



**Mining Industrialisation in the African Periphery:
Disruption and Dependency in South Kivu, DRC**

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Cover photograph: © Robert Carrubba, July 2017, Banro's Twangiza mine in the hills of Luhwindja, South Kivu

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Acronyms

ADB	African Development Bank
AFDL	Alliance des forces démocratiques pour la libération du Congo-Zaire
AMC	African Minerals Consensus
ANAPI	Agence nationale pour la promotion des investissements
APEF	Action pour la promotion de l'enfant et la femme
ASM	Artisanal and Small-Scale Mining
ATS	Allterrain Services
AU	African Union
BCDC	Banque commerciale du Congo
CCALU	Comité des creuseurs artisanaux de Luhwindja
CEEC	Centre d'expertise, evaluation et certification
CEGEMI	Centre d'expertise en gestion minière
CEPAL	United Nations Economic Commission for Latin America
CESO	Centre of Social Studies at the University of Chile
CFL	Chemins de fer du Congo Supérieur aux Grands Lacs
CIFA	Canada Investment Fund for Africa
CODELU	Comité de développement de Luhwindja
DGDA	Direction générale des douanes et accises
DGI	Direction générale des impôts
DGRAD	Direction générale des recettes administratives, domaniales, judiciaires et de participation
DRC	Democratic Republic of the Congo
EITI	Extractive Industries Transparency Initiative
ESTMA	Extractive Sector Transparency Measures Act
FAO	Food and Agricultural Organisation
FARDC	Forces armées de la République Démocratique du Congo
FDI	Foreign Direct Investment
FEC	Fédération des entreprises du Congo
FPI	Fonds de promotion de l'industrie
GALIC	Gold-Endowed, African Low-Income Country
GCC	Global Commodity Chain
GDP	Gross Domestic Product
GECAMINES	Société générale Congolaise des minerais
GFCF	Gross Fixed Capital Formation
GPN	Global Production Network
GVC	Global Value Chain
IFI	International Financial Institutions
IMF	International Monetary Fund
INPP	Institut national de préparation professionnelle
INSS	Institut national de sécurité social
IPIS	International Peace Information Service
IPR	Impôts professionnels sur les rémunérations
LDC	Least-Developed Country

LIC	Low-Income Country
MGL	Société minière des Grands Lacs
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Cooperation and Development
OGP	Observatoire gouvernance et paix
PDG	Président-directeur général
SAKIMA	Société aurifère du Kivu-Maniema
SAP	Structural Adjustment Programme
SEDAR	System for Electronic Document Analysis and Retrieval
SGS	Société générale de surveillance
SOE	State-Owned Enterprises
SOMICO	Société minière du Congo
SOMINKI	Société minière et industrielle du Kivu
SSA	Social Structures of Accumulation
TNC	Transnational Corporation
TSE	Toronto Stock Exchange
UAE	United Arab Emirates
UCB	Université Catholique de Bukavu
UHLU	Union des habitants de Luchiga
UK	United Kingdom
UMHK	Union minière de Haut Katanga
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organisation
US	United States
USGS	United States Geological Survey
ZEA	Zone d'exploitation artisanale

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We must compare, not what is with what was, but what is with what would have been otherwise
– a tantalisingly inconclusive business.

Hans Singer, 1950

Abstract

Over the last few decades, a group of 20 gold-endowed, African low-income countries (GALICs) has undergone a process of gold sector (re)industrialisation, led by transnational corporations (TNCs). Theoretically, the process has been sustained by an ‘African Minerals Consensus’ uniting international financial institutions, international and African development agencies, African governments, Western advocacy organisations and various strands of the academic literature. The consensus is founded on the general premise that GALICs should leverage their comparative advantage in minerals to drive productivity growth through TNC-led mining (re)industrialisation, and that the resultant distribution of value from these productivity gains can raise living standards and stimulate the structural transformation of local and national African economies.

