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China’s Development Finance and African Infrastructure Development

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8.1 New Models, New Rivalries, New Cooperation?

China has written a new story in global development finance over the last two decades, based on domestic institutions built to fund its own development and then adapted to finance its ‘Going Out’ policy. Its two key policy banks, the China Development Bank (CDB) and the China Exim Bank (China Exim) are now two of the major development finance institutions in the world (Dollar, 2018); their combined outstanding loans to developing countries compare with the same aggregate for all of the established multilateral development banks. Further, China has emerged more recently as architect of a new set of multilateral development financial institutions based around the large geo-economic visions embodied in its Belt and Road Initiative (NDRC, 2015). The supply of Chinese development finance to Africa has reflected this evolution of institutions and policies—and the 2018 triennial Forum for China–Africa Cooperation (FOCAC) now explicitly brings Africa into the global Belt and Road Initiative (BRI) frame, while establishing several new platforms for China–Africa cooperation, including not least a China–Africa Infrastructure Plan, a China–Africa Developmental Financing Forum, and a China–Africa Financial Cooperation Consortium (Ministry of Foreign Affairs PRC, 2018).

In this chapter we argue that Chinese entrepreneurialism in the field of development finance has stirred up the established development finance system, generating constructive new rivalries alongside new cooperative learning processes that will need to be taken further (Dollar, 2018; Xu and Carey, 2015). China’s development finance history has been instrumental
in its unprecedented development success and its ongoing innovation processes. The China Development Bank has a balance sheet of more than US$2.4 trillion and China Exim US$560bn, with international loanbooks of US$262bn and US$169bn, respectively, at the end of 2017 (these numbers compare with the combined loanbooks of the established MDBs $500bn). China’s five main commercial banks are among the largest corporations in the world, a reflection of the scale of the financial effort involved in a development process that has lifted China to its present development level. Even as its burgeoning financial sector is today the subject of a set of critical reforms focused on sustainability, efficiency, and integrity, there are important lessons to be learned from China’s development finance history for international development finance now and looking ahead (Xu and Carey, 2016).

In this chapter we look at the factors behind the significant increase in China’s ‘market share’ in African infrastructure development and the issues and opportunities this presents for wider development cooperation in infrastructure sectors across Africa.

We use a global political-economy approach to put this question into its wider global context. The rise of China has impacted dramatically on the growth patterns and distributional features of the global economy. And China has a different position on the states–market spectrum of organizing its economy from Western norms. We address a series of research questions: (i) Why has China been so competitive in this domain over the last two decades? (ii) How do China’s concepts, institutions, and policies differ from those of established sources of official development finance? (iii) What are the impacts on development concepts, vocabulary, and practice at the level of the G20 and the multilateral development banks? (iv) What is the impact on infrastructure development cooperation and finance scenery in Africa, where there are many actors and coordination initiatives and where the September 2018 FOCAC Beijing Summit (Ministry of Foreign Affairs PRC, 2018) has produced some major new platforms and initiatives for China–Africa cooperation, reaching out to work with international multilateral development finance institutions?

We then look at how China is playing into the economic transformation scene through its role in two infrastructure sectors, electrification and digitalization of Africa’s economy. The chapter concludes by looking at how the FOCAC proposals for the creation of shared platforms for African connectivity infrastructure planning and investment could advance African governance and capacities on these frontiers, drawing on China’s new policies and programmes for green infrastructure in its own economy (Okonjo-Iweala, 2018).
8.2 A Global, Political Economy Lens on China’s International Development Finance

This study investigates China’s role in African infrastructure development using a global political economy (GPE) approach. It is, therefore, interested in the intersection between economics and politics, examining the interplay of policy and practice and adapting to the international arena the ‘who gets what, when, and how’ definition of the political process in Harold Lasswell’s famous phrase (Lasswell, 1936).

The emergence of China has changed fundamentally for Africa the economic and political configuration of the global economy and its macroeconomic transmission mechanisms, including commodity prices. In the field of infrastructure, because of China’s emergence, the ‘who gets what, when, and how’ is radically different from just two decades ago. We explain the supply side of the Chinese infrastructure finance and construction industries in the following sections of this chapter.

There are many possible avenues for a GPE approach. The specific strand chosen for the present analysis utilizes the work of the late Susan Strange and particularly the framework she advanced in her renowned work States and Markets (Strange, 1994). Strange’s political-economy perspective focuses on the structures, processes, and agencies of power in the world economy and the inherently complex dynamics of change involved. Strange’s framework consists of a matrix of four inter-related structures: security, production structures, finance, and knowledge. As the title of her book suggests, this lens is used to examine the effects of any kind of political authority (including states) on markets, and, conversely, of market forces on states, thus drawing attention to the political facets of markets and the impact of market forces on states themselves.

This framework is particularly salient for the analysis of the diachronic relationship between states and markets in the context of China–Africa relations and the wider changing relationships between the structures, processes, institutions, and the public and private enterprises of the ‘traditional’ donor system and those of China. For instance, the four elements of the matrix developed by Strange—security, production structures, finance, and knowledge—all appear as the subjects of significant programmes in the September 2018 FOCAC Beijing Action plan.

