



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

The Chinese infrastructural fix in Africa

Citation for published version:

Zajontz, T 2022, 'The Chinese infrastructural fix in Africa: Lessons from the Sino-Zambian 'road bonanza'', *Oxford Development Studies*, vol. 50, no. 1, pp. 14-29. <https://doi.org/10.1080/13600818.2020.1861230>

Digital Object Identifier (DOI):

[10.1080/13600818.2020.1861230](https://doi.org/10.1080/13600818.2020.1861230)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

Oxford Development Studies

Publisher Rights Statement:

This is a pre-copyedited, author-produced version of an article accepted for publication in Oxford Development Studies following peer review. The version of record Tim Zajontz (2020) The Chinese infrastructural fix in Africa: Lessons from the Sino-Zambian 'road bonanza', Oxford Development Studies, DOI: 10.1080/13600818.2020.1861230 is available online at: <https://www.tandfonline.com/doi/full/10.1080/13600818.2020.1861230>

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



The Chinese infrastructural fix in Africa: Lessons from the Sino-Zambian ‘road bonanza’¹

This article scrutinises the surge in Chinese-sponsored road development in Zambia with the help of David Harvey’s theory of spatio-temporal fixes. China’s ‘moving out’ of surplus capital has been facilitated by an extensive disbursement of loans and export credits by state-owned banks for Chinese infrastructure projects in Africa. Transcending Harvey’s analytical ‘*imperio-centrism*’, the article shows that the actualisation of the Chinese infrastructural fix has been contingent upon Zambia’s ambitious, debt-financed infrastructure development agenda. This article further documents how particularities of Chinese loan financing have fostered ‘not so public’ procurement processes and accelerated Zambia’s rapid debt accumulation. As rising debt has imposed structural constraints, the recent shift in the financial governance of road development towards private project finance is analysed with reference to the Lusaka-Ndola dual carriageway. The renaissance of public-private partnerships and the gradual privatisation of Zambian roads signify new rounds of accumulation by dispossession. The Chinese infrastructural fix is thus shown to be entering its next stage.

Keywords: China; Zambia; debt; roads; public-private partnerships; spatio-temporal fix

Introduction

If you want to be rich, first build a road. (Chinese proverb)

By 2018, Chinese firms were estimated to have built or upgraded around 30,000km of highways in Africa (Edinger & Labuschagne, 2019). Infrastructure development has

¹ The author is grateful for PhD scholarships from the Economic and Social Research Council and from the Friedrich Ebert Foundation which made the research for this article possible. The author would also like to thank Ruth Hall and Ian Taylor for helpful comments on an earlier version of the paper.

been key to the BRICS² countries' agenda in Africa, not least because it has been “neglected by traditional actors”(Taylor, 2014, p. 26; see also Wethal, 2019). China has become Africa's largest bilateral infrastructure financier, accounting for about a fourth of total infrastructure finance in 2018 (ICA, 2018b, p. 7). Chinese-sponsored infrastructure projects are framed by a ‘win-win’ narrative and official discourses on connectivity and mutual developmental benefits (Sum, 2019).

However, Mawdsley rightly notes that “[t]he contradictions and contestations of ‘development’ have opened China up to criticisms more commonly associated in the past with western donors and companies” (2019, p. 262). In particular, China's supposed “debt trap diplomacy” (Chellaney, 2017) has caused fierce debate, as sovereign debt owed to China has reached staggering levels in countries like Angola, Ethiopia, Kenya, Mozambique, Zambia and Zimbabwe (see Alden & Jiang, 2019, pp. 645–646). Chinese loan financing has been politically instrumentalized, including by the United States' government, to discredit Chinese engagements with Africa (see Reuters, 2018; The Economist, 2019). There have been attempts to demystify the “debt trap” narrative by providing more reliable data on Africa's actual indebtedness to China as well as by pointing out that, thus far, Chinese lending has not resulted in asset seizures in Africa and that China's state-owned banks (SOBs) have, on an ad hoc basis, proven ready to reschedule repayment (see Brautigam, 2020; Kratz et al., 2019; Morris et al., 2020).

Whilst such problem-solving research is commendable to the extent that it helps to rationalise public discourses in the age of ‘fake news’, it does not problematise

² The BRICS grouping was formally established among Brazil, Russia, India and China in 2009. South Africa joined in 2010.

structural ramifications that spring from China's moving out of surplus capital to Africa (see Carmody, 2020). China's second going out phase constitutes the most significant development in the contemporary (spatial) reorganisation of capitalism (Taylor & Zajontz, 2020). Growing Chinese investment in African infrastructure (and other sectors) is largely driven by overaccumulation.

That said, capitalism does not shape Sino-African relations in a deterministic or uniform manner and the developmental impact of Chinese capital in Africa is highly dependent on its interaction with African social and political forces in their respective structural contexts. Hence, there has been a growing interest in African agency in Sino-African relations (see Carmody & Kragelund, 2016; Gadzala, 2015). Mohan and Tan-Mullins rightly assert that “[t]he interaction between Chinese state-backed actors and the agency of Southern political elites shapes how infrastructure is financed, funded and utilised, which are ultimately questions of ‘who benefits?’” (2019, p. 1370).

This article analyses both structural determinants of Africa's current Chinese-sponsored infrastructure boom and the role of African governments in co-determining the same. Rooted in a critical realist philosophy of science, it combines conceptual abstraction and empirical analysis in abductive and retroductive ways. After abductively conceptualising general structures and mechanisms that are posited to be at work, retroduction aims at “identify[ing] the necessary contextual conditions for a particular causal mechanism to take effect and to result in the empirical trends observed” (Fletcher, 2017, p. 189; see Patomäki & Wight, 2000; Sayer, 1992). I draw on primary textual sources, such as official documents and media reports, secondary literature and field research. The latter was conducted in Zambia between April and August 2017 and included passive observations along Zambian roads as well as semi-structured interviews and electronic communications with Zambian government officials,

politicians, academics as well as representatives from the private sector and civil society.

In the course of the paper I consecutively climb down the “ladder of abstraction” (Jäger et al., 2016, p. 110). In a first step, David Harvey’s spatio-temporal fix is posited as a causal mechanism that explains the “moving out” of Chinese overcapacities into Africa’s infrastructure and construction sectors. Whilst several scholars draw on Harvey to conceptualise the spatial reorganisation of China’s accumulation system and, by extension, of the global economy (see Hung, 2008; Lim, 2010; Sum, 2019; van der Merwe, 2016; Zhang, 2017), little effort has been made to analyse China’s current spatio-temporal fix at more concrete levels of inquiry. Therefore, its actualisation is assessed in the concrete case of Zambia’s road sector in a second step. Transcending Harvey’s *imperio*-centrism, part two scrutinises the politics of the fix at the receiving end and documents how the conjuncture of Zambia’s debt-financed development-through-infrastructure approach and the peculiarity of Chinese lending has contributed to unsustainable levels of sovereign debt. In a third step, the paper problematises the gradual commodification and privatisation of Zambia’s trunk road network. I conclude by extrapolating trends that are considered increasingly relevant with respect to Sino-African cooperation in the infrastructure sector.

The Chinese ‘infrastructural fix’ in Africa

David Harvey has famously enhanced the idea that capital incessantly reverts to the production, destruction and reorganisation of space in order to counter the “pervasive tendency of capitalism to produce crises of overaccumulation” (2003, p. 108; see also Harvey, 1982, Chapters 6–7). Overaccumulation crises within a given territory, Harvey suggests, can be temporarily averted by what he terms spatio-temporal fixes. For him, the concept has a double meaning: a literal and a metaphorical one. The former implies

that a share of capital is “literally fixed in and on the land for a relatively long period of time (depending on its economic and physical lifetime)” (Harvey, 2003, p. 115; see also Harvey, 2004b). This includes physical infrastructures as well as territorialised social expenditures, such as education or health-care systems. The literal meaning of the fix reveals the dependence of capital accumulation on spatial structures that are embedded in the landscape and allow for the circulation of physically mobile capitals in search of maximum surplus (Arrighi, 2005, p. 35; Jessop, 2006, p. 147).