Based on fifteen months of fieldwork conducted in 2016 and 2017, and a return to and adaptation of some of the classic critiques of peripheral development either ignored or misrepresented by consensus proponents, this thesis empirically investigates the theoretical foundations of the African Minerals Consensus as they relate to the GALIC group. It does so through a detailed case study of gold sector (re)industrialisation in South Kivu Province of the Democratic Republic of the Congo (DRC), which seeks to understand how this process has influenced labour relations and the trajectory of local and national processes of capital accumulation and structural transformation associated with the sector.

The main empirical argument advanced by the thesis is that mining reindustrialisation was, in fact, already underway in South Kivu, independent of TNC tutelage. The locally-owned and led process of artisanal mechanisation driving this reindustrialisation had also been contributing to a number of the outcomes theorised by consensus proponents, including increasing productivity via capital formation and improved living standards via raised local wages. Furthermore, a high proportion of the end value of production was being retained and distributed domestically, overseen by an emerging proto-capitalist class that employs labour and invests in productive accumulation. Yet TNC entry into South Kivu has disrupted this process, replacing it with a foreign-managed, externally-oriented and enclaved mining economy that has reproduced (and in some cases accentuated) historically-rooted forms of peripheral marginalisation, polarisation and conflict.

Drawing from the findings, three interrelated critiques of the African Minerals Consensus are made. First, consensus wisdom of overlooking the potential of artisanal mining based on assumptions about its low productivity and inefficiency is challenged. Second, the heightened disarticulation of industrial mining operations from the local and national economy refutes the claim by consensus proponents that new mining industry practices render enclave concerns obsolete. Third, the consensus assumption that modern corporations will be more efficient and effective at leading mining industrialisation than the state-owned enterprises that preceded them, or existing artisanal alternatives, is questionable. Rather, structural impediments to mineral-led development occur irrespective of ownership and management structures. While remaining cognisant of these impediments, supporting locally-managed processes of artisanal gold sector mechanisation offers a less enclaved and more inclusive mining industrialisation strategy for GALIC governments to follow, than the currently dominant but disarticulated and disruptive TNC-led model.

The theoretical foundations upon which the African Minerals Consensus has been built are, then, rather fragile, while the conceptual lens of peripherality (and its associated lineage of scholarship) continues to hold relevance for exploring and understanding industrialisation processes – mining or otherwise – in the global South. Through this lens, it can be seen how TNC dominance in key industries might be less a means to overcome African peripherality, than an explanatory cause. This holds important implications, at a time of increasing TNC expansion and infiltration into societies and economies across the poorest regions of Africa.

INDUSTRIALISATIE VAN DE MIJNBOW IN DE AFRIKAANSE PERIFERIE: VERSTORING EN AFHANKELIJKHEID IN ZUID-KIVU, DEMOCRATISCHE REPUBLIEK CONGO

Samenvatting

De afgelopen decennia heeft er een proces van (her)industrialisatie van de goudsector plaatsgevonden in een groep van twintig Afrikaanse lage-inkomenslanden met grote goudvoorraden (GALIC's). Transnationale ondernemingen (TNC's) hebben hierbij de leiding. Als theoretische basis voor het proces fungeert een 'Afrikaanse Mineralenconsensus' waarin internationale financiële instellingen, internationale en Afrikaanse ontwikkelingsorganisaties, Afrikaanse regeringen, westerse belangengroepen en delen van de wetenschappelijke wereld verenigd zijn. De consensus is gebaseerd op het algemene uitgangspunt dat GALIC's hun relatieve voordeel op het gebied van mineralen moeten benutten om de productiviteitsgroei te stimuleren door middel van (her)industrialisatie van de mijnbouw onder leiding van TNC's. In deze optiek kan de waardeverdeling die ontstaat door deze toegenomen productiviteit leiden tot een hogere levensstandaard en een stimulans vormen voor de structurele transformatie van de lokale en nationale Afrikaanse economieën.