We argue that China’s particular state–market relations configuration creates a ‘public entrepreneurship’ system, combining vision, action, and learning. China’s governance structure consists of a vertical component in the form of national narratives and accountability, and a horizontal component in the form of radical decentralization via provinces and cities, combined with a
dynamic enterprise sector including both state-owned enterprises (SOEs) and private companies (Xiao et al., 2015). This system is manifest in the way in which China maps out and carries through its own development programmes. It is now embraced and articulated in the Belt and Road Initiative, with the creation of new economic landscapes at the heart of the BRI vision. It also accounts for the combination of the two policy banks with the wide range of national and provincial SOEs in the engineering and construction industries, who engage at the project implementation level as an entrepreneurial system with the financial, corporate, and human resources, and the orientations and incentives to tackle major infrastructure investment programmes that most other agents on the international investment scene find too hard in terms of decision processes or political complexity.¹

The fact that China recognizes serious imbalances in its economy and is now seeking to contain associated financial system vulnerabilities serves as evidence that China advances through ‘directed improvisation’ and entrepreneurial institutions rather than through a Leninist-style ‘state capitalism’, a characterization which until recently has led many commentators to miss the dynamics of China’s development process and its emergence as a dynamic, globally engaged economic power (Ang, 2016; Xu and Carey, 2016). China’s role and methods in its involvement in infrastructure development in Africa and associated policy and cooperation arrangements, as set out in this chapter, are a manifestation of this public entrepreneurship (Gu et al., 2016), shaping the African infrastructure investment scene through the interaction of four key vectors: the policy banks, the BRI, FOCAC, and the BRICS. The interaction of these vectors explains why China has been taking an increasing share of the African infrastructure investment and construction market—a competitive advantage manifested in the form of scope, scale, and speed.

8.2.1 China’s Policy Banks

The primary vector has been the creation in 1994 of China’s two major ‘policy banks’—the China Exim Bank and the China Development Bank—reporting directly to the State Council, in a rationalization of China’s financial system to separate ‘policy banking’ from ‘commercial banking’ (Xu, 2016). China brings to African infrastructure development an approach in which its policy banks are lenders of first resort, and with its construction industry provide integrated investment packages that cut project-cycle time frames and supply scarce management capacity.

¹ For a list of the major Chinese construction firms active in Africa and their role in individual loan projects, see CARI database (China Africa Research Centre, 2018).
The Exim Bank was designed to provide loans to support the trade orientation of China’s economic strategy, using standard short-term export credit financing as well as mega-project finance, but its instruments also include financing outward foreign direct investment and providing credits which Chinese firms can lend to their customers (buyers’ credits). Further, it is the only Chinese bank authorized to provide concessional development loans, which are approved and subsidized by the Ministry of Commerce.²

At the same time, China Exim Bank also plays a major role in China’s national development strategies via a large domestic loans portfolio, upgrading and helping to shape the industrial and hi-tech sectors in China, and lends to China’s SMEs with a view to enhancing their international competitiveness. It also intermediates development loans to China from other countries and from multilateral development banks to Chinese provinces and cities, and has introduced a green growth financing programme in China (China Exim Bank, 2016).

The China Development Bank, for its part, and in the context of fiscal reforms in 1994 that recentralized tax revenues and forbade borrowing by local authorities, filled a huge gap in China’s own financing needs by inventing the off-balance sheet local government financing vehicles (LGFVs) that essentially financed the rapid urbanization process and associated infrastructure needs across China, as well as special economic zones (Sanderson and Forsythe, 2013; Xu, 2016). The CDB then became incorporated into China’s fiscal policy as a vehicle for combating the recessionary impact of the financial crisis that enveloped US and European banks in 2008. A massive expansion of lending to local governments and their SOEs, spearheaded by the CDB, generated new momentum to China’s growth, with global impact, particularly via global commodity markets, cushioning the impact of the 2008 Great Recession on developing countries. CDB lending to support local authority infrastructure investment continues to be an instrument of China’s fiscal policy even as the central authorities work to rebalance the Chinese economy from investment to consumption and to deleverage the financial system, including through reforming local authority finances.³

China’s ‘Going Out’ policy, announced in 2000, provided a springboard for the two policy banks to go on to create major investment projects and programmes internationally. The statistics are impressive. The capital of the policy banks was increased in 2015 and the China Development Bank was

² A recent estimate puts the Exim Bank’s concessional lending in 2015 at US$2.6bn, higher than China’s grants and interest-free loans at US$2.2bn and its multilateral grants at US$0.6bn, making a total of ODA-like finance of US$6.1bn. China Exim’s preferential buyer’s credits at US$7.3bn, treated by some partner countries as ODA, have thus been larger than the amount that could be considered as ODA-like in DAC terms (Kitano, 2017).

³ It has been argued that development banks, such as the KfW and the EIB in Europe, should become major agents of fiscal policy in a reformed international monetary system.
officially designated by the State Council a development finance institution (DFI), in name as well as in substance equivalent to Germany’s KfW which also serves these hybrid functions. (As noted above, China Exim is also a hybrid, lending domestically as well as internationally.) Subsequently, the CDB has established a CDB Institute of Development Finance, with a research and outreach programme. It seeks to promote development finance as a special branch of the finance industry.

Funding for the policy banks is provided by capital injections from the Chinese state budget and from the now very large RMB bond market in which the policy banks played a pioneering role. In other words the policy banks are playing the same role as traditional MDBs in intermediating between bond markets and their borrowers, including developing countries. The policy banks borrow in the Chinese bond market at the prime sovereign interest rate and they have access to a ‘pledged supplementary lending facility’ from the PBOC (Peoples Bank of China) which in effect provides a subsidy for their development lending. The leverage ratios of the policy banks (and of China’s emerging system of international development banks and funds) have been much higher than the corresponding ruling limits in the established MDB system, helping to explain their financing power (UNCTAD, 2018).

However, the Chinese Banking Regulation Commission has now brought the policy banks within its jurisdiction, issuing regulations to clarify their business positions and enhance oversight of their risk control with external supervisory boards (Wu and Jia, 2017). The extent to which this may impact on their lending capacities and business models has yet to be seen.