The metaphorical meaning stands for “a particular solution to capitalist crises through temporal deferral and geographical expansion” (Harvey, 2003, p. 115). Temporal deferral ties up surplus capital in long-term, geographically fixed projects, such as investments in social or physical infrastructures, thereby deferring its re-entry into the “primary circuit” of capital, *i.e.* the one of immediate production and consumption (Harvey, 2003, pp. 109–110; Jessop, 2006, pp. 147–148). Such investments generally absorb large amounts of capital and are characterised by a “long gestation and turnover time” (Jessop, 2006, p. 151). Consequently, they provide for a *temporal* solution to overaccumulation, because they “absorb *current* surplus capital and increase its *future* productivity and profitability” (Jessop, 2006, p. 148).

Geographical expansion refers to the utilisation of surplus capital by extending the spatial reach of existing systems of accumulation. This implies tapping into new markets, new production capacities or new sources of commodities (Harvey, 2003, p. 109). The two moments of the spatio-temporal fix are interdependent. Temporal deferral constitutes the production and reorganisation of space that is necessary for opening up new markets for consumption (of surplus commodities) and investment (for surplus finance and productive capital) (Arrighi, 2005, p. 36; 2007, p. 217).

In *The New Imperialism*, Harvey expands his conceptual repertoire by the notion of accumulation by dispossession. The term constitutes a conceptual modernisation of Marx's notion of primitive or original accumulation and implies bringing non-commodified goods, raw materials, land or labour under the logic of capitalist accumulation by means of dispossession (2003, p. 144).. Harvey lists, amongst others, the commodification and privatisation of land, the conversion of communal or public into exclusive property rights, the restraint of access to commons or their privatisation as well as "colonial, neo-colonial, and imperial processes of appropriation of assets (including natural resources)" (2003, p. 145; see also 2004a, p. 547). Accumulation by dispossession "release[s] a set of assets (including labour power) at very low (and in some instances zero) cost" which, in turn, provide profitable outlets for surplus capital (Harvey, 2003, p. 149).

Importantly, Harvey emphasises the crucial function of finance capital for spatio-temporal fixes (2003, p. 145, p. 152; 2006, p. 94). By promoting "levels of debt incumbency that reduce whole populations [...] to debt peonage" imperial states, international financial institutions (IFIs) and private creditors ensure that territories which do not possess (enough) commodities or reserves in exchange for inflowing capital can still serve as destinations for spatio-temporal fixes (Harvey, 2003, p. 147). Market and credit transactions that are aimed at resolving overaccumulation crises "function very well under conditions of uneven geographical development in which surpluses available in one territory are matched by lack of supply elsewhere" (Harvey, 2004b, p. 67). In the case of the Chinese infrastructural fix in Africa, this manifests in the "convenient conjuncture" of Chinese overcapacities and Africa's incessantly invoked "infrastructure investment gap".

Harvey's theory has rightly received (sympathetic) critique, as it does not conceptualise the extra-economic dimensions of the spatio-temporal fix to the same extent as the value-theoretical ones (Jessop, 2004, p. 491; 2006, p. 163). Any spatio-temporal fix is "necessarily social and typically also institutional and/or organizational", as it depends on a range of compromises amongst various actors about the social and spatial distributions of costs and benefits of a particular 'fix' (Sum & Jessop, 2013, p. 248). This leads us to a crucial 'blind spot' in Harvey's theory on which the remainder of this article aims to shed light, namely its relative silence *vis-à-vis* territories that host spatio-temporal fixes which have sprung from overaccumulation elsewhere. While stating that such territories "may be prized open by military force, colonization or commercial pressure, or they may voluntarily open themselves up to take advantage of surplus capitals from elsewhere" (Harvey, 2006, p. 108), Harvey remains preoccupied with imperial formations and tells us little about the politics of the fix in recipient regions. In *The New Imperialism*, Harvey pays scant attention to concrete manifestations of spatio-temporal fixes and related forms of accumulation by dispossession in post-colonial world regions (Sheppard, 2006, p. 138).

Furthermore, for Levien, Harvey's conceptualisation of accumulation by dispossession remains too abstract and all-encompassing: "By reading every instance of dispossession as a result of the global impulses of capital, Harvey fails to answer why and how impulses of capital translate into *dispossession* rather than merely commodification" (Levien, 2018, p. 16). Answering these questions requires us to transcend Harvey's *imperio*-centrism by directing analytical attention towards the role of actors in recipient states in facilitating, mediating or forestalling particular spatio-temporal fixes. Before doing so in the case of Zambia's road sector, it is crucial to

outline the convenient conjuncture of Chinese overcapacities and Africa's infrastructural 'needs', upon which the Chinese infrastructural fix in Africa is based.

Chinese overcapacities meet Africa's infrastructure investment gap

China's attempts to geographically relocate overcapacities within and beyond its borders have been a reaction to mounting overaccumulation in the wake of the 2007-08 global economic crisis. Slumping exports, bankruptcies, growing unemployment, social unrest and deteriorating values of foreign exchange reserves challenged China's growth model and the "performance legitimacy" of the Communist Party (Sum, 2019, p. 530; see also Taylor & Zajontz, 2020). Sum describes how early post-crisis stimulus packages, which provided for vast investments in real estate and infrastructure within China, resulted in "[t]ripple bubbles" in property markets, the infrastructure and construction sectors and the finance industry. Premier Li's attempts to inject liquidity and lower public debt by issuing sovereign bonds and publicly listing state-owned enterprises (SOEs) aggravated overcapacities and caused financial instability through stock market bubbles (Sum, 2019, pp. 531–532).

Under President Xi's tight control, the Chinese government has embarked on a major transformation of the accumulation system, both discursively and materially. The "New Normal" narrative promises "slower but higher quality growth" (Sum, 2019, p. 533). In 2013, China launched the Belt and Road Initiative (BRI), the "Big Daddy of attempted time-space annihilation", with investment pledges going into the trillions of dollars (Hildyard, 2016, p. 78). The BRI consolidates a "China-oriented infrastructural mode of growth in production, finance and security" (Sum, 2019, p. 529; see also Li, 2016). The spatial expansion of China's accumulation system aims at recycling capital that lacks profitable outlets within existing capital circuits (Summers, 2016; Zhang,

2017). China's former Deputy Foreign Minister, He Yafei, aptly describes the rationale behind this geo-economic strategy:

The excess capacity has been caused by China's fundamental economic readjustments against the global economy. With the ensuing knock-on effects of the global financial crisis manifesting in the economic stagnation of advanced nations, coupled with the slowdown in China's domestic demand, industrial overcapacity, accumulated over several decades, has been brought into sharp relief [...]. This has resulted in a steep drop in profits, the accumulation of debt and near bankruptcy for many companies. If left unchecked, it could lead to bad loans piling up for banks, harming the ecosystem, and bankruptcy for whole sectors of industries that would, in turn, affect the transformation of the [Chinese] growth model and the improvement of people's livelihoods. It could even destabilise society. The Chinese government [...] has put forward guidelines for its resolution. The most important thing is to turn the challenge into an opportunity by 'moving out' this overcapacity on the basis of its development strategy abroad and foreign policy. (He, 2014)

China's construction and infrastructure sectors had been particularly affected by dwindling domestic demand, leaving the country's state-owned conglomerates short of projects and suppliers with mounting stocks of construction materials (Jones & Zeng, 2019, p. 1422; Sum, 2019, pp. 531–532).

As suggested by Harvey's theory, the moving out of overcapacities in said sectors has been strongly facilitated by China's financial institutions. The latter had been piling up foreign exchange reserves to more than \$3tn, while the post-crisis environment continuously curtailed their secure lending opportunities (Jones & Zeng, 2019, p. 1422). In order to finance the production of built environments that facilitate the circulation of other capitals, "temporal barriers" need to be overcome, *viz.* the time lag between investment and profit realisation (Sheppard, 2004, p. 472). This is achieved by means of credit. Hence, the Chinese move into foreign infrastructure markets has been fuelled by "another round of stimulus package based on loan-debt investment" –

this time on a global scale (Sum, 2019, p. 539). As China's former Deputy Foreign Minister underlines, Chinese SOBs were instructed to "smooth the transfer of overcapacity overseas" and to "facilitat[e] the export of Chinese equipment, products and services, together with Chinese standards" (He, 2014).