Dit proefschrift is gebaseerd op vijftien maanden veldwerk in 2016 en 2017 en grijpt terug op enkele klassieke kritische kanttekeningen bij perifere ontwikkeling die genegeerd of verkeerd voorgesteld worden door pleitbezorgers van consensus. Deze kanttekeningen zijn in aangepaste vorm gehanteerd in deze studie. Het proefschrift beschrijft een empirisch onderzoek naar de theoretische grondslagen van de Afrikaanse Mineralenconsensus met betrekking tot de GALIC's. Dit gebeurt aan de hand van een gedetailleerde casestudy over de (her)industrialisatie van de goudsector in de provincie Zuid-Kivu in de Democratische Republiek Congo (DRC). Het doel van deze casestudy is een beter inzicht te krijgen in de invloed van dit proces op de arbeidsverhoudingen en het traject van lokale en nationale kapitaalaccumulatie en structurele transformatie in de sector.

De belangrijkste empirische bevinding van het proefschrift is dat de herindustrialisatie van de mijnbouw in Zuid-Kivu feitelijk ook zonder bemoeienis van TNC's al bezig was. Het proces van ambachtelijke mechanisatie dat deze herindustrialisatie in gang zette was in lokale handen en stond onder leiding van de lokale overheid. Hiermee werden reeds een aantal resultaten bereikt die de pleitbezorgers van consensus voor ogen hadden, waaronder een verhoging van de productiviteit door middel van kapitaalvorming en een verbetering van de levensstandaard door middel van hogere lokale lonen. Bovendien werd een groot deel van de eindwaarde van de productie behouden en in eigen land verdeeld, onder toezicht van een opkomende protokapitalistische klasse die arbeidskrachten in dienst heeft en investeert in productieve accumulatie. Dit proces werd echter verstoord door de komst van TNC's die in Zuid-Kivu een door het buitenland geleide, extern georiënteerde en afgescheiden mijnbouwconomie hebben opgezet. Hierdoor staken historische vormen van perifere marginalisatie, polarisatie en strijd weer de kop op (en vergergerden in sommige gevallen).

Op basis van de bevindingen worden drie onderling samenhangende punten van kritiek op de Afrikaanse Mineralenconsensus geformuleerd. Ten eerste wordt de aanname van de lage productiviteit en inefficiëntie van de ambachtelijke mijnbouw ter discussie gesteld. Deze aanname

gaat voorbij aan het potentieel van de ambachtelijke mijnbouw. Ten tweede is het losmaken van industriële mijnbouwactiviteiten van de lokale en nationale economie in tegenspraak met de bewering van pleitbezorgers van consensus dat nieuwe praktijken in de mijnbouwindustrie de zorgen over het vormen van een enclave overbodig maken. Ten derde kunnen vraagtekens worden geplaatst bij de veronderstelling dat moderne bedrijven de industrialisatie van de mijnbouw op efficiëntere en effectievere wijze kunnen leiden dan de staatsbedrijven die dat voorheen deden of bestaande ambachtelijke alternatieven. Structurele belemmeringen voor ontwikkeling dankzij mineralen ontstaan eerder onafhankelijk van eigendoms- en managementstructuren. Zonder deze belemmeringen uit het oog te verliezen, kunnen GALIC-regeringen beter steun bieden aan een lokaal georganiseerde mechanisatie van de ambachtelijke goudsector. Dit is een minder afgescheiden en meer inclusieve strategie voor de ontwikkeling van mineralen dan het huidige dominante model van een door TNC's geleide industrialisatie.

De theoretische basis van de Afrikaanse Mineralenconsensus is dus tamelijk zwak. Tegelijkertijd blijft de conceptuele benadering van periferaliteit (en de daarmee samenhangende wetenschappelijke stroming) relevant voor onderzoek naar en inzicht in industrialiseringsprocessen in de mijnbouw, maar ook in andere sectoren in het zuidelijk deel van de wereld. Deze benadering maakt zichtbaar dat de dominantie van TNC's in belangrijke industrieën niet zozeer een middel is om de perifere positie van Afrika te verhelpen, maar er eerder de oorzaak van is. Dit heeft belangrijke implicaties nu er sprake is van toenemende expansie van TNC's en infiltratie in de samenlevingen en economieën in de armste regio's van Afrika.