### 8.2.2 Belt and Road Initiative

Reinforcing the capacity building evident in the creation and development of the policy banks and their subsequent global expansion has been the initiation of the Belt and Road Initiative (BRI), launched in 2013 by President Xi Jinping. The BRI’s essential parameters are set out under the authority of the State Council in the 2015 ‘Visions and Actions’ statement of principles and cooperation (NDRC, 2015), further developed at the inaugural Belt and Road Forum for International Cooperation established in 2017 (Xi Jinping, 2017). The BRI draws upon the underlying economic powerhouse that is contemporary China. It seeks to harness the accumulated financing, engineering, and project management capacities of an economy now larger than the US economy measured at purchasing power parity. As described above, China utilizes the capacities of the two policy banks as a platform to project this power into the BRI as its flagship international project. Funding and institutional modalities and programme agreements and project implementation have followed apace, to make the BRI the largest international
development financing initiative in history, with widely recognized geo-economic and geopolitical impact.4

8.2.3 FOCAC

Since its founding in 2000, FOCAC has evolved into an institutionally grounded, multi-track process shaped at heads-of-state summits as a ‘comprehensive strategic partnership’ (Li and Carey, 2016). The 2018 FOCAC Summit in Beijing has carried this evolution to a new level. Infrastructure and its financing play an integral role in the manifold new programmes spanning the states–markets matrix developed by Susan Strange with its four interactive elements—security, production structures, finance, and knowledge (see also Chapter 6).

FOCAC summits have traditionally had an important focus on African infrastructure needs. In 2014, at the African Union (AU), Prime Minister Li Keqiang advanced a proposal to ‘connect up’ Africa via regional roads and aviation, and high-speed rail networks (State Council, 2014). This speech was followed up by Chinese financing for a Growing Together Fund established at the African Development Bank, providing US$2bn over ten years, and by an invitation for other partners to join in this endeavour to build a ‘trilateral cooperation platform’ for working on connectivity in Africa.

The FOCAC 2018 Beijing summit establishes, jointly with the AU, a new China–Africa Infrastructure Cooperation Plan as the centrepiece of a FOCAC Infrastructure Connectivity Initiative, with a focus on enhanced cooperation in energy, transport, telecommunications, and cross-border water resources. The Chinese public entrepreneurship model with integrated investment, construction, and operation is explicitly cited in Section 8.3.2 below, but other models are also explicitly envisaged and a number of ‘key connectivity projects’ are to be included (Ministry of Foreign Affairs PRC, 2018).

Alongside this new Infrastructure Connectivity Plan, the Beijing Action Plan establishes a new China–Africa Developmental Financing Forum and an Africa–China Financial Cooperation Consortium to provide ‘more diversified financing packages’, stepping up cooperation between the policy banks and other sources of finance, including MDBs (‘on the basis of following multilateral rules and procedures’) and institutional investors.

These new FOCAC platforms for infrastructure and finance and the openness to adjusting the Chinese model are significant moves towards the ‘trilateral cooperation platform’ which is an integral part of the vision of the Chinese government. We come back to this opening in our conclusion to this chapter.

4 For a comprehensive review of the Belt and Road Initiative and its larger economic and geopolitical dimensions, see the 2018 OECD Business and Finance Outlook (OECD, 2018b).
8.2.4 The BRICS

The BRICS New Development Bank (NDB), launched in 2016 and headquartered in Shanghai, has a regional office in Johannesburg. It is initially focusing on green energy projects and has made its first loan in Africa. No doubt this ‘African window’ of the NDB will evolve further. Less well known is the BRICS Inter-bank Co-operation Mechanism which brings together the heads of the main development finance institutions of the five BRICS countries plus the president of the NDB. While there have been meetings of BRICS development cooperation officials, this area of public policy has not so far been a prominent

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**Box 8.1. HOW SIGNIFICANT IS CHINA IN AFRICAN INFRASTRUCTURE FINANCING AND CONSTRUCTION?**

According to the Infrastructure Consortium for Africa (ICA), China committed an average of US$13bn per year to African infrastructure projects over the seven years 2011–17, a period covered by FOCAC V which provided US$20bn in concessional/preferential financial credits from China Exim for the three years 2013–15 (ICA, 2018). Additional loans have been committed by the China Development Bank, which as at mid-2017 had lent US$50bn to African countries, with an outstanding loan book of US$37bn (CDB News, 2017) and by other Chinese commercial banks, such as the ICBC.

To put these Chinese loans into perspective, over the 2012–17 period, average total commitments for African infrastructure investment from all sources amounted to US$77bn. The largest contribution came from African countries themselves, at over US$30bn per year (partly financed by significant eurodollar bond issues by some African countries in this period). Some US$20bn came from other members of the ICA (essentially OECD countries). China’s contribution of $13bn per year was thus less than 20 per cent of the total, but China was clearly the largest single financing source, bilateral or multilateral (ICA, 2018). The US$35bn concessional financial credits announced in the 2015 FOCAC three-year Johannesburg Action Plan, essentially from China Exim, clearly have lifted China’s infrastructure financing significantly since 2016. Indeed the CARI database on Chinese loans commitments to Africa shows a sudden peak to US$30bn in 2016, with a return to a more normal US$10bn in 2017 (China Africa Research Centre, 2018). The two Chinese policy banks are the most significant financiers in large-scale projects in Africa, with China Exim ready to finance undertakings such as the standard-gauge rail links joining Addis Ababa to Djibouti, and Mombasa with Nairobi (to eventually link to Uganda, Rwanda, and South Sudan), the urban light rail systems in Addis Ababa and Abuja, and the Abuja–Kaduna fast train service. Chinese financing has also underwritten recently completed major bridges in Dar es Salaam and Maputo, both with large connectivity dimensions, and over twenty hydro projects and 20,000 kms of power transmission and distribution lines, with more under construction.

As contractors to other project sponsors, the Chinese construction industry is conspicuously engaged in building a much greater proportion of African infrastructure, drawing on the scale and capabilities accumulated in building Chinese infrastructure. According to a recent estimate, Chinese construction companies’ revenues from completed projects in Africa averaged over US$50bn annually in 2013–16 (Pairault, 2018). This number gives an indication of the size of China’s footprint in African infrastructure investment activity as a construction services provider.
part of the BRICS process, and the drivers of development cooperation policies and programming vary widely among the BRICS countries (Gu et al., 2016b).