To boost demand for Chinese firms abroad, the government has drawn on a host of financial instruments, such as the extensive disbursement of loans and export credits from SOBs, sovereign guarantees and insurance schemes as well as the promotion of mergers and acquisitions and equity investment in infrastructure projects (Alden & Jiang, 2019, pp. 642–643; Lee, 2014, pp. 41–44). New multilateral financial institutions, such as the Silk Road Fund, the BRICS New Development Bank and the Asian Infrastructure Investment Bank, were established to raise further liquidity for infrastructure projects across the world (Sum, 2019, pp. 542–543).

China's spatio-temporal fix has provided a major source to fill Africa's "infrastructure investment gap" (Nugent, 2018, p. 25). The African Development Bank estimates this gap at \$68-108bn *per annum* (AfDB, 2018, p. 63). According to figures from the Infrastructure Consortium for Africa, infrastructure finance totalled \$100.8bn in 2018, with China contributing \$25.7bn thereof (ICA, 2018b, p. 7). Chinese investments in Africa's infrastructure sector have afforded the country's construction and infrastructure companies market-dominating positions. McKinsey reports that Chinese firms won about half of all international Engineering-Procurement-Construction (EPC) contracts in sub-Saharan Africa (Sun et al., 2017, p. 39). Simultaneously, the generous provision of concessional loans and credit lines has driven up Africa's debt owed to China, which was estimated to have totalled \$143bn by the end of 2017 (Alden & Jiang, 2019, p. 642). The fact that each loan and credit line was

duly signed by African authorities necessitates analytical scrutiny towards African state agency in the unfolding of the Chinese infrastructural fix in Africa.

Build now, pay later: The Sino-Zambian road bonanza

As one of Africa's 16 landlocked countries, Zambia and its minerals-dependent economy are particularly reliant on transport infrastructure that links its economic heartlands, the capital Lusaka as well as the Copperbelt, with ports in neighbouring countries. In 2011, the Patriotic Front (PF) came into power after campaigning for state-steered development, especially through the improvement of public infrastructure. The PF inherited a treasury with relatively low levels of external debt which amounted to 8.4 per cent of the Gross Domestic Product (GDP) by the end of 2011 (Ofstad & Tjønneland, 2019, p. 4). The party was explicit in its assessment that its development-through-infrastructure approach necessitated a more expansionary fiscal policy than under the Movement for Multi-party Democracy (MMD). The PF's *2011-2016 Manifesto* reads as follows:

Under the MMD government, investment in infrastructure development has been limited and the pace of development slow. Part of this is due to an obsession with maintaining "tight money" through fiscal and monetary policies. This has resulted in many parts of Zambia resembling ghost towns despite more than five years of record mineral prices and a production boom. (cited in Cheelo & Liebenthal, 2018, p. 3)

After the change in government and following "a decade of dominance of fiscal conservatives, the expansionists came to the fore" in the Ministry of Finance and State House (Hinfelaar & Sichone, 2019, p. 18). Road infrastructure became a top priority in Zambia's budget and constituted by far the largest non-financial capital expenditure

item, averaging 42 per cent of all expenditures on non-financial assets between 2011 and 2017 (Cheelo & Liebenthal, 2018, p. 4).

Zambia’s 7th National Development Plan 2017-2021 suggests that “[i]nvestment in improved transport systems and infrastructure will drive wider economic benefits, including supporting growth and creation of jobs, raising the productive capacity of the economy, driving efficiency and boosting international competitiveness” (GRZ, 2017, para. 7.9). Framed by the trope of a ‘land-linked Zambia’, the country-wide Link Zambia 8000 programme, officially named Accelerated National Roads Construction Programme (ANRCP), was launched in 2012. It is aimed at the rehabilitation or upgrade of some 8,000km of roads to bitumen standard (Cheelo & Liebenthal, 2018, p. 3; RDA, n.d.-b; Saasa, 2018, p. 17). An official from Zambia’s Road Development Agency (RDA) explained that

...the Link Zambia had a specific purpose. Being landlocked we were looking at ways of opening up the country to make it a truly land-linked country...the objective was to link all major economic centres and any place with potential. (RDA official, interview, Lusaka, August 2, 2017)

Besides concessional loans and grants from IFIs, whose lending to Zambia has largely stagnated in recent years (Ofstad & Tjønneland, 2019, p. 5), the upsurge in road development in Zambia has been rendered possible by China’s eager lending practices.

Table 1: Selection of major road projects with Chinese participation

Project	Total costs	Source of funding	Contractor	Project status
<i>Trunk road network</i>				
Chinsali-Nakonde (T2, 210km): Rehabilitation of single carriageway	\$182.4m	African Development Bank (AfDB), Africa Growing Together Fund (funded by the People’s Bank of China, administered by AfDB), Zambian government	Lot 1 (Chinsali-Isoka): China State Construction Engineering Lot 2 (Isoka-Nakonde): China Railway Seventh Group	Awarded in 2018; ongoing

Kitwe-Chingola (T3, 45km): Upgrade to dual carriageway	Kwacha844m (≈\$75m at the time)	National Pensions Scheme Authority (NAPSA)	Sino-Hydro Zambia	Ongoing
Ndola-Kitwe (T3, 63km): Upgrade to dual carriageway	Unclear	NAPSA	China Jiangxi	Completed behind schedule
Chingola-Solwezi (T5): Rehabilitation single carriageway (lots 1&3, 128km)	Kwacha1.067bn (≈\$150m at the time)	NAPSA	China Geo Engineering	Completed in 2018
Lusaka-Chirundu (T2): Rehabilitation of 96.5km single carriageway	\$104.5m	World Bank; Department for International Development (DFID), DFID funds administered by Development Bank of Southern Africa	China Henan International	Completed
<i>Local road networks</i>				
Lusaka 400	\$348.29m	China Exim Bank (loan of \$295.8m), Zambian government	Aviation Industry Corporation of China (AVIC)	Ongoing
Copperbelt 400	\$493m	China Development Bank	China Henan International	Ongoing
<i>Regional roads</i>				
Mansa-Luwingu: Upgrade of 175km single carriageway	\$207m	China Development Bank (\$180m commercial loan), Zambian government	China Henan International	Completed in 2016
Nakonde-Mbala: Rehabilitation of 172km single carriageway	\$180m	China Development Fund (Concessional loan, disbursed by China Exim Bank)	China CAMC Engineering	Completed in 2016
Mongu-Kalabo: 34km single carriageway, including 26 bridges	\$286.94m	China Exim Bank (loan of \$244m), Zambian government	AVIC	Completed in 2016

Source: Author's compilation, based on numerous official and media sources

The contradictions of loan financing with Chinese characteristics

‘Easy money’ for road construction, in the form of loans and export credits, has characterised the concrete manifestation of the Chinese infrastructural fix in Zambia’s road sector. Thereby, Chinese infrastructure loans, even supposedly concessional ones, have been costly for Zambia. As Lee points out, “[o]ften touted by Beijing as a form of assistance, Chinese concessional loans actually charge higher interest rates than the World Bank (2 per cent vs 1.7 per cent), have a smaller grant element (23 per cent vs 35 per cent), [and] shorter repayment periods (10–15 years vs 20–50 years)” (2014, p. 41; see also Morris et al., 2020). In his memoirs, Zambia’s former Vice President Guy Scott remembers as the “outstanding feature” of the Chinese engagement in Zambia’s construction industry “the long-term and apparently ‘soft’ financing that comes through, say, the Bank of China” (2019, p. 191). Scott alludes to the real costs of Chinese loans.

Besides debt-servicing costs, Chinese loan financing is characterised by “secret government-to-government agreements” and “closed-door bidding process[es]” (Zhao, 2011, p. 67). This has caused a systematic bypassing of transparency norms and competition standards which are legally codified in Zambian public procurement law and has reinforced “not so public” procurement processes, characterised by informal, highly personalised negotiations between Zambian political elites and Chinese enterprises about terms and conditions of road projects. As Ofstad & Tjønneland underline: “In many cases, contracts were awarded to Chinese contractors without public tendering. Accusations regarding “gifts” and corruption are rife” (2019, p. 7).