1. Introduction: Mining Industrialisation in the African Periphery: Disruption and Dependency in South Kivu, DRC

Geologically, the Democratic Republic of the Congo (DRC) is perhaps most famed for its copper and cobalt deposits in the south-eastern Katanga region. Yet further north, towards South Kivu and up into the provinces of Ituri and Haut-Uélé, gold is the major mineral upon which many local economies depend. In South Kivu Province, since around the 1950s, and aided by the decline and eventual collapse of Belgian-led industrial mining in the 1990s, largely informal artisanal mining has grown to become the most important livelihood after agriculture. Since the 2000s, transnational mining corporations have begun to return to the region, leading to the displacement of artisanal mining economies at the local level.

These events in South Kivu are reflective of a broader regional process of foreign-controlled gold sector (re)industrialisation underway across a group of 20 gold-endowed, African low-income countries (GALICs). Theoretically, the process has been sustained by an ‘African Minerals Consensus’ uniting international financial institutions (IFIs), international and African development agencies, African governments, Western advocacy organisations and various strands of the academic literature. The purpose of this thesis is to empirically investigate the theoretical foundations underlying this consensus, through a detailed case study of gold sector (re)industrialisation led by the Canadian transnational corporation (TNC), Banro, in South Kivu. The thesis’ original contribution lies in advancing a multiscalar framework to examine processes of TNC-led late industrialisation (mining or otherwise) in the global South, that draws on the concept of peripherality – a concept either ignored or misrepresented by consensus proponents, along with its rich theoretical lineage – and that combines primarily qualitative studies of local-level labour relations and capital accumulation, with primarily quantitative studies of TNC insertion into national and international economies.

The main empirical argument is that mining reindustrialisation was, in fact, already underway in South Kivu, independent of TNC tutelage. Notably, the locally-owned and led process of artisanal mechanisation driving this reindustrialisation was contributing to a number of the outcomes theorised by consensus proponents, including increased productivity via capital formation and improved living standards via raised local wages. Furthermore, a high proportion of the end value of artisanal production was being retained and distributed domestically, overseen by an emerging proto-capitalist class that employs labour and invests in productive accumulation. Yet TNC entry into South Kivu has disrupted this process, replacing it with a foreign-managed, externally-oriented and enclaved mining economy that has reproduced (and in some cases accentuated) historically-rooted forms of peripheral marginalisation, polarisation and conflict.

The first section of this chapter opens by sketching the current process of gold sector (re)industrialisation in South Kivu and across the GALIC group (returned to more fully in chapters 2 and 3), and then identifies an ‘African Minerals Consensus’ that has provided theoretical support to this process. Based on a return to and adaptation of some of the classic critiques of peripheral development, several axes of tension missing from this consensus and taken up by the thesis for further exploration are highlighted in the second section. One derives from the classical structuralist proposition of the Argentine economist Raul Prebisch concerning processes of

polarisation and marginalisation unleashed by resource exploitation in peripheral economies. Another derives from an extension of this work by two schools of Latin American theories of dependency, through their focus on the deleterious effects of TNC-led processes of peripheral industrialisation. A third derives from the work of the Saint Lucian classical economist Arthur Lewis regarding the tendency for the productivity gains induced in the periphery to accrue in the industrialised centre. The third section follows and updates these lineages with a review of more recent scholarship, closing with a presentation of the research questions to be pursued. The fourth section provides an extended summary of the main thesis argument, and the fifth section discusses methodology. The chapter closes with a brief outline of the remainder of the thesis.