8.3 China’s Impact on Global and African Infrastructure Investment Frameworks

8.3.1 The Evolving Discourse on Infrastructure as a Development Priority

While China invested heavily in infrastructure as part of its economic reform programme from 1978, orthodox development policies and financing saw infrastructure spending fall drastically as a share of development financing among OECD donors and MDBs. For example, in the 1950s and 1960s, infrastructure represented 70 per cent of World Bank allocations, but this fell to 30 per cent in the 1980s and 1990s. With few exceptions, this shift in priorities was paralleled in developed-country domestic budgets and in their aid programmes (Dollar, 2008). Infrastructure has now re-entered economic thinking and public policy at the level of the G20 and in the MDBs, recognized as multidimensional interactive networks of public goods with critical geospatial contributions to the functioning of their economies and societies. An extensive set of policy prescriptions and frameworks has emerged in the G20 context.

Recent accounts of infrastructure provision and issues in the Africa context have been published by the World Bank in its biannual Economic Pulse reports (World Bank Group, 2017, 2018). And the Infrastructure Consortium for Africa provides an annual review of financing trends. Its most recent report reviews estimates of the ‘infrastructure gap’ in Africa, still based on 2010 World Bank estimates. Noting some more recent estimates, the ICA report has called for a complete rethinking of the methodology and costings in the light of new conditions, notably the advent of the digital economy (ICA, 2017).

As concern with infrastructure in Africa revived, the 2005 G8 Summit in Gleneagles saw the major undertaking to double aid to Africa and the founding of the Infrastructure Consortium for Africa, to be housed at the African Development Bank (G8 Summit, 1985). Yet, the donor community singularly failed to realize the political goals and specific targets intrinsic to the commitment to double aid to Africa; objectives, design, and means of delivery became mired in gridlock. Beyond this stasis, however, were strong sub-currents of change. China at this point remained outside the global policy fora built around the G8. The literature in the field provided new insights into new perspectives and fresh delivery approaches. Further empirically grounded research challenged the then widely held perception of Chinese investment in Africa as simply large state-owned enterprises in search of natural resources,
documenting the growing importance of Chinese private enterprises in Africa and a shift to manufacturing and service sectors (Gu, 2011).

There was early institutional engagement with these emerging themes. For example, in 2010, the China–DAC Study Group held a special meeting in Beijing on infrastructure as the foundation for growth and poverty reduction in Beijing, underlining the importance of Chinese experience and drawing lessons for both Chinese and DAC development policymakers (China–DAC Study Group, 2011). In 2010 the G20 Seoul Development Agenda included, as its first item, a major work programme on infrastructure questions and instigated a High-Level Panel on Infrastructure (G20 Summit, 2010).

Among the High-Level Panel’s recommendations was a request for debt sustainability analysis to take account of the impact of the infrastructure–growth nexus, and in particular, the transformative impact of regional infrastructure. In an associated list of ‘exemplary regional infrastructure projects’, five were in Africa. Transformation and connectivity had become part of the lexicon of G20 work on debt sustainability and growth, alongside private-sector financing for infrastructure.

While the direction of G20 work has thus been to attempt to find consensus around these issues, divisions remain, at both conceptual and practical levels. The South–South principle of ‘mutual benefit’ (or ‘win–win’ in Chinese terminology) and non-interference, and the OECD/DAC principle of development contributions that are independent of direct trade and political benefits but require good governance, have yet to coalesce. The 2011 Busan High-Level Forum on Development Effectiveness aimed to bring these two approaches into a voluntary and complementary framework, but the follow-up process has failed to engage China so far. And at the level of Africa, dialogue is fragmented, with China, Japan, the United States, and the European Union each having its own Africa dialogue and planning forum, and the question of African membership of the G20 remains unresolved. In addition, China has not joined the G7 Infrastructure Consortium for Africa (ICA) or the AU/NEPAD Partnership for Infrastructure Development in Africa (PIDA) promoting regional infrastructure projects (African Development Bank, 2018), although it does interact with these bodies.

8.3.2 Areas of Difference

Thus Chinese approaches, capacities, and practices still differ in a number of critical ways from the ongoing mainstream of policies and frameworks. The approach is grounded in China’s own history of semi-colonization, revolution, and reconstruction. Importantly, it is significantly informed by its commitment to principles, values, and practices of peaceful coexistence, mutuality, and reciprocity elaborated as far back as the mid-1950s by the Chinese government
and in the Bandung Declaration. In terms of the international institutional architecture, at the heart of this distinctive approach is avoidance of the conditionality perceived to be intrinsic to established development approaches grounded in Western political and economic culture, and state interests. The approach of China detaches economic and political interests by focusing on practical, achievable projects. This is evident in a number of key aspects.

8.3.2.1 INFRASTRUCTURE AND STRUCTURAL TRANSFORMATION

China builds infrastructure ahead of time as a leading sector in structural transformation, creating new economic landscapes in the form of special economic zones, and national and regional connectivity (Lin and Wang, 2015, 2017). The externalities involved are considered to be large and, to a large extent, intrinsically unforeseeable, while costs of early construction are significantly lower than in the case of demand-led approaches to investment decisions. Implicitly, mistakes in the form of over-capacity or under-capacity and the purely political dimensions of some major infrastructure projects are compensated by the returns to the whole investment effort. In this analysis, developed in their book Going beyond Aid: Development Cooperation and Structural Adjustment, Lin and Wang thus argue that traditional aid frameworks are ineffective for stimulating structural transformation. The apparatus of cost–benefit analysis is not able to handle the growth dynamics of structural transformation. Hence the lack of success in Africa and the need to look beyond current aid concepts and practices to finance infrastructure that foments structural transformation across the African continent, drawing on Chinese experience and the scope for interaction with China’s own ongoing transformation, in which real wages are forcing the export of labour-intensive industries to low-income countries.