Moreover, the Chinese government officially praises the non-conditionality of its loans and contrasts its lending to that of Western donors and IFIs, which typically impose conditionalities regarding good governance, labour and environmental standards. Yet, Chinese concessional loans are tied to commercial conditions, notably the non-competitive single sourcing of Chinese contractors (Mohan & Tan-Mullins, 2019, p. 1373; Alden & Jiang, 2019, p. 641; Lee, 2017, p. 48). As Corkin (2013, p. 64) points out, loans from China's Exim Bank resemble 'preferential commercial lending'. At least 50 per cent of procured materials, equipment and services are expected to be sourced from China.

Not least as a result of non-competitive bidding and single sourcing, both Chinese state-owned and private enterprises have successfully captured Zambia's rapidly grown road construction market. As of 30th June 2018, Zambia's National Construction Council listed a total of 71 "grade one" contractors that qualify for large-scale works, in the category "R – general roads and earthworks". Of these, 39 were Chinese, whereas only 21 were classified as "Zambian citizen owned", with 11 being other foreign companies (NCC, 2018). Chinese contractors secured 16 out of 23 contracts awarded under the ANRCP by April 2016 (Simumba, 2018, p. 22). Table 1 depicts a selection of recent/ongoing road projects with Chinese involvement.

Several large-scale road projects have been package deals in that financing of projects was tied to the selection of particular contractors or even facilitated by the same. In 2015, for instance, the Zambian government signed a \$493m contract with China Henan for the rehabilitation of 400km of township roads in Copperbelt Province. According to then Minister of Works and Supply, Yamfwa Mukanga, the contractor "facilitated" the corresponding Export Credit Offer/loan from the Development Bank of China (National Assembly of Zambia, 2015). The Lusaka 400 programme, dedicated to

the improvement of 400km of urban roads, was financed through a \$348m loan from Exim Bank (Saasa, 2018, p. 17). Zambia's Auditor General asserted that the main contractor Aviation Industry Corporation of China (AVIC) International was single-sourced despite its non-responsiveness to tender requirements (Auditor General, n.d., pp. 48–50).

The “peculiarity of the Chinese way of non-competitive bidding” has been a reason for price-inflated road projects, as single-sourced contractors determine the costs, in some cases without feasibility studies being conducted (Lee, 2017, p. 51). The 172km feeder road between Nakonde and Mbala was financed through a concessional loan from China Development Fund, disbursed by Exim Bank. It was carried out by China CAMC Engineering Corporation, a Shanghai-listed parastatal (NRFA, n.d., p. 27; RDA, n.d.-a, p. 10; 2016, pp. 5, 15). An RDA director suggested that the road, under an open and competitive tender, would have cost about \$100m, instead of \$180m. Yet, “the contractor had already secured the agreement with the Ministry of Finance when they came to us [RDA]” (quoted in Lee, 2017, p. 51). As a World Bank report states, “[o]ne of the most notable examples of single sourcing has been the contract award for the Mongu-Kalabo road to a Chinese firm with a limited experience in road contracting” (Raballand et al., 2013, p. 16). AVIC constructed the road for \$287m, \$244m thereof financed through an Exim Bank loan (NRFA, n.d., p. 27). The 34km of single carriageway, including 26 bridges across the Barotse plains, was still initiated under the MMD government in an attempt to secure electoral support in the Western Province and became ‘one of the most expensive roads per kilometer in the world’ (Raballand et al., 2013, p. 14).

Chinese-sponsored road projects do not always correspond to the road development priorities set out at the working level within Zambian ministries and

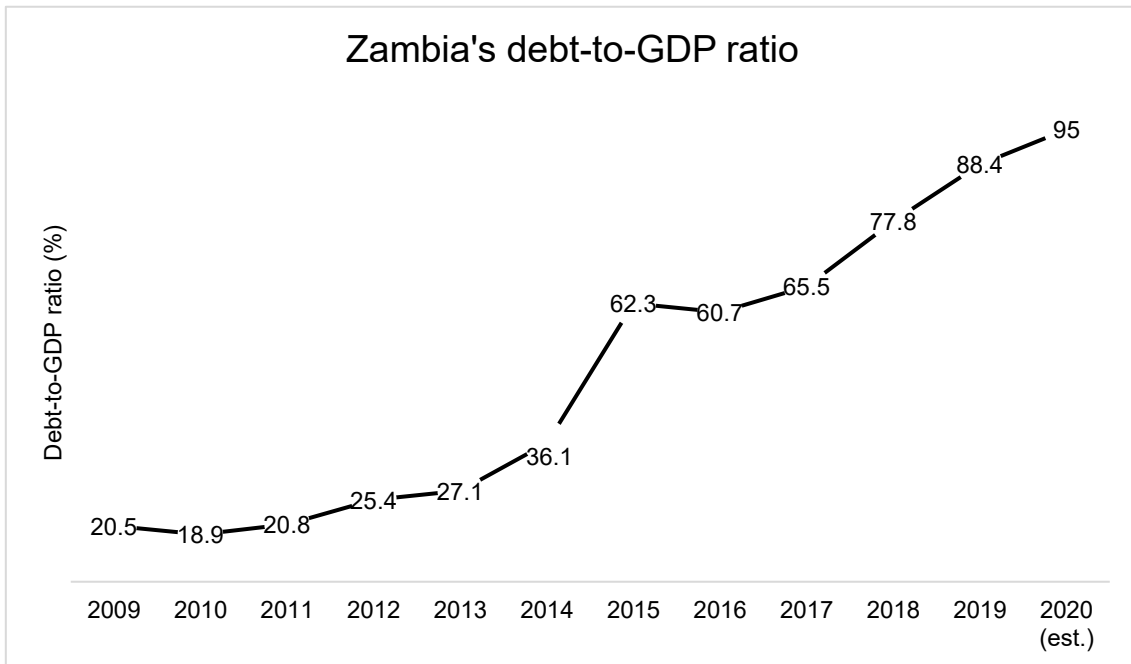
government agencies. Driven by the rationale of moving out Chinese overcapacities, the Chinese-sponsored road bonanza has consequently resulted in the implementation of road projects that are criticised for being driven by Chinese supply, rather than by Zambian demand. Chinese contractors actively lobby officials within line ministries and specialised agencies by proposing particular projects, with the promise to facilitate tailor-made loans for their implementation. This supply, or rather supplier-driven, mode of engagement turns conventional policy planning on its head (Lee, 2017, p. 50). One case in point is the 175km Mansa-Luwingu road. China Henan Corporation secured the \$207m contract which came with a \$180m commercial loan from China Development Bank (AidData, n.d.). An RDA official confirmed that the road had not been prioritised by RDA and considered the contract overpriced due to the absence of competitive bidding. Nonetheless, Zambian politicians insisted in its implementation (Lee, 2017, p. 51). These cases show that Zambian decision-makers have commonly failed to meet their “responsibility [...] to ensure that they get value for money, to make a full assessment of the terms of any contract and loan agreement and to make sure that the borrowing is sustainable” (Ofstad & Tjønneland, 2019, p. 7). The conjuncture of Zambia’s ambitious debt-financed infrastructure development agenda and the availability of Chinese surplus capital to fund and implement the same has contributed to Zambia’s rapidly deteriorating fiscal situation.

Zambia’s fiscal fiasco

In 2005 and 2006, most of Zambia’s external debt was cancelled under multilateral debt relief initiatives, which earned the country a B+ sovereign credit rating (Cheelo et al., 2020, p. 116). Since then, successive governments have rapidly accumulated new debt from both private and public lenders, with China having become Zambia’s largest bilateral creditor. Zambia has contracted Chinese loans worth \$9.7bn between 2000 and

2018 (Brautigam et al., 2019). By mid-2018, China accounted for 30 per cent of Zambia's external debt (Alden & Jiang, 2019, p. 645). In 2019, a good fourth of the country's external debt (\$3.14bn) were export and suppliers' credit, of which \$2.62bn were owed to China Exim Bank alone. Zambia's commercial debt stood at \$5,63bn in 2019. While the lion's share of commercial debt is made up of \$3bn in Eurobonds signed between 2012 and 2015, in 2019 the government also owed \$391m in commercial debt to China Development Bank alone (Zambian Ministry of Finance, 2020, p. 37). Figure 1 depicts the development of Zambia's debt in relation to its GDP.