1.1 The African Minerals Consensus

Gold mining began in South Kivu in the early twentieth century during the time of King Leopold II of Belgium's Congo Free State (1885-1908), and it continued under Belgian tutelage until its eventual collapse in the 1990s, catalysed by the onset of the Congo Wars (1996-2002). Beginning at least as early as the 1950s, a parallel form of informal, artisanal gold production emerged, operating in the shadows of the formal economy and under close surveillance from the state and Belgian mining corporations, until the departure of the latter in the late 1990s. Following the withdrawal of Belgian industrial mining capital, the growth of artisanal and small-scale mining (ASM) continued largely unchecked. By the 2010s, around 200,000 people were labouring in South Kivu's ASM sector (Geenen and Radley 2014: 59), with 80 percent of the workforce estimated to be mining gold (Weyns et al. 2016: 4). A 2007 report by the Congolese research organisation Pole Institute (2007) estimated South Kivu's annual artisanal gold production at 4,800 kilograms, which in 2017 equated to a market value of around \$194 million.¹

In recent years, foreign mining corporations have begun their return. In 2011, Banro's Twangiza mine was the first industrial mine to enter the production phase in South Kivu since the turn of the century. TNC return has been facilitated by national policy prioritising mining (re)industrialisation through foreign direct investment (FDI), embodied in the DRC's generously liberal 2002 mining code, one of a raft of reforms – including a new investment code, forestry code and labour code – drafted with the International Monetary Fund (IMF) and the World Bank's close supervision as part of an overall effort to instil a neoliberal regime at the heart of the DRC post-war polity (Moshonas 2013: 138). In 2017, foreign-owned mineral research and exploitation permits covered around 16,000 square kilometres in South Kivu – nearly one-quarter of the total surface area of the province – while official artisanal exploitation permits covered just 250 square kilometres.²

As the 2010s draw to a close, this pursuit of FDI-led mining (re)industrialisation remains integral to the Congolese government's medium- and long-term economic planning. The DRC Ministry of Mines and the World Bank's (2017: 2) *Mining Sector Development Strategic Plan, 2017-2021* asserts 'the DRC is counted today among the global mining giants. Its mining sector is capable of realising

¹ World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed November 24th 2017. Use of the dollar sign refers to US dollars throughout, unless otherwise stated.

² South Kivu Provincial Ministry of Mines mining permit dataset, 2017.

the government's vision to make the DRC an emerging country by 2030 and a global power by 2060'.³ There has also been some scholarly optimism to support this vision. Assessing whether copper and cobalt industrialisation can drive growth and development in the DRC, Garrett and Lintzer (2010: 419) concluded with 'a cautious yes'. De Putter and Decrée (2013: 60-61) have argued that under the right conditions, notably the absence of corruption and the presence of 'good governance', an industrial mining sector can benefit 'all Congolese'.⁴ The recently defended doctoral thesis of Augustin Matata Ponyo (2017) – who served under President Kabila as the Minister of Finance (2010-2012) and the Prime Minister (2012-2016) – highlights the centrality of mining (re)industrialisation to the recent period of macro-economic recovery and stability.

Yet in South Kivu, popular perceptions of mining and its relationship to development often diverge from those held by scholars and government officials in the capital city of Kinshasa. The return of TNC-led industrial mining to South Kivu, and in particular Banro's appropriation and enclosure of some of the province's best gold deposits from local artisanal miners, has been a source of contention and contestation by affected local mining communities, documented by South Kivu-based Congolese civil society organisations and academics (cf. Kamundala 2012, Rugarabura and Batumike 2014, Maison des Mines du Kivu 2015), and the work of Sara Geenen and some of her colleagues (Geenen and Claessens 2013, Geenen 2014b, Geenen and Honke 2014). The conflict has arisen because, as a Congolese researcher at the Catholic University of Bukavu told me back in 2014, 'when we consider the importance of artisanal mining in South Kivu, we must first admit that it's thanks to this activity that the local economy holds together somehow'.⁵ His view reflected one I heard repeatedly as a foreigner living in the province, from teachers and traders to civil servants and Sunday churchgoers. While United Nations (UN) and popular advocacy reports have highlighted the conflict financing and human and labour rights abuses associated with ASM in South Kivu (a point taken up further in Chapters 4 and 9, cf. Global Witness 2009, UN Group of Experts on the DRC, 2005, 2012a, Free the Slaves 2011, Enough Project 2012), academic scholarship has drawn attention to the important contribution it makes to local livelihoods and economies (cf. Jackson 2002, Van Acker 2005, Geenen et al. 2013, Geenen 2014a, Kelly 2014). In this context, the potential benefits of a resurgent foreign-controlled industrial mining sector become more ambiguous.

