occupations.4 After decades of reform, China today has an education system that is oriented toward an industrial economy, but there is now potentially an even larger challenge to meet: developing the skills needed for a modern, innovation economy. This includes planning around lifelong learning, and ensuring equity across a vast national education system. Over the last decade China has increasing focused on reforming higher education with the aim of increasing the capacity, quality and world ranking of tertiary institutions making Chinese universities less elitist and more prepared to enrol larger cohorts of undergraduates. By 2020 China was graduating more than 8.7 million students each year, a ten-fold increase from the 0.87 million graduates in 1999. Chinese universities have increased their global rankings, as Nick Morrison (2022) indicates: “China is gaining ground fast, with 302
universities in the top 2000, up from 277 last year, and 96% improving their position. Tsinghua University remains its highest placed, moving up from 58th to 47th.”

This is a reflection of the fact that Asia has increased its position in the world rankings of universities rapidly from roughly a quarter of all ranked universities in 2016 to almost a third today, with the development of an open, diversified and collaborative regional system of higher education containing ‘the world’s most dynamic and exciting younger universities that are concentrated in East Asia (Baty, 2021).

China has embarked on a second phrase of the “double first-class” university project adding seven new institutions to the 140 universities that received extra funding to create world class universities in specific key disciplinary areas with some 180 programs in engineering 59 in the basic sciences and 92 in philosophy and social sciences, to drive greater self-reliance in science and technology, and to develop a more careful emphasis on strategic technologies.5

China's ambitious economic goals are directly tied to technological development in the development of high skill labor. Moving beyond an education system primarily focused on mass manufacturing, China’s government has signalled the need to upgrade its enormous workforce in order to develop the strategic capabilities needed for a post-industrial future. Together, government planning, and tax incentives for AI ventures are expected to improve student learning while building out the Chinese technology industry as a whole.

In 2019, the Chinese State Council published two significant plans to drive continued reform in China’s education sector. These include, China's Education Modernization 20356 (2035 Plan) issued in February of 2019, and the Implementation Plan for Accelerating Education Modernisation (2018–2022)7 (Implementation Plan). Aimed at modernizing China’s education system, the plans aim to accelerate the digitalization of Chinese higher education, leveraging AI and other emerging technologies to modernize teaching and learning.

AI is considered a key feature of China’s efforts to upgrade its education system. The internet, big data, and AI are expected to be integrated across a

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greater variety of educational resources and services. This includes using AI to promote lifelong learning in the context of digital transformation and the acceleration of smart technologies in education. According to the country’s Minister of Education, Huai Jinpeng, AI will be deeply integrated into Chinese education.⁸

The expectation is that the application of AI to education could hold the potential to address teacher scarcity, offer alternative models of education and potentially reshape the traditional learning paradigm. This includes the creation of standard educational tools that leverage machine learning to automate test grading and homework correction. And more advanced adaptive learning systems and intelligent tutors that provide real-time personalized feedback to teachers and students at a granular level.

Unlike computer hardware or drug discovery, AI is an open science. Indeed, even as research propels AI innovation across industries, the research itself is often open source with scientific results in the field shared across academic, commercial and social media platforms. Nonetheless, China has unique advantages in driving AI across two critical categories: (1) a huge population and therefore an enormous abundance of data; and (2) engineering talent. China’s huge population and ongoing investments in quality education suggest that Chinese AI will continue to play a key role in a changing technology landscape.

Chinese planners are increasingly focused on bridging reskilling and lifelong learning through digitalization and emerging advancements in AI. Indeed, in 2017, the Chinese government published an ambitious master plan to become a global powerhouse in AI innovation, particularly in education. The State Council’s “New Generation of Artificial Intelligence Development Plan” calls for implementing AI training at every level of education. In fact, China has begun actively integrating AI education into student education, including software coding courses, and access to labs featuring robotics, drones, and 3D printing.

Notwithstanding Chinese strategic ambitions in AI, the reality is that AI in different from other technologies in specific ways. Unlike computer hardware or drug discovery, AI is an open science. Indeed, even as research propels AI innovation across industries, the research itself is often open source with scientific results in the field shared across academic, commercial and social media platforms. Nonetheless, China has unique advantages in driving AI across two critical categories: (1) a huge population and therefore an enormous abundance of data; and (2) engineering talent. China’s huge population and ongoing investments in quality education suggest that Chinese AI will continue to play a key role in a changing geopolitical landscape.