8.3.2.2 CONTRACTING AND PROCUREMENT

Chinese infrastructure projects take the form of engineering, procurement, and construction (EPC) packages. Financing moves from the Chinese policy bank direct to the Chinese contractor. There are no transactions through the home-country public finance systems. This approach has the advantage for the host country of getting around serious capacity gaps in project formulation and financial management while speeding up project completion. Transparency and governance issues associated with this approach are for the developing country alone to resolve. Economic, social, and governance standards are those of the developing country itself (Dollar, 2018). Building local public project and financial management capacities in African countries has not been a significant concern in this context, although there are now moves to remedy this gap, notably in the establishment of a new China–IMF
Capacity Development Centre, anchored in Beijing and sponsored by China’s central bank, focusing on macro policy issues (IMF, 2017) and now complemented by China’s 2018 FOCAC initiative to construct an Institute for Capacity Development, alongside the African Capacity-Building Foundation (ACBF) in Harare, reflecting Chinese assessments of how to tackle governance deficits in Africa by fostering a broad range of policy and operational skills for delivering public goods.

8.3.2.3 PUBLIC INVESTMENT VERSUS PRIVATE INVESTMENT
A third divide is the Chinese public-investment-led approach to infrastructure investment versus the search for private-sector solutions and financing underlying much of the World Bank and G20 policy guidelines. The World Bank Group (WBG) adopted a ‘cascade’ concept, where private-sector solutions are first investigated and WBG financing is only forthcoming when a private-sector solution cannot be found or incubated. However this concept is now being rearticulated as a ‘maximizing finance for development’ approach (World Bank Group, 2017). And the IFC is now looking to identify projects on a prospective basis, moving from a retrospective scoring system to a forward-looking Anticipated Impact Measurement and Monitoring (AIMM) system, seeking to sharply increase investments with high leverage on private-sector investments in fragile states. Such advance reporting on transformation potential and impact should work to focus programme and project managers on transformational rather than incremental approaches (OECD, 2018b; Xu and Carey, 2015).

The objectives of the G20/OECD Task Force on Long-term Investment and the OECD/DAC Blended Finance project aim to pull in commercial finance from pension funds and from investment companies via infrastructure asset market development and risk reduction processes. While seeking to build capacity and avoid crowding out in the private sector, these approaches are inherently more complex and time-consuming. In Chinese experience, private-sector development is ignited by upstream public-sector action in the context of a broad vision which provides information about future connectivity and capacities. This is the philosophy of the BRI and FOCAC, which rely on strong flows of foreign direct investment and rising public revenues to carry forward a sustainable transformation process, as happened in China and other emerging countries.

At the same time, there is a new move in China to rebalance from public-sector to private-sector enterprises and to promote public–private sector partnerships (PPPs), including in the BRI and FOCAC contexts, where funding requirements are large and diverse. Hence there is scope for some fusion of approaches; current shifts in vocabulary and tools on all sides suggest this may be underway.
8.3.2.4 INTERNATIONAL DISCIPLINES ON EXPORT CREDITS AND TIED AID

A fourth divide is that China does not participate in the export credit and tied aid disciplines established in the late 1980s among OECD countries to avoid aid and trade distortions associated with tied aid. These disciplines are applied to prevent trade competition via export credit subsidies and the use of aid to win contracts rather than promote development. Thus neither the China Exim Bank nor the China Development Bank is constrained by these disciplines and the transparency and contestation processes through which they are applied. The Chinese policy banks, while retaining an implicit sovereign status, apply international business norms regarding the confidentiality of commercial transactions.

Following an agreement between Presidents Xi and Obama in 2012, an International Working Group (IWG) on Export Credits with China, the OECD, and other countries as members was created to establish a set of international guidelines by 2014 (Ministry of Foreign Affairs, PRC, 2015). The IWG (chaired on a rotating basis by the United States, China, European Union, and Brazil) has been meeting regularly and now has a secretary general. It provides a forum for information sharing, to which the OECD secretariat contributes, but remains a long way from reaching an agreement that would replace the discipline and transparency of the established Arrangement on Guidelines for Officially Supported Export Credits or the DAC’s tied aid measures (OECD, 2018b).

8.3.2.5 MANAGING OFFICIAL DEBT PROBLEM CASES

China has not so far joined the Paris Club of creditor countries, which has been the forum for collective restructuring of distressed official debt. Nevertheless, China has restructured or forgiven significant amounts of low-income country debt, including in parallel with the heavily indebted poor countries (HIPC) process (Dollar, 2018). With Chinese debt now becoming a larger part of the overall official bilateral creditor position, and signs of possible debt distress beginning to appear, discussions are in process with China on whether it might join the Paris Club. The context is changing as Chinese financing of the BRI increases. Possible IMF rescue packages in BRI countries might involve conflict between China and the United States.

8.3.2.6 HUMAN AND CORPORATE CAPACITIES AND COMPETITIVENESS

A sixth differentiating factor is that China has, over the course of the last forty years, developed massive human resources and corporate capacities in building infrastructure, helped along the way by the World Bank and OECD partners (Bottelier, 2007). At this point, these capacities are available for
deployment in developing countries. Indeed, as described earlier in this chapter, large Chinese engineering and construction companies, mainly SOEs at the national and provincial or municipal levels, provide the possibility and the capacity for China to build power, transport, and ICT infrastructure across Africa with wide impacts, and to conceive and prosecute the Belt and Road Initiative, increasingly a global project. Indeed, it is difficult to imagine where this capacity to contribute to Africa’s huge infrastructure needs could have come from, were it not for China’s infrastructure build on a massive scale over the last three to four decades, creating in the process these human and corporate capacities. In that sense, China’s development has been a prerequisite for meeting Africa’s unprecedented infrastructure backlog and future needs. Engineering education system investment in China has produced a flow of skilled graduates with salaries still way below developed-country levels for comparable expertise. Thus the Chinese engineering, construction, and telecoms industries win a significant share of international contracts, including from the multilateral development banks. The main competitors are other emerging-country corporations and large OECD engineering firms such as Bechtel of the United States, currently in the final stages of negotiations to build an expressway between Nairobi and Mombasa. US has legislated to establish an International Development Finance Corporation designed to support US companies in expanding their business in developing countries (US Congress, 2018).