As already noted, the dynamics surrounding TNC-led gold sector (re)industrialisation in South Kivu are representative of a broader process of regional change underway across a group of 20 GALICs (returned to at greater length in Chapter 2). Between 1980 and 2018, the World Bank lent more than \$500 million across 16 GALIC governments,⁶ instilling neoliberal mining codes across the country group (Campbell 2008). Since the 1990s, and converging with the most recent commodity super-cycle, this has facilitated significant growth in mineral-seeking FDI to GALIC economies, with most of this growth focused on the gold sector. Since the turn of the century,

³ Author translation.

⁴ Author translation.

⁵ Pre-doctoral interview with researcher as part of a documentary film project, Bukavu, June 6th 2014.

⁶ World Bank Project Database, www.worldbank.org/projects, accessed January 3rd 2018. This figure does not include loans provided for energy and infrastructure projects, which are often directly related to mineral sector development.

greatly increased gold exploration and production has been recorded across the country group, accompanied by state-led processes of artisanal displacement.

Foreign-controlled gold sector (re)industrialisation has been sustained, both in the DRC and at the regional level, by an ‘African Minerals Consensus’ (AMC). Theoretically, the consensus is founded on the premise that GALICs should leverage their comparative advantage in minerals to drive productivity growth through TNC-led mining (re)industrialisation, and the resultant distribution of value from these productivity gains can raise living standards and stimulate the structural transformation of local and national African economies. The World Bank (1993, 2004, 2009, 2010, 2015) has most clearly and consistently articulated this perspective. As discussed in more detail in Chapter 2, the Bank interpreted the failures of African state developmentalism in the 1960s and 1970s as due to excessive state intervention in the economy and government corruption, advocating neoliberal mining sector reform to correct for state inefficiencies. For the Bank (2010: 21), state-owned enterprises (SOEs) had proven too unproductive and inefficient to drive transformative mineral-led development, but if led by TNC expertise and efficiency, the sector:

...can have a strong impact on long-run sustainable development of a country by: (i) using the fiscal revenues generated by the natural capital to produce other forms of capital, or by (ii) being a leading sector or engine of growth through the spin-off firms and industries it creates and the opportunities opened up by non-dedicated infrastructure and other externalities.

To achieve this, and reminiscent of Rostow’s (1960) five stages of modernisation,⁷ the Bank (Ibid.: 18) envisages a privatised and liberalised industrial mining sector evolving across five stages of an ‘extractive industries value chain’, culminating in the implementation of ‘sustainable development policies and projects’ as part of a broader ‘poverty reduction strategy’.

International and African development agencies share a similar framework of understanding. In the opening of his foreword to the 2012 report *Promoting Industrial Diversification in Resource Intensive Economies: The Experiences of Sub-Saharan Africa and Central Asia Regions*, the Director-General of the UN Industrial Development Organisation (UNIDO) observed:

The ongoing boom in commodity prices offers numerous opportunities for resource-rich low- and middle-income countries in sub-Saharan Africa and Central Asia. For one, commodity producers – both governments and firms – have gained access to growing financial surpluses which, in turn, provide funds for investment in industrial diversification to complement the resources sector. Both the direct and indirect income generated by the commodities sector furthermore has the potential to spur industrial development through the establishment of a domestic market and the generation of new export opportunities which facilitate employment creation and economic growth.

For the African Development Bank (ADB) (2013: 112-113), in its flagship 2013 African Economic Outlook report, *Structural Transformation and Natural Resources*:

Structural transformation entails the rise of new, more productive activities and the movement of resources and labour from traditional activities to these newer ones, raising overall productivity.... To

⁷ In which societies pass from their traditional state through take-off to the age of high mass-consumption.

get there, Africa must work on its strengths. The continent has a strong comparative advantage in natural resources, either in the form of energy, minerals or agriculture. These can be the drivers of structural transformation through linkages, employment, revenue and foreign investment.