Figure 1. Zambia's debt-to-GDP ratio.



Source: Author's compilation, based on World Bank (n.d.)

Zambia's accumulation of Chinese debt has become a highly controversial political issue. Speculations about Chinese take-overs of state-owned utilities and assets, as a result of the government's inability to service its debts, periodically flare up in the newspapers, social media and in parliament (Lusaka Times, 2018b). In December 2018, then U.S. National Security Advisor John Bolton further fuelled speculations when he argued that Zambia's actual debt to China stood between \$6-10bn and that Zambia Electricity Supply Corporation (ZESCO) was being seized as collateral (Reuters, 2018). Such fear-based discourses resemble developments in the public realm of other countries that are central to China's BRI (see Sum, 2019). While some allegations lack a factual basis or are exaggerated for (geo-)political reasons, there are doubtlessly immediate social and economic costs of Zambia's rapid debt accumulation. The latter has, for instance, resulted in non-payment of public employees (Kalero, 2019) as well as in cuts in public service provision (CUTS International, 2019, pp. 8-9).

In March 2019, then Finance Minister Margaret Mwanakatwe attributed the rise “to increased disbursements on previously contracted loans for on-going economic infrastructure programmes aimed at supporting economic diversification and structural transformation” (Ministry of Finance, 2019). The IMF concluded after its Article IV Visit in April 2019 that “Zambia’s development strategy targeting a rapid scaling up in infrastructure spending has resulted in large fiscal deficits, financed by nonconcessional debt” (Goodman quoted in IMF, 2019). Responding to growing political and economic pressure, the Zambian government announced a break on further debt accumulation, the restructuring of existing loan commitments and a postponement of infrastructure projects that are far from completion (Ofstad & Tjønneland, 2019, p. 9). Besides the declared objective of fiscal consolidation, a second strategy is pursued with enhanced effort, namely the gradual commodification and privatisation of public infrastructure.

Towards accumulation by dispossessing Zambian roads

“Let the user pay”

Zambia’s indebtedness has caused a pragmatic realignment in the (financial) governance of road development. The implementation of the Tolls Act of 2011 has remained long in the coming, one reason being the PF’s initial scepticism towards the user-pays principle, itself a result of its pro-poor political platform under the late President Sata. In 2006, 2008 and 2011, Sata consistently campaigned under the slogan “lower taxes, more jobs, and more money in your pockets” (Resnick, 2017, p. 113). Yet, mounting fiscal pressures accelerated the roll-out of tolling infrastructure across the country. As Tembo argues, “[t]he actualization of the Tolls Act No. 14 of 2011 came, of course, against the backdrop of a huge infrastructure funding gap identified in the 2014 national budget” (2015, p. 42). In total, 27 toll gates are either already operative or

currently under construction. The toll structure for inland vehicles was initially stipulated in Statutory Instrument 73/2013 but, with effect from 1st January 2017, the rates were doubled by means of Statutory Instrument 85/2016.

The government has portrayed road tolling a fiscal necessity. In the RDA booth at the 2017 Ndola International Trade Fair, the agency promoted the introduction of “the road user pay principle as an innovative and self-financing mechanism for sustainable road rehabilitation and maintenance” (Field notes). Tolling has prompted controversies, as some of the costs for Zambia’s debt-financed road development agenda are now being shifted towards road users. A Member of Parliament from the oppositional United Party for National Development criticised the uneven socio-economic impact the introduction of tolling has had:

The mines have been having a field day in this country for a long time. [...] The mines need to be taxed heavily in terms of transport. They are the biggest users of our roads. The vast majority of the heavy goods that are being carried are not being produced by Zambians, it’s the mines. [...] Are they paying enough? Or are the Zambians again, in inverted commas, subsidising the mines on the toll gates? [...] So, you find the grandmother in my village who tries to come to Lusaka will pay more. She has no choice. (S. Kakubo, interview, Lusaka, August 4, 2017)

The Zambian government has started to turn the wheel even further towards accumulation by dispossession – from the ‘mere’ commodification of roads to the privatisation of road development by means of public-private partnerships (PPPs).

The renaissance of public-private partnerships

Private project finance is commonly portrayed as the solution to the dilemma of meeting infrastructural ‘needs’ despite constrained public budgets. Onerous financing is simply ‘outsourced’ to the private sector, whereas the public enjoys prompt access to infrastructure – so the neoliberal reasoning at least. Project finance PPPs can be seen as

“an accounting trick, a way round the government’s own constraints on public borrowing. This remains the overwhelming attraction for governments and international institutions” (Hall, 2015, p. 7).

As further debt financing has become politically and economically increasingly costly, the PF-led government has discovered PPPs as means to avoid further borrowing, whilst, simultaneously, not having to entirely compromise on its development-through-infrastructure strategy. In the 7th National Development Plan, the government commits to “continue to develop tolls and collect road user charges to finance its programmes in the road sub-sector as well as pursuing PPPs as a financing mechanism for road construction” (GRZ, 2017, para. 7.9.3). Former Finance Minister Mwanakatwe emphasised that Zambia’s PPP Act was amended in July 2018 in order to “strengthen the implementation of public-private sector development financing models in meeting the country’s needs for public goods and services” (Ministry of Finance, 2019).

The gradual shift from public debt finance to private project finance sustains the Chinese infrastructural fix in Zambia’s road sector, as project finance PPPs secure demand for Chinese contractors despite unsustainable debt levels. They come with a security for Chinese contractors, as payment transactions occur entirely between Chinese banks and contractors. Chinese firms AVIC, Henan and China Jiangxi, amongst others, had repeatedly experienced delayed payments or non-payment by the Zambian government (Daily Star, 2019; Lusaka Times, 2018a; Phiri, 2019).

Furthermore, PPPs become increasingly integrated into Chinese accumulation strategies in Africa and serve as an outlet for equity investment:

[A] new trend among Chinese companies that are involved in the infrastructure and power sectors (where the majority of African sovereign debts to China are located) is to change their role from *contractors* on the previously dominant EPC model to

operators and investors on the BOT/BOOT model. (Alden & Jiang, 2019, pp. 647–648)

This can also be observed in Zambia’s road sector. China Railway Seventh Group is the “preferred bidder” for a Finance-Design-Construct-Operate-Maintain-Toll (FDCOMT)³ contract for the 124km segment of the T2 between Chilanga and Chirundu. 25 per cent of the contract sum will be provided by the contractor as equity, while the remaining 75 per cent will be raised through a loan towards the special purpose vehicle that is set up for the project (RDA official, personal electronic communication, June 2019). PPPs that entail financing, operation and tolling herald a new era in the Chinese infrastructural fix, as they transform infrastructure into an “asset class capable of providing yield-hungry investors with the returns that they seek” (Hildyard, 2016, p. 31). Operating and tolling the road between Chilanga, south of Lusaka, and Chirundu at Zambia’s border with Zimbabwe, can be expected to yield high returns, considering that the Beira corridor constitutes the shortest road link between Lusaka and the Indian Ocean. In his study aptly headlined *Licensed Larceny*, Hildyard (2016, pp. 48–49) shows that PPPs are lucrative means for ‘financial extraction’. In 2014, annual returns of toll roads in developing countries ranged between eight and 26 per cent.

The fallacy of project finance at no cost

Whereas the negotiations for the Chilanga-Chirundu road PPP were still ongoing in February 2020, the upgrade of the 321km road between Lusaka and Ndola in Zambia’s Copperbelt Province to dual carriageway has been a highly controversial project finance

³ The FDCOMT scheme is a variant of a Design-Build-Finance-Operate (DBFO) PPP (Yescombe & Farquharson, 2018, p. 13).

arrangement. In 2017, the government awarded a \$1.25bn Engineering-Procurement-Construction plus Finance (EPC+F) contract to China Jiangxi (Reuters, 2017). EPC+F contracts fall under the rubric of “availability PPPs” (Yescombe & Farquharson, 2018, p. 17). Zambia’s RDA labels them Contractor Facilitated Initiatives (CFIs). An RDA manager explained their perceived advantage as follows:

So basically, it’s some form of a loan. [...] So, what we do in the CFI is: The contractor, because for some reason the government may not be able to pay the money upfront. We allow the contractor to mobilize financing at competitive rates and then government reimburses through agreed terms. So, it’s basically a way of being able to do more projects, but we defer the payment, because government cannot pay for all the projects immediately. So, we say we are budgeting for them subsequently, but we need the road today. (RDA official, interview, Lusaka, August 2, 2017)

PPPs are considered a means to maintain high levels of road development despite serious budgetary constraints. Yet, Hildyard rightly points to “burgeoning off-balance-sheet liabilities that countries have incurred through PPPs, storing up debt crises for future generations” (2016, p. 39).