8.3.2.7 STANDARDS
Finally, China has not signed on to the environmental, social, and governance (ESG) standards for development banks that have progressively been specified through intensive discussion processes in their governance fora which also involve national and international civil society organizations. This remains a point of conflict with international civil society organizations, some of whom (such as Global Witness) keep a close eye on Chinese projects from this perspective. Others have worked closely with the Chinese policy banks to assist in the evolution of China’s own lending standards (for example, the World Wildlife Fund for Nature). A series of regulations and guidance notes to Chinese enterprises has emerged over the years. The most recent set of Regulations on Outbound Investment and Business Activities, issued in December 2017 requires businesses to respect local laws, cultures, and standards and to work actively to improve their performance on five specific fronts, including corporate social responsibility and resources, and environmental protection, as well as to refrain from illegal activities and financial transfers. The two policy banks have their own standards and compliance and risk management functions which align with the regulations in force, and they participate in
international work on responsible business conduct in the OECD context (OECD, 2018a). The China Development Bank is a member of the International Development Finance Club, which brings together twenty-three multilateral and bilateral development banks in a learning network, currently chaired by the Agence Française de Développement (AfD), with a work programme focused on green finance (AfD, 2018).

In his assessment of whether China is undermining the international order in the area of development financing, Dollar takes the view that the extensive and detailed processes for applying standards that now apply in project preparation in established MDBs have gone beyond what is functional, and indeed constitute a serious problem of dysfunctionality in the traditional MDB system, which has seen its role in infrastructure financing reduced to a very small percentage of total infrastructure finance. The approach to standards adopted by the Asian Infrastructure Investment Bank represents a step towards sanity in this view (Dollar, 2018).

Nevertheless, leaving in the hands of partner governments standards and programming in sensitive areas such as resettlement, especially troublesome in hydro projects where Chinese construction firms have extensive operations, runs major reputational and disruption risks, so that the Chinese authorities and businesses have strong incentives to assist in local capacity development in this area. Chinese migrant participation in illegal mining activities is another neuralgic point for China’s relations with African countries, as in Ghana. The indication in the 2018 FOCAC Action Plan that China is ready to work with the MDBs in Africa, following multilateral rules and procedures, is thus highly significant.

8.3.3 China’s New Activism on Architecture and Concepts in the International Development Finance System

The issues above have made it difficult for China and other partners to work together at the project level. A World Bank–China Exim Bank Memorandum of Understanding on Cooperation signed in 2007 proved impossible to execute because of the very different approaches to project cycles and standards. This impasse arose despite the very close relationship built between China and the World Bank on China’s reform and capacity-building process, as described by a former director of the World Bank’s Beijing Office (Bottelier, 2007).

Most spectacularly, China launched the Asian International Investment Bank (AIIB) in 2015, linked to its BRI, with a response in terms of membership uptake from G7 and G20 countries that went beyond expectations. This was a shock to the MDB system, though the AIIB is now de facto part of a larger MDB cooperative system that includes also the BRICS New Development Bank (NDB). Essentially, Chinese ambitions could no longer be pursued within
the World Bank where the US Congress and the US Treasury effectively hold a US golden share (Xu, 2016). The emergence of a Chinese development finance architecture of banks and special funds with risk appetites and leverage ratios beyond the established norm has been explored in a recent study by UNCTAD (UNCTAD, 2018).

More recently China and the World Bank have been able to co-operate at the level of knowledge partnerships:

• An Investing in Africa Forum (IAF) was originated by the China Development Bank in 2015 with the Africa Department of the World Bank joining as a co-convener. The third IAF, held in Senegal in 2017, saw a joint CDB/WB publication, ‘Leapfrogging: The Key to Africa’s Development—from Constraints to Investment Opportunities’, with a comprehensive historical and future-oriented assessment of the infrastructure–growth nexus, identifying innovation and new technologies as the new source of Africa’s sectoral and infrastructure dynamics (CBD News, 2017).

• An initiative emerging from the G20 Hangzhou Summit in 2016, the Global Infrastructure Connectivity Alliance (GICA) is headquartered at the World Bank office in Singapore, with China as a leading member and with a first plenary meeting held at the OECD in January 2018. The GICA provides a comprehensive mapping of infrastructure network construction around the world, including in Africa, with the objective of consolidating information and promoting interaction at the level of concepts and practice (Global Infrastructure Connectivity Alliance, n.d.)

These two recent initiatives introduce two strands of thinking that constitute a shock to established frameworks of thinking about African infrastructure.

First is the proposition that innovation and technology will be the source of development dynamics in Africa. This view, now rapidly gaining ground, holds that the fourth industrial revolution is already changing Africa’s development prospects by radically lowering transaction costs, creating and disseminating information in real time, and generating an inclusive financial system based on the latest that global financial technology (or FinTech) can offer, boosting entrepreneurial activity in Africa. As the report ‘Leapfrogging as the Key to Africa’s Development’ illustrates, the ramifications across the development agenda will be transformational. While education and governance progress will remain even more essential in this context, even here the ICT revolution promises to radically improve access and accountability vectors and public management systems. The impact on discourse on development prospects and processes is already evident in the Bretton Woods context, the UN, and the OECD. The Commission on the Economy and Climate is producing a series of papers on how China–Africa technology and infrastructure cooperation can
generate clean growth paths with very major employment creation impacts (Commission on the Economy and Climate, 2018). China’s leading role in the hardware and software of the new ICTs is covered below.

A second shock is the recognition that the discussion of infrastructure development in international fora has indeed, with few exceptions, left out the essential connectivity/geospatial dimension. This has been a shock even though the ‘new economic geography’ had been established by Krugman in the early 1990s (Krugman, 2011). By now, it turns out that economic geography is central to current domestic and geopolitics in all countries and to development processes in a global economy. The Global Infrastructure Connectivity Alliance is the only piece of global economic architecture that is built around the new economic geography, the economics and performance of connectivity networks as public goods, and the impact of the digital economy on these questions (GICA, 2018b).