Industrial mining employment is viewed as a strong potential driver of structural transformation because, it is argued:

...on average, [foreign] mining companies pay significantly more than typical local wages, and this differential increases in less developed economies. For example, in lower-middle income gold producing countries such as Côte d'Ivoire or Mongolia, the lowest paid mine worker will on average earn 3.5 times more than the typical local wage, and may earn almost seven times more. This is an important trend because in low income countries, each wage-earning worker usually supports a higher number of dependants than in higher income countries (World Gold Council 2011: 21, cf. International Council on Mining and Metals 2016: 42).

By driving higher wages, then, TNC-led mining (re)industrialisation can in turn improve living standards and stimulate expanded economic growth and structural change through increased consumption and investment locally.

In the realm of government, the Africa Mining Vision, adopted by African Heads of State at the 2009 African Union (AU) summit, envisages that 'a resource-based African industrialisation and development strategy, based on using Africa's significant resources endowment (comparative advantage) to catalyse growth in other sectors, could provide a viable component of an integrated and sustainable growth and development strategy for Africa' (AU 2009: 5). While the vision seeks to move Africa away from its dependence on resource exploitation, primarily by developing stronger linkages between the mining sector and other sectors of the economy, it is nonetheless unquestioning of the central role of IFIs and TNCs within this process (Bush 2010: 260-263).

In this, the Africa Mining Vision shares common ground with various strands of the academic literature. Mainstream economic and social science scholarship argues that if properly managed, TNC-controlled mineral extraction can drive sustainable development (cf. Addison and Roe 2018 for references to this literature, and Botin 2009 and Richards 2009 for earlier incarnations). Similarly, a group of heterodox and political economists argue that mineral-seeking FDI can drive industrialisation and economic diversification in African low-income countries (LICs). Part of a broader Global Value Chain (GVC) research agenda, these scholars take 'as their point of departure the flaws of the literature on the enclave nature of extractive industries in Africa' (Ayelazuno 2014: 294). Looking at the gold sector in Ghana, for example, Bloch and Owusu (2012: 435) contend: 'The [gold] industry has been seen as an economic enclave, disconnected and delinked from the rest of the national economy. In contrast, we argue that the restructuring of the industry in the era of economic liberalisation and particularly developments over the last decade now invalidate the enclave position. Gold mining is no longer an enclave activity'.

Two of the most influential policy papers from the GVC literature in the African context are from Kaplinsky et al. (2011) and Morris et al. (2012). Considering the African commodities sector, with a particular focus on African LICs, Kaplinsky et al. (2011: 15) argue:

The global mining industry has...undergone a radical restructuring of its historically dominant production model. Mines have moved away from a high level of vertical integration towards outsourcing almost every stage in the mining process to independent firms. This incorporates not only the provision of equipment and capital goods, as well as inputs such as chemicals, but also key knowledge services.

They conclude from this that 'there is a renewed opportunity open to commodity exporting low-income economies which arises from a continuing, and probably prolonged commodity boom, and the development of corporate strategies designed to maximise the outsourcing of non-core activities' (Ibid.: 26), and that as a result 'the enclave mentality to diversification in low-income [African] economies is an anachronism' (Ibid.: 29). For Morris et al. (2012: 414), who also focus on African LICs, 'if these strategic opportunities are grasped, the potential then arises for linkages from the commodities sector to provide a considerable impetus to industrialisation'. Yet while their papers are ostensibly focused on African LICs, both Kaplinsky et al. (2011) and Morris et al. (2012) support their arguments by citing commodities sector case studies from middle- and high-income African countries, such as South Africa (Walker and Jourdan 2003), Nigeria (Oyejide and Adewuyi 2011), Sudan (Suliman and Badawi 2010) and Zambia (Fessehaie 2011).

Lastly, since the turn of the century, Western advocacy organisations and academic scholarship have drawn attention to the relationship between ASM and conflict in Africa. This literature took theoretical inspiration from the influential work of Collier and Hoeffler (2002), who argued that