The Lusaka-Ndola project is a case in point. According to then Minister of Housing and Infrastructure Development, Ronald Chitotela, the EPC+F arrangement has a payback period of 17 years, an internal rate of return of 15 per cent and projected gross revenues of \$3.5bn (National Assembly of Zambia, 2017). This indicates that the contract binds the Zambian government to availability payments for a duration of 17 years upon completion, which the government projects to amortise through tolling. Despite these financial obligations, then Minister of Finance Felix Mutati praised the project finance arrangement, arguing that “[g]overnment will not borrow or spend a single ngwee, this will be a PPP” (quoted in The Zambian Observer, 2017).

Contrary to the officials' euphoria, EPC+F contracts bear significant financial and economic risks for public authorities. The contractor is not compensated through the collection of user charges but "the private-sector investor is paid by the contracting authority for 'availability'" (Yescombe & Farquharson, 2018, p. 17). As availability payments are contractually fixed and independent of usage, the "usage risk" lies with the public authority, not with the contractor (Yescombe & Farquharson, 2018, p. 20). A concession-based PPP, in contrast, generally transfers the risk related to the market demand for an infrastructural facility to the contractor (Yescombe, 2007, p. 4).

In the case of the Ndola-Lusaka dual carriageway, it remains to be seen as to whether the projected internal rate of return and gross revenues will materialise. Such estimates are highly dependent on a myriad of variables, such as future economic growth rates, copper prices and not least potentially competing transport infrastructure development. Hildyard rightly points to contradictions that can arise from availability PPPs: "Locked into contracts that oblige payments for a given project, the pressure is on to make sure that the project is used, even if that means competing projects that might serve the public better are allowed to deteriorate" (2016, p. 35). Concretely, this could result in slowing down the government's recent efforts to bring cargo from the road to the rail, which would serve the lifetime of roads as well as broader societal goals, such as carbon emission reduction. Of course, another way of ensuring that collected revenues meet pre-specified payments to the contractor is the upward adjustment of toll fees.

Conclusion

Drawing on David Harvey's theory of spatio-temporal fixes, this article traced the moving out of Chinese surplus capital back to intensifying overaccumulation in the aftermath of the 2007-08 financial crisis and documented the pivotal role of financial

institutions in facilitating the geographical expansion of the Chinese accumulation system. In line with Harvey's argument that spatio-temporal fixes function particularly well "under conditions of uneven geographical development" (2004b, p. 67), Africa's infrastructure sector has become a prime outlet for Chinese loan-debt investment.

Exhibiting structural tendencies inherent to capitalism, the Chinese infrastructural fix in Africa, at a general level, resembles previous and ongoing Western-led modes of accumulation on the continent. Yet, its concrete manifestations and organisational forms are necessarily historically specific. The characteristics of Chinese loan financing, notably the commercial conditionalities of non-competitive bidding and single sourcing of Chinese contractors, imply a particularly immediate organisational link between the temporal deferral and the geographical expansion of Chinese surplus capital.

This article has shed light on blind spots in Harvey's theory that result from its bias towards the value-theoretical, at the expense of extra-economic dimensions of the spatio-temporal fix, and its analytical *imperio*-centrism. The case study of Zambia's road sector has shown that the actualisation of the Chinese infrastructural fix is contingent upon corresponding state strategies in recipient countries. The 'development-through-infrastructure' agenda pursued by the Zambian government, alongside expansionary fiscal policies, provided an enabling political environment for a surge in Chinese loan-financed road projects. Hence, African governments are actively involved in conditioning, mediating and governing concrete manifestations of the Chinese infrastructural fix and co-determine the distribution of its costs and benefits. However, as the Zambian case equally exemplifies, the overaccumulation of debt can significantly diminish the strategic scope of African governments and catalyse the privatisation of commons. As debt financing has become increasingly burdensome, the Zambian government has acted as regulatory facilitator for the incremental commodification and

privatisation of Zambia's roads – with highly uneven socio-economic effects and significant financial state liabilities.

This article thus provided a more nuanced understanding of the function of debt in the context of Sino-African cooperation in the infrastructure sector. Africa's growing indebtedness to China does not necessarily result in asset expropriations and colonial-style take-overs of African economies, as some proponents of the debt trap narrative propagate. Yet, where sovereign debt levels become unsustainable, privatisation becomes the order of the day. It is likely that we will be witnessing a renaissance of infrastructure PPPs in Africa – this time spearheaded by Chinese capital in alliance with indebted African governments that have run out of alternatives.

The privatisation of infrastructure in Africa offers new impetus for the Chinese infrastructural fix. Chinese corporations have started to adapt their accumulation strategies from hitherto dominant, loan-financed EPC contracts to PPPs that include project finance, operation and, in some cases, tolling of infrastructural assets (see Alden & Jiang, 2019). Accordingly, one of the main objectives of the China Overseas Infrastructure Development and Investment Corporation, which opened its Africa headquarters in Johannesburg in 2017, is the facilitation of PPPs (ICA, 2018a, p. 54). The 2019 BRI Forum “encourage[d] third-market, tripartite cooperation and Public Private Partnership (PPP) cooperation” (BRI, 2019, para. 29). In Harveyean terms, the “dominant form of accumulation” (Harvey, 2003, p. 153) in the context of the Chinese infrastructural fix in Africa has started to shift from expanded reproduction, characterised by an exchange of equivalents, to accumulation by dispossession. The proverb at the outset of the introduction proves true – for some at least.

References

AfDB. (2018). *African Economic Outlook 2018*. African Development Bank.

<https://doi.org/10.1373/clinchem.2007.093781>

- AidData. (n.d.). *CDB loans \$179.5 million USD for Mansa-Luwingu Road*. Retrieved May 25, 2019, from <https://china.aiddata.org/projects/30719>
- Alden, C., & Jiang, L. (2019). Brave new world: Debt, industrialization and security in China–Africa relations. *International Affairs*, 95(3), 641–657.
<https://doi.org/10.1093/ia/iiz083>
- Alden, C., & Large, D. (2019). Studying Africa and China. In C. Alden & D. Large (Eds.), *New Directions in Africa-China Studies* (pp. 3–35). Routledge.
- Arrighi, G. (2005). Hegemony Unravelling 1. *New Left Review*, 32, 23–80.
- Arrighi, G. (2007). *Adam Smith in Beijing: Lineages of the Twenty-First Century*. Verso.
- Auditor General. (n.d.). *Report of the Auditor General on the Road Projects under the Road Development Agency (RDA) for the Period January 2012 to December 2015*. Office of the Auditor General.
- Brautigam, D. (2020). A critical look at Chinese “debt-trap diplomacy”: The rise of a meme. *Area Development and Policy*, 5(1), 1–14.
<https://doi.org/10.1080/23792949.2019.1689828>
- Brautigam, D., Hwang, J., Link, J., & Acker, K. (2019). *Chinese Loans to Africa Database*. China Africa Research Initiative, Johns Hopkins University School of Advanced International Studies.
- BRI. (2019). *Joint Communique of the Leaders’ Roundtable of the 2nd Belt and Road Forum for International Cooperation*. The Belt and Road Forum.
<http://www.beltandroadforum.org/english/n100/2019/0427/c36-1311.html>
- Carmody, P. (2020). Dependence not debt-trap diplomacy. *Area Development and Policy*, 5(1), 23–31. <https://doi.org/10.1080/23792949.2019.1702471>
- Carmody, P., & Kragelund, P. (2016). Who is in Charge? State Power and Agency in Sino-African Relations. *Cornell International Law Journal*, 49(1), 1–24.
<https://doi.org/10.1038/nmeth.2841>
- Cheelo, C., Hinfelaar, M., & Ndulo, M. (2020). *The Developmental State in Zambia: Plausibility, Challenges, and Lessons from South Korea* (No. 18; Occasional Paper Series).
- Cheelo, C., & Liebenthal, R. (2018). *The role of the construction sector in influencing natural resource use, structural change, and industrial development in Zambia* (WIDER Working Paper, Issue 172).
- Chellaney, B. (2017, January 23). *China’s Debt-Trap Diplomacy*. Project Syndicate.
<https://www.project-syndicate.org/commentary/china-one-belt-one-road-loans-debt-by-brahma-chellaney-2017-01?barrier=accesspaylog>
- Corkin, L. (2013). *Uncovering African agency: Angola’s management of China’s credit lines*. Ashgate.
- CUTS International. (2019). *#DebtConcernsMe: Understanding the Impact of Zambia’s Growing Debt on Different Stakeholders*. Consumer Unity & Trust Society International.
- Daily Star. (2019, April 30). *Avic, China Henan abandon works over non payment*.