Building on massive quantities of student data and ample venture funding, China is hoping to lead the world in AI education over this decade with the COVID pandemic likely accelerated this process. In China, the penetration rate of AI in China's K-12 education in the form of adaptive learning sector was approximately 4% in 2019 and is expected to increase to approximately 19% by 2025. The market size of this sector is expected to grow from RMB 30 billion in 2019 to over RMB 100 billion by 2025.

China and Global Higher Education

Over the past 30 years Chinese planners have continuously reformed the country's national education system. Public investment in education soared 50-fold between 1992 and 2018, from 2.7 percent of GDP to 4.1 percent. In 1978, only 66 percent of children were covered by compulsory education; today that share is 100 percent. Gross enrolment in secondary education more than doubled from 41 to 95 percent over the same period. The number of college admissions increased from 3.7 million in 2000 to 9.1 million in 2019. Some 91 percent of teachers in secondary education now hold a bachelor's degree and above, compared with only 24 percent in 2000.

Current reforms are also directed at encouraging greater self-reliance by building a system of higher education that is independent of US, Canadian, British, Australian and New Zealand universities while developing a system of quality higher education that becomes a destination for international foreign students in its own right. With targeted scholarship programs for BRI countries and developing countries in Africa (Xu et al, 2021; Yodpet, 2022), domestic investments in Chinese education are driving changes at the global level as well. Emerging as one of the largest hubs in the world for international education, China is establishing joint-venture programs with the aim of attracting international students through programs that involve study abroad in both China and the home country.

In the past year alone, enrolment from belt and road partner nations has jumped 12 per cent to 317,000 students. Chinese universities have become ‘magnet institutions’ for BRI developing countries. International student numbers have doubled since 2009, from close to 240,000 to just over 492,000. In fact, China is now the largest study abroad destination in Asia (as of 2017–2018). This includes international students from 196 countries across 1,004 higher education institutions. Over the past decade BRI has formed a “road map” for China's long-term education ambitions.
The Chinese government’s Silk Road Scholarship Program sponsors 10,000 new international students each year from countries participating in the BRI. Chinese Universities can apply for state funding to run a BRI talent development site for large cohorts of these students. In fact, degree-seeking students became the majority (52.44%) of international students in China for the first time in 2018. This includes bachelor, masters and doctoral students who study abroad for at least one year. The number of foreign degree-seeking students increased by more than 350% from 36,387 in 2006 to 178,271 in 2018.

In 2015, China launched the University Alliance of the Silk Road which brought together more than 130 universities on five continents and is coordinated by the China’s Xian Jiaotong University.9 This alliance aims to develop cooperation among its members and promote the Belt and Road initiative in higher education. In another example, Hong Kong’s HKUST Business School Russia’s Moscow School of Management SKOLKOVO have joined forces to launch a new Executive MBA program for Eurasia. The Chinese Academy of Sciences (CAS) has provided over 1.8 billion yuan (about 268 million U.S. dollars) for construction of science and technology projects in association with the Belt and Road Initiative (BRI) since 2013.

The Alliance of International Science Organization (ANSO) was launched in 2018 under the framework of BRI, consisting of scientific research organizations from BRI participant countries and international organizations. According to CAS President Chunli Bai, ANSO members recently clarified its vision and mission, pledging to make it an international organization with great influence in promoting, organizing and carrying out sci-tech innovation. It plans to set up awards, scholarships, industry associations and joint training projects, in order to build a great mechanism and platform for sci-tech cooperation, meet common challenges and promote sustainable development.

Meanwhile, the CAS has trained nearly 5,000 high-level sci-tech talent for countries and regions participating in BRI, including more than 1,500 people with master’s and doctoral degrees in science and engineering. Many of them have returned home and become a new force in building the BRI. CAS has initiated more than 100 scientific and technological cooperation projects to support the green development in BRI countries and regions. It has also set up a special fund for transferring scientific and technological achievements in those regions. It has also cooperated with more than 100 high-tech enterprises and research institutions to establish the Belt and Road Industry Alliance to serve the regional economic and social development.

In July 2016, the Ministry of Education issued the Education Action Plan for the Belt and Road, and signed a memorandum of international cooperation with 14 provinces including Gansu, Ningxia, Fujian, Guizhou and other
autonomous regions and municipalities, aiming to build a ministerial – provincial joint platform for BRI. Leading programs like the Silk Road Scholarship were launched as part of the support for BRI. A great amount of time has been spent on research and attaching great importance to the cultivation of less-used language to better serve the BRI.