In the African context, the stark fact of the political and economic fragmentation of the continent emerging from the Berlin Conference of 1884, means that network economics stretch across boundaries, requiring a re-imagining of the African economy as it enters a Continental Free Trade Agreement. How costs and externalities are shared in this context and how system-wide infrastructure interdependencies are factored into this context remains largely outside the development finance system in Africa and beyond debt sustainability analytics.

These two Chinese initiatives may help to unlock the standard rigidities in thinking about African development, which is otherwise taking a pessimistic turn. Currently, there remains an institutional and intellectual divide between the G7/G20 processes described above, on the one hand, and the FOCAC thinking and processes on the other hand. The FOCAC triennial action plans are more comprehensive, more investment intensive, and more ‘hands on’ than the G7/G20 policy-intensive documents. At the same time, the ICA and PIDA work is based around detailed connectivity programmes, and the ICA discussion process has now begun to focus on the radical changes that come with the new digital economy revolution (ICA, 2017b).

There may now be an opportunity to pull together a shared umbrella framework for the ICA/PIDA and FOCAC, drawing on the toolkit of the GICA for linking visions, programmes, and projects (GICA, n.d.). This prospect is developed in the conclusions below.

The BRI is also in play in this context, since the inclusion of Africa and other regions beyond Asia as a constituent part of its vision of a reshaping global economy has added geopolitical dimensions. Japan’s decision to join the BRI is particularly significant in this context, since it also plays a key role in African connectivity programmes, with a longstanding focus on economic corridors and on broader approaches to African development via the triennial TICAD conferences. As president of the 2019 G20 Summit, Japan is bringing forward an initiative on ‘quality infrastructure’, while also considering the idea of an
'open Indo-Pacific initiative’ for infrastructure development in Africa, with the objective of positioning Japan as an active player on both the industrial and diplomatic fronts (Sano, 2018).

The BRI introduces critical questions about the environmental and social governance and safeguards we have noted above. International organizations including the World Bank, OECD, and European Union as well as civil society organizations have argued that the huge infrastructure projects involved in the BRI carry serious potential environmental, social, and corruption risks. Such risks include biodiversity loss, environmental degradation, and elite capture. One observer argues that such risks ‘may be especially significant in countries involved in the BRI, which tend to have relatively weak governance. These risks will need to be identified and safeguards put in place to minimise their potential negative effects’ (Ruta, 2018).

8.4 Electrification and Digitalization as Transformative Vectors in Africa–China’s Contributions

8.4.1 Transformation, Electrification, and Demography

The prospects that economic transformation in Africa will be of sufficient magnitude and character to absorb the massive increase in Africa’s labour force in the coming decades is perhaps the single most dramatic question of the twenty-first century. It ranks alongside and will interact with climate change. By 2050, the population of Western Africa will exceed the population of Europe. Associated risks for security and identity are already playing out in European politics.

How economic transformation might play out in Africa is explored in a recent IMF working paper (Fox et al., 2017). The IMF study finds that the demographic headwinds in Africa are such that a large proportion of the labour force will continue to be employed in low-productivity agriculture and that transfers of labour out of agriculture will be heterogeneous, to manufacturing and to services, some in high-productivity jobs but many in low-productivity employment. Fertility rates remain high with the failure to generate a decisive move out of low-productivity agriculture. This pessimism is matched by recent studies on the impact of infrastructure investment on growth due to quality problems associated with poor public management systems (Barhoumi et al., 2018). In turn these findings create pessimism about debt sustainability in many African countries and concern about the rising share of China in African debt stocks (IMF, 2018).

Is there a way in which these dynamics can be tamed? The remarkably high proportion of populations still in agriculture with strikingly high fertility rates and the extremely low rate of electrification in rural Africa suggest that here is a critical intervention point. Universal access to electricity at the household
level is now within reach, given the dramatic fall in the costs of solar PV systems and the spread of FinTech systems that make them affordable. Evidence from demographic work in Indonesia shows that rural electrification has a significant impact on fertility rates. It also suggests that the greatest impact is access to television. The researchers conclude that their findings may have important application in sub-Saharan Africa (Grimm, Sparrow, and Tasciotti, 2015). The undertaking in FOCAC VI to provide television in ten thousand African villages must have been formulated with just this development impact in mind.

Putting these elements together suggests that rural electrification bringing lower fertility rates should become an even more strategic priority in African countries. Its association with the expansion of the digital economy would also bring multidimensional impacts, such as the expansion of agri-business supply chains, rising agricultural productivity, and improved educational opportunities and learning outcomes.

Rural electrification based on household solar systems and mini-grids is already gathering pace across Africa, with evolving system integration issues that will need to be addressed, but where solutions can be devised. Fast-tracking this process will address the demographic drama with the urgency it needs. In this context the World Bank has launched a major initiative to spur radical advances in battery storage technologies.

In terms of debt sustainability prospects, rising savings rates and tax-to-GDP ratios are likely to be the key frontiers. Both are low in Africa, but the prospects for lifting them will increase, with rural electrification promoting rising agricultural productivity and agribusiness supply chains which create jobs. Alongside that, a focus on generating virtuous circles between investment in urban infrastructure and increasing land values would create a public revenue base that has always been central to economic transformation processes. Interaction between cities and regions in Africa via investment in connectivity infrastructure as the core of FOCAC action plans would be part of a dynamic African transformation process. Domestic fiscal and financial systems would be the fundamental sources of financing. The Debt Sustainability Framework employed by the IMF/World Bank, now in its latest incarnation (World Bank, 2018a), needs to be much more closely related to such strategic development issues, as indeed is argued in another recent IMF research report on the causes of economic growth (Cherif et al., 2018).