- Daily Star.
https://www.dailystar.news/Articles/Index/50?articleType=TodayNewsArticle&fbclid=IwAR3dEitkeDg9jP4nl5rsVoQ7-xNqfuGyAT5TUhCHTN7GOM_41_Zkh7UIZEE
- Edinger, H., & Labuschagne, J.-P. (2019, March 2). *If you want to prosper, consider building roads: China's role in African infrastructure and capital projects*. Deloitte Insights. <https://www2.deloitte.com/insights/us/en/industry/public-sector/china-investment-africa-infrastructure-development.html>
- Fletcher, A. J. (2017). Applying critical realism in qualitative research: methodology meets method. *International Journal of Social Research Methodology*, 20(2), 181–194. <https://doi.org/10.1080/13645579.2016.1144401>
- Gadzala, A. W. (Ed.). (2015). *Africa and China: How Africans and their Governments are Shaping Relations with China*. Rowman & Littlefield.
- GRZ. (2017). *The Seventh National Development Plan 2017-2021*. Ministry of National Development Planning.
- Hall, D. (2015). *Why Public-Private Partnerships Don't Work: The Many Advantages of the Public Alternative*. Public Services International Research Unit.
- Harvey, D. (1982). *The Limits to Capital*. Basil Blackwell.
- Harvey, D. (2003). *The New Imperialism*. Oxford University Press.
- Harvey, D. (2004a). Retrospect on The Limits to Capital. *Antipode*, 36(3), 544–549. <https://doi.org/papers2://publication/uuid/97396CC0-28E6-4674-9D45-0BDAA3110F4D>
- Harvey, D. (2004b). The “New” Imperialism: Accumulation by Dispossession. *Socialist Register*, 40, 63–87. <http://socialistregister.com/index.php/srv/article/view/5811/2707/1.VJH1EXv2SK8>
- Harvey, D. (2006). *Spaces of Global Capitalism: Towards a Theory of Uneven Geographical Development*. Verso.
- He, Y. (2014, January 7). *China's overcapacity crisis can spur growth through overseas expansion*. South China Morning Post. <https://www.scmp.com/comment/insight-opinion/article/1399681/chinas-overcapacity-crisis-can-spur-growth-through-overseas>
- Hildyard, N. (2016). *Licensed larceny: Infrastructure, financial extraction and the Global South*. Manchester University Press.
- Hinfelaar, M., & Sichone, J. (2019). *The challenge of sustaining a professional civil service amidst shifting political coalitions: The case of the Ministry of Finance in Zambia, 1991-2018* (ESID Working Paper No. 122; ESID Working Paper, Issue 122).
- Hung, H. F. (2008). Rise of China and the Global Overaccumulation Crisis. *Review of International Political Economy*, 15(2), 149–179. <https://doi.org/10.1080/09692290701869654>
- ICA. (2018a). *Infrastructure Financing Trends in Africa – 2017*. The Infrastructure Consortium for Africa.

- ICA. (2018b). *Infrastructure Financing Trends in Africa – 2018*. The Infrastructure Consortium for Africa.
- IMF. (2019). *IMF Staff Completes 2019 Article IV Visit to Zambia*. International Monetary Fund. <https://www.imf.org/en/News/Articles/2019/04/30/pr19130-zambia-imf-staff-completes-2019-article-iv-visit?fbclid=IwAR0LLB3WYsWz4Yc404nUBaY4s942AmxPYbAnGmiF5S1N4ZPSge3nYVOEw9U>
- Jäger, J., Horn, L., & Becker, J. (2016). Critical International Political Economy and Method. In A. Cafruny, L. S. Talani, & G. P. Martin (Eds.), *The Palgrave Handbook of Critical International Political Economy* (pp. 101–118). Palgrave Macmillan. <https://doi.org/10.1057/978-1-137-50018-2>
- Jessop, B. (2004). On the Limits of The Limits to Capital. *Antipode*, 36(3), 480–496. <https://doi.org/10.1111/j.1467-8330.2004.00427.x>
- Jessop, B. (2006). Spatial fixes, temporal Fixes and spatio-temporal fixes. In N. Castree & D. Gregory (Eds.), *David Harvey: A Critical Reader* (pp. 142–166). Blackwell Publishing.
- Jones, L., & Zeng, J. (2019). Understanding China’s “Belt and Road Initiative”: Beyond “Grand Strategy” to a State Transformation Analysis. *Third World Quarterly*, 40(8), 1415–1439. <https://doi.org/10.1080/01436597.2018.1559046>
- Kalero, R. (2019, April 25). CBU workers call off strike. *Daily Nation*. <https://www.dailynation.info/cbu-workers-call-off-strike/>
- Kratz, A., Feng, A., & Wright, L. (2019, April 29). *New Data on the “Debt Trap” Question*. Rhodium Group. <https://rhg.com/research/new-data-on-the-debt-trap-question/>
- Lee, C. K. (2014). The Spectre of Global China. *New Left Review*, September (89), 29–66.
- Lee, C. K. (2017). *The Specter of Global China: Politics, Labor, and Foreign Investment in Africa*. University of Chicago Press.
- Levien, M. (2018). *Dispossession without development: Land grabs in neoliberal India*. Oxford University Press. <https://doi.org/10.1093/oso/9780190859152.001.0001>
- Li, X. (2016). Conceptualising the Dialectics of China’s Presence in Africa. In J. Van der Merwe, I. Taylor, & A. Arkhangelskaya (Eds.), *Emerging Powers in Africa: A New Wave in the Relationship?* (pp. 77–106). Palgrave Macmillan.
- Li, X., & Farah, A. O. (Eds.). (2013). *China-Africa relations in an era of great transformations*. Ashgate.
- Lim, K. F. (2010). On China’s growing geo-economic influence and the evolution of variegated capitalism. *Geoforum*, 41(5), 677–688. <https://doi.org/10.1016/j.geoforum.2010.04.003>
- Lusaka Times. (2018a, January 24). *Kitwe-Ndola dual carriageway is funded by the Zambian government*. Lusaka Times. <https://www.lusakatimes.com/2018/06/24/kitwe-ndola-dual-carriageway-project-is-funded-by-the-zambian-government/>
- Lusaka Times. (2018b, September 10). *Kenneth Kaunda International Airport will not be surrendered to China-Dora Siliza*. Lusaka Times.