China has become the country with the most outbound students in the world and the most popular destination country in Asia. China has established educational partnerships with 188 countries and regions, and carried out educational cooperation and exchanges with 46 important international organizations. Agreements on mutual recognition of academic degrees have been signed with 47 countries and regions. In addition, there are 512 Confucius Institutes and 1074 Confucius Classrooms in 140 countries and regions in the world, in which 135 Confucius Institutes and 129 Confucius Classrooms are in 51 countries along the Belt and Road.

Today, some 67 countries have issued decrees to include Chinese language teaching into their national education systems. Chinese language courses and programs are being offered in over 170 countries. The number of people learning and using Chinese language in the world has reached 100 million. As the Chinese Ministry of Education (2016) puts it: China is on the brink of a fresh era and entering a new stage of development. Education should be accessible to all. China aims to provide better and fairer education for 1.3 billion people, establish a world class modern education system with Chinese characteristics and make the Chinese Dream of national rejuvenation a reality.

What is clear is that the shape of Chinese higher education and, indeed, global higher education more broadly are together being transformed by four major factors over the last five years. First, the intention to build a socialist country with Chinese characteristics that has figured very strongly in “Xi Jinping Thought” as the basis of CCP ideology and direction. Second, and in association with President Xi’s growing influence over the Party, the decoupling of China from the West with strong implications for global corporations9 that sit alongside a greater Chinese self-confidence and self-reliance. Third, the increasing geopolitical tensions between the West (specifically the US, UK, and Australia) and China. Various estimations of world political economy envisage a declining West and a rising East, the rise of “the Asian century” dominated by the Chinese economic miracle, with significant flow-on effects for international education (Peters, 2020; Peters et al, 2021). Fourth, perhaps the most significant effect of the Covid pandemic has been the promotion

9 https://hbr.org/2021/05/the-strategic-challenges-of-decoupling.
and acceleration of technological self-reliance in China alongside a renewed emphasis on Chinese technological innovation.

China has been implementing a nationwide strategy to advance reforms in digital education, and resources were being mobilized to build national-level digital education platforms with sharing platforms for HE educational resources, including, for instance, the Digital (Online) Museum of Chinese Language which is a platform for the integration of language resources, the promotion of standard Chinese, and the presentation of research results in related fields. “Smart Education of China” (SEC), a government-sponsored online education platform was launched on March 28, 2022. The platform offers a variety of educational resources for students at all levels and also contains an online campus recruitment platform. The cumulative effects of policy reforms have been to create a higher education system with distinctive Chinese characteristics that is ‘inherently embedded in both Chinese traditional culture and Chinese modern political culture’ (Zhu & Li, 2018; Li & Xue, 2022).

Large-scale investments in transforming its education system could provide substantial impact on the trajectory of other emerging economies as well. Beyond investments in infrastructure and trade, Chinese investments in education are catalyzing transformation across the broader education landscape. In terms of administration local control has evolved at the provincial and local level with a number of institutional mergers, the development of new, private tertiary-based institutions, with the freedom to charge tuition fees and a greater emphasis on entrepreneurial private and public networking in search of commercial opportunities.

This includes greater emphasis on peer-reviewed research and the development of Chinese and English-language journals with targeted incentives to produce world-class scholarship especially in STEM but also in the social sciences. Moreover, the Chinese National Science Foundation10 (NSFC) and the National Social Science Foundation11 have been established to award grants based on peer review modelled on the North American model. Both foundations have been involved in high-level strategic dialogue with Science Europe and other international science bodies to strengthen collaboration in achieving carbon neutrality goals and the United Nations sustainable development goals.12

10 The NSFC was established in 1986, managed by the Ministry of Science and Technology (MOST) in 2018 with operational independence, https://www.nsfc.gov.cn/english/site_1/index.html.
11 The NSSF was established in 1991.
12 For example, in 2022 NSFC and the UK Research and Innovation (UKRI) held talks on the logic and landscape of the knowledge system and the role of interdisciplinary research.
The NSFC has emphasised “strengthening the fostering of outstanding talents and consolidating the foundation of innovative talents” by “focusing on the overall development of science and technology talents” to cultivate young talents and fund nearly 18,000 young scholars through Young Scientists Fund in 2019 (NSFC, Annual Report, 2019). Through the International (Regional) Cooperation and Exchange Program the NSFC has “established international cooperation and exchange relationship with 94 science funding organizations and research institutions in 49 countries and regions.”¹³ The system of talent-development has been systematically transformed in Chinese universities through doctoral cultivation systems and mechanisms of university think tanks in China (Xue, Tian & Li, 2022).