8.4.2 Transformation, the Digital Economy, and Leapfrogging

China’s large private ICT firms are driving the country’s digital revolution at home and internationally, including a growing commitment to, and in, Africa. Huawei located in Kenya in 1998, and together with ZTE has since
put in place a large proportion of Africa’s backbone digital infrastructure in close association with African governments and private telecoms operators (Institute of Developing Economies, 2009), maintaining a number of R&D centres in Africa. It has also provided extensive training programmes for engineering staff (Tsui, 2016).

A perceptive McKinsey Global Institute analysis in 2017 argued that:

A rising number of Chinese digital companies are developing a global presence through M&A, by expanding their business models, and as providers of technology to partner companies. These developments could mean that China sets the world’s digital frontier in coming years. China’s increasing prominence on the world’s digital stage also means that China can contribute, and even lead, broader debates on global governance issues such as barriers to foreign competition, reciprocity, and digital sovereignty. (Woetzel et al., 2017)

What, then, does this mean for Africa? A recent study has detailed the digital journey being taken by African economies, highlighting the leading role played by what the study terms the ‘KINGS’ of Africa’s digital economy, namely, Kenya, Ivory Coast, Nigeria, Ghana, and South Africa (Osiakwan, 2017). In addition to extensive bilateral ICT collaboration with African states, the cumulative body of declaratory policy agreements and action plans of the three primary multilateral fora—FOCAC, BRICS, and BRI—demonstrates a consensus for helping to promote and facilitate Africa’s digital economy. This is exemplified, for example, in the May 2016 ‘Joint Communiqué of the Leaders Roundtable of the Belt and Road Forum for International Cooperation’, committing the BRI to smart economic growth:

Strengthening cooperation on innovation, by supporting innovation action plans for e-commerce, digital economy, smart cities and science and technology parks, and by encouraging greater exchanges on innovation and business startup models in the Internet age in respect of intellectual property rights.

(Ministry of Foreign Affairs PRC, 2017)

While widely portrayed as another ‘win–win’ of China–Africa collaboration, questions have been raised as to the implications of China’s deepening involvement. The recent assessment by Iginio Gagliardone (Gagliardone, 2018) explored the question of whether China is imposing its information society model on the continent. Gagliardone’s evaluation is that, Chinese involvement is essentially determined by the framework dictated by host states and directly or indirectly gives succour to them whether they be authoritarian or democratic in character. Nevertheless, this important caveat notwithstanding, at the core of this issue remains Africa’s need and Africa’s potential.
Conclusions: Towards Shared Platforms for African Connectivity Infrastructure

Working at scale on the frontiers of infrastructure development explored above on a continent with pervasive fragility is challenging but essential. China’s engagement, drawing on its own development experiences and the capacities created in that process, holds the promise of helping Africa move onto a transformation path that captures its demographic dividend via rural development and urbanization dynamics, and regional and global integration. China’s vision of a reshaped world economy based on new connectivities, technologies, and networks of peoples, within a cooperative global governance system, is injecting fresh ambition and hopes for Africa in a context of heightened geopolitical competition, identity politics, and crisis-prone geo-economic faultlines. The use of night-time satellite images to reveal how Chinese aid projects have contributed to connecting up isolated communities through the construction of road, energy, and digital capacities and networks in Africa and elsewhere provides a timely injection of confidence that China’s development cooperation priorities and methods are having an impact on poverty reduction and inequality. At the same time, African agency in shaping its own development process at national, regional, and continental levels will be crucial to ensuring that Chinese development finance yields inclusive and sustainable development and helps to build public management capacities and integrity.

Africa’s challenges in managing the one billion plus increase in its population over the coming three decades require a ‘Lewis-type’ transformative development process on a scale to which only China in the recent past and India now provide comparators. As in China and India, the resources for this transformation will emerge from the transformation process itself, in the form of higher domestic savings rates and public revenues in Africa, and human capital increasing exponentially with urbanization, electrification, and digitalization (Glaeser and Lu, 2018). China’s contribution to Africa’s growth drivers in terms of leapfrogging change in technologies and business models, connectivity infrastructure investments, and linking aid, trade, and investment in the ‘Asian’ style brings a structural approach that goes beyond regulatory reform and standard good governance agendas.

Scope, scale, and speed are qualities that China brings in ways that others cannot. At the same time China’s non-interference principle will need to continue to adjust as the success of its partner countries becomes vital to the viability and reputation of the whole BRI, and thus of China’s global vision itself. There are African agents who have exploited the non-interference principle, undermining the integrity and creditworthiness of their countries, not
least in the context of infrastructure financing (Corkin, 2016). The risk assessment systems of the policy banks, including reputational risk, are being reinforced along with their systems for assuring social and environmental standards (CDB, 2018; China Exim Bank, 2017).

With China taking on an increasing market share of development finance across the now global reach of the BRI, including Africa, it also assumes an increasing part of official debt exposure and reputational risk in terms of performance, standards, and integrity. But China cannot succeed in its BRI without major parallel and connected efforts from others. The creation of joint approaches and systemic processes at the policy and operational levels will be essential. New proposals on the reform of the WTO touch upon important parts of the ‘China model’, including the role and governance of SOEs (European Commission, 2018). Meanwhile there are indications that the US administration may resist China’s emerging leadership role with the African Union. And the United States has legislated for a new US International Development Finance Corporation (US Congress, 2018). How the new FOCAC platforms can help to generate cooperative endeavours, synergies, and accommodation on these fronts in the African context is the principal challenge in the near future.

An experts report written for the G7-founded ICA calls for a holistic reassessment of Africa’s infrastructure needs (ICA, 2017). This may be the opportunity to bring a shared trilateral platform into being, under the AU umbrella and supported by the African Development Bank and the UN Economic Commission for Africa. Alongside this, the new Institute for Capacity Development, to be constructed by China as an integral part of the African Capacity Building Foundation (ACBF), will help underpin Africa’s public management capacities for the critical transformation process and the one billion more Africans to be alive in the three decades ahead.

References