<https://www.lusakatimes.com/2018/09/10/kenneth-kaunda-international-airport-will-not-be-surrendered-to-china-dora-siliya/>

- Mawdsley, E. (2019). South–South Cooperation 3.0? Managing the consequences of success in the decade ahead. *Oxford Development Studies*, 47(3), 259–274. <https://doi.org/10.1080/13600818.2019.1585792>
- Ministry of Finance. (2019). *Highlights on the Performance of the Economy in 2018*. Ministry of Finance. <https://doi.org/10.1037/0033-2909.126.1.78>
- Mohan, G., & Tan-Mullins, M. (2019). The geopolitics of South–South infrastructure development: Chinese-financed energy projects in the global South. *Urban Studies*, 56(7), 1368–1385. <https://doi.org/10.1177/0042098018794351>
- Morris, S., Parks, B., Gardner, A., & Parks, B. (2020). *Chinese and World Bank Lending Terms: A Systematic Comparison Across 157 Countries and 15 Years* (No. 170; CGD Policy Paper 170, Issue CGD Policy Paper 170).
- National Assembly of Zambia. (2015). *Ministerial Statement on the Procurement of The Copperbelt 400 (C400) Road Rehabilitation Project in United States Dollars Currency*. National Assembly of Zambia; National Assembly of. http://www.parliament.gov.zm/sites/default/files/images/publication_docs/Works and Supply Statement.pdf
- National Assembly of Zambia. (2017). *Ministerial Statement on the Lusaka/Ndola/Dual Carriageway Project Given by the Hon. Minister of Housing and Infrastructure Development, Mr. Chitotela, MP*. National Assembly of Zambia. http://www.parliament.gov.zm/sites/default/files/images/publication_docs/MINISTERIAL STATEMENT BY THE HON. MINISTER OF HOUSING AND INFRA. DEV.pdf
- NCC. (2018). *List of Contractors: Registrations as at 30 June 2018*. National Council for Construction; National Council for Construction. <http://www.ncc.org.zm/classified/contractors/>
- NRFA. (n.d.). *National Road Fund Agency: Annual Report 2017*. National Road Fund Agency.
- Nugent, P. (2018). Africa’s re-enchantment with big infrastructure: White elephants dancing in virtuous circles? In J. Schubert, U. Engel, & M. Elisio (Eds.), *Extractive Industries and Changing State Dynamics in Africa* (pp. 22–40). Routledge.
- Ofstad, A., & Tjønneland, E. (2019). *Zambia’s looming debt crisis – is China to blame?* (CMI Insight, Issue 1).
- Patomäki, H., & Wight, C. (2000). After Postpositivism? The Promises of Critical Realism. *International Studies Quarterly*, 44(2), 213–237. <https://doi.org/10.1111/0020-8833.00156>
- Phiri, C. (2019, May 6). *AVIC Partially Resumes Kitwe Road Works*. Zambia Reports. <https://zambiareports.com/2019/05/06/avic-partially-resumes-kitwe-road-works/>
- Raballand, G., Bridges, K., Beuran, M., & Sacks, A. (2013). Does the Semi-Autonomous Agency Model Function in a Low-Governance Environment? The Case of the Road Development Agency in Zambia. In *The World Bank* (No. 6585; Policy Research Working Paper, Issue August). <http://econ.worldbank.org>.
- RDA. (n.d.-a). *2016 Road Sector Annual Work Plan*. Road Development Agency; Road

- Development Agency. Retrieved March 25, 2020, from [http://www.rda.org.zm/jdownloads/Programmes/RSAWP 2016 final Dec 31.pdf](http://www.rda.org.zm/jdownloads/Programmes/RSAWP%2016%20final%20Dec%2031.pdf)
- RDA. (n.d.-b). *Link Zambia 8000: "Transforming Zambia into a Truly Landlinked Country."* Road Development Agency.
- RDA. (2016). Roads: January-March 2016. In *Roads* (Issue 17). Road Development Agency.
- Resnick, D. E. (2017). Populism in Africa. In C. Rovira Kaltwasser, P. Taggart, P. Choa Espejo, & P. Ostiguy (Eds.), *The Oxford Handbook of Populism* (pp. 101–120). Oxford University Press.
- Reuters. (2017, September 8). *Zambia awards Chinese firm \$1.2 billion road expansion project*. Reuters. <https://www.reuters.com/article/us-zambia-road/zambia-awards-chinese-firm-1-2-billion-road-expansion-project-idUSKCN1BJ1OT>
- Reuters. (2018, December 15). *Zambia denies White House claim China taking over power utility*. Reuters. <https://www.reuters.com/article/us-zambia-economy/zambia-denies-white-house-claim-china-taking-over-power-utility-idUSKBN1OE0LD>
- Saasa, O. S. (2018). *Pro-Growth Road Infrastructure Development in Zambia: Challenges, Opportunities and Policy Options*. Premier Consult Limited. <http://marketingdatabase.tat.or.th/download/article/research/1201finalreport.pdf>
- Sayer, A. (1992). *Method in Social Science: A Realist Approach*. Routledge.
- Schoenberger, E. (2004). The Spatial Fix Revisited. *Antipode*, 36(3), 427–433. <https://doi.org/10.1111/j.1467-8330.2004.00422.x>
- Scott, G. (2019). *Adnetures in Zambian Politics: A Story in Black and White*. Lynne Rienner.
- Sheppard, E. (2004). The spatiality of the limits to capital. *Antipode*, 36(3), 470–479. <https://doi.org/10.1111/j.1467-8330.2004.00426.x>
- Sheppard, E. (2006). David Harvey and Dialectical Space-time. In N. Castree & D. Gregory (Eds.), *David Harvey: A Critical Reader* (pp. 121–141). Blackwell Publishing.
- Simumba, T. (2018). *He Who Pays The Piper: Zambia's Growing China Debt Crisis*. Centre for Trade Policy and Development.
- Sum, N.-L. (2019). The intertwined geopolitics and geoeconomics of hopes/ fears: China's triple economic bubbles and the 'One Belt One Road' imaginary. *Territory, Politics, Governance*, 7(4), 528–552. <https://doi.org/10.1080/21622671.2018.1523746>
- Sum, N.-L., & Jessop, B. (2013). *Towards a cultural political economy: Putting culture in its place*. Edward Elgar.
- Summers, T. (2016). China's "New Silk Roads": sub-national regions and networks of global political economy. *Third World Quarterly*, 37(9), 1628–1643. <https://doi.org/10.1080/01436597.2016.1153415>
- Sun, I. Y., Jayaram, K., & Kassiri, O. (2017). Dance of the lions and dragons: How are Africa and China engaging, and how will the partnership evolve? In *McKinsey*. McKinsey & Company.

- Taylor, I. (2014). *Africa rising? BRICS - diversifying dependency*. James Currey.
- Taylor, I., & Zajontz, T. (2020). In a Fix: Africa's Place in the Belt and Road Initiative and the Reproduction of Dependency. *South African Journal of International Affairs*.
- Tembo, Y. (2015). *A look at Zambia's road financing strategies: The impact of incongruent policies and budgets*. Anchor Academic Publishing.
- The Economist. (2019, March 9). Choices on the Continent. *The Economist*, 18–20.
- The Zambian Observer. (2017, September 30). *Mutati throws the \$1.2billion Lusaka-Ndola Dual Carriage Way into funding confusion*. The Zambian Observer. <https://www.zambianobserver.com/mutati-throws-the-1-2billion-lusaka-ndola-dual-carriage-way-into-funding-confusion/>
- van der Merwe, J. (2016). An historical geographical analysis of South Africa's system of accumulation: 1652–1994. *Review of African Political Economy*, 43(147), 58–72. <https://doi.org/10.1080/03056244.2015.1049521>
- Wethal, U. (2019). Building Africa's Infrastructure: Reinstating History in Infrastructure Debates. *Forum for Development Studies*, 46(3), 473–499. <https://doi.org/10.1080/08039410.2019.1616609>
- World Bank. (n.d.). *Zambia*. World Bank Public Documents. Retrieved February 21, 2020, from <http://pubdocs.worldbank.org/en/359911492207299026/data-zmb.pdf>
- Yescombe, E. R. (2007). *Public-Private Partnerships: Principles of Policy and Finance*. Butterworth-Heinemann.
- Yescombe, E. R., & Farquharson, E. (2018). *Public-Private Partnerships for Infrastructure: Principles of Policy and Finance* (2nd ed.). Butterworth-Heinemann.
- Zambian Ministry of Finance. (2020). *Annual Economic Report 2019*. Zambian Ministry of Finance.
- Zhang, X. (2017). Chinese capitalism and the maritime silk road: A world-systems perspective. *Geopolitics*, 22(2), 310–331. <https://doi.org/10.1080/14650045.2017.1289371>
- Zhao, S. (2011). China's African Relations and the Balance with Western Powers. In J. Men & B. Barton (Eds.), *China and the European Union in Africa* (pp. 61–80). Ashgate.