Modern academic publishing in China lags behind the West although this is rapidly changing aided by global science communication, the first electronic journals that emerged in the early 1990s, and the development of open access as well as a number of mergers and acquisitions of big publishers. These changes including the growth of companies like Clarivate Analytics, a Chinese company, that provide scientific citation analysis indexes to improve the innovation cycle for nations and institutions. China is now catching up with the West in academic publishing. The number of Chinese English-language journals (CELAJS) has increased from 83 in 1980 to over 500 today, with a commensurate increase in the number of university presses and over 8000 journals. Large scholarly publishers such as China Science Publishing Group Co., Ltd (CSPG) and Social Sciences Academic Press (SSAP) of Chinese Association of Social Science (CASS), account for the massive growth of 18% pa 1999–2008 in scientific papers.

According to 2018 Science & Engineering Indicators, a report published by the U.S. National Science Foundation (NSF), China has left the US behind to become the largest producer of scientific articles.¹⁴ In 2016, China published more than 426,000 studies, which amounted to 18.6% of the publications indexed in Scopus (Elsevier’s database). The US, with 409,000 studies, is now positioned after China. Clarivate Analytics, announced that China ranks third

in the world in publishing academic papers that are a result of international collaboration. China still lags behind the U.S. in terms of citations.

In the period of the trade and technology wars when then President Trump launched a new World Trade Organization (WTO) challenge against China claiming unfair treatment for US companies and innovators trying to do business in China, it became clear the extent to which technology and innovation had become critical factors in maintaining competitiveness in the global economy especially in knowledge- and technology-intensive industries and in high-tech manufacturing. China’s technology drive now seeks to reduce its technological dependence on others by fostering both “indigenous innovation” and “re-innovation” of foreign technologies through its 5-year plans, the National Medium- and Long-Term Science and Technology Development Plan Outline (2006–2020) (MLP), and the Made in China 2025 Notice.

All of this reflects a broader shift undergirding the rise of Asia and especially China.

Even as worldwide demand for students continues to grow – particularly across science, technology, engineering and math (STEM) subjects, China’s attractiveness as a study destination for emerging economies has begun reshaping the global higher education market more broadly. As the quality and capacity of Chinese universities has improved, Chinese universities have begun to absorb eager students from around the world. Combined with generous scholarship programs and an enormous economy, China’s impact on global higher education is growing. Indeed, even as many universities across Western countries expect declining student enrolment (Redden 2019), the Chinese government has linked study in China to job opportunities across BRI countries. Unquestionably, BRI represents a new stage in globalization that builds on interconnectivity throughout the broader Eurasia region. Overlapping research collaboration across higher education institutions around the world, the development of a Chinese-led education system across emerging economies represents a new Chinese-led model of globalization. With a capacity to reconfigure global higher education across universities in over 130 countries, and with new strategic partnerships with Russia and the European Union (EU), China’s broader global impact could be substantial. In this new environment, Asian foreign students along the Belt and Road are increasingly competing to enrol in China’s universities. Squeezed out of college places in their home countries and drawn by Chinese scholarships, students from nations throughout the BRI network are pouring into China, reshaping regional education and affecting global higher education.
Chinese universities have become “magnet institutions” for BRI developing countries with enrolments jumping 12 per cent to 317,000 students. According to China’s Ministry of Foreign Affairs, over half a million foreign students study in China making it the top destination in Asia for foreign students, over fifty percent of which come from neighbouring countries. Thus, China is both a source and a hub for international students with over 31% coming from South Korea, and over 10% each from USA and Thailand, and over 8% each from Pakistan, India and Russia.

Interpreting Chinese Globalization

What began as an enormous infrastructure project has evolved to include a new series of goals overlapping culture and education in the broadest sense (including vocationally oriented education and training) to form the “soft infrastructure” of a massive regional trading system. With over seventy countries involved in China’s Belt and Road system and over a trillion dollars of Chinese investment planned for economic, digital and social development across Eurasian countries, BRI represents an alternative model of globalization.

This rapid development of a sprawling regional system is also a reflection of BRI’s economic integration with a focus on Asian corridors. Development in higher education is a major component of BRI. In fact, BRI represents a major component of the “Chinese Dream”, providing a new model of development for China, sometimes called “Chinese infrastructuralism” and referred to as an alternative mode of globalization with the potential to reshape both higher and vocational education (Peters, 2020).

Indeed, BRI represents a significant new form of globalization that we have called “Chinese infrastructuralism”. Over the past 25 years development theory and development studies have undergone great reversals reflecting the rapidly changing global geopolitics that has favored the growth of emerging economies and especially the “BRICS countries” (Brazil, China, Russia, India, South Africa), rather than the US – European trading axis. Alongside China’s BRI development model, global higher education is becoming a prominent feature of a new multipolar order.

Forecasts suggest that Belt and Road regions could contribute as much as 80% of global GDP growth by 2050, advancing three billion more people into
the middle class. In the broad integration of Eurasia, China’s strategic emphasis is on thickening the BRI-higher education (HE) nexus by encouraging not only student and cultural exchange but also the coordination of national plans across participating countries to further strengthen a multi-layered regional system of institutional, regional, national and international alliances (d’Hooghe, 2021).

The Office of the United States Trade Representative notes the elements of China’s development approach includes central planning, plan mobilization in all sectors, the leveraging of state resources and finance, civil-military integration and two-way transfer, backbone enterprises in technology development, technological breakthroughs in key areas, import substitution policies, and promotion of Chinese industries in the domestic market. In this way, infrastructure investment and development is layered, including not only physical infrastructure such as the development of transport networks (ports and railways) but also people-to-people exchanges emphasizing the new digital Silk Road, university alliances and the development of educational and cultural exchanges.

Unlike US-led trade liberalization (neoliberalism), education is critical to Chinese infrastructuralism. Building on the New Digital Silk Road, people-to-people exchange, and university alliances, Chinese infrastructuralism includes both “hard” and “soft” infrastructure in the development of skilled labor. Where the Western approach to higher education leads to a scramble for access to top-ranked institutions – leaving nothing for the rest, China’s approach is different. Working collaboratively with universities in 130 countries and new partnerships with Russia and the EU, China has made education a key focus of its broader efforts.

Against many different and competing conceptions of development, including: (i) the Washington neoliberal model; (ii) ‘development as freedom’ (Sen); (iii) ‘limits to growth’ and sustainability (Bruntland); (iv) various Marxist and neo-Marxist critiques of underdevelopment, dependence and world systems theory; (iv) ‘post-development’ (Escobar), we can now add State-led infrastructure development in the form of Chinese development socialism. With

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17 On the basis of this strategy China aimed for 40% self-sufficiency by 2020 and 75% self-sufficiency by 2025 (Peters, 2019). These strategies have included the encouragement of development in STEM disciplines with a focus on key digital technologies in quantum computing (QC), supercomputing (SC), machine learning (ML), genomic science (GS), new materials science (NMS) and so on with the development the new range of strategic biodigital technologies that drives technological convergence focused on the emerging global digital economy and fintech.
the additional promotion of Chinese universities in leading edge technologies (AI, biotechnology, quantum computing) and the BRI higher education based on international cooperation, matching Chinese FDI to the need for infrastructure in developing countries.

Building on the Chinese model of development, we can imagine significant technology investments that build on Chinese AI in the emergence of a Chinese version of “knowledge for development”. Supported by an expansive telecommunications infrastructure (5G) and an AI-mediated Chinese techno-state, China’s development model may well become the global standard. Together, next-generation technologies such as AI, deep learning, smart cities, quantum computing, and the Internet-of-Things could enable the vast digital convergence and economic synergies that many have been theorizing for the last decade: the deep integration of info and biotechnologies unified at the nano-level enabling a kind of ‘bioinformationalism’ (Peters, 2012). Rather than abstract ideas, Chinese Infrastructure – both ‘hard’ (engineering) and ‘soft’ (humanities and culture) – could mean a dramatic acceleration in globalization in the rise of complex multipolar system.

Conclusion

More than simply a global infrastructure project, BRI reflects a new stage in globalization in which multiple regions and geographies are now converging around a sprawling Eurasian trading system. Together, the decline of America’s unipolar hegemony and the rise of Asia as new economic center of gravity underscore a fundamental reshaping of the global order. Much as China has become the manufacturing workshop of the world, the country’s enormous soft infrastructure of education and training could be set to reconfigure the global he sector as well.

The connection between HE, science and technology, and BRI is comprehensive, but it is still currently in its first phase of development. It is therefore too early to draw far-reaching conclusions. However, based on the research presented in this chapter, it has been possible to identify several trends and discuss preliminary conclusions with regard to the changes in the trajectory of global higher education. China has taken the lead in Asia, Africa and Latin America through its BRI project, but that does not mean it will dominate Asia or the world. Rather, China’s significance lies in underwriting a vast multipolar system in which Chinese higher education may be key to shaping a new global order.
References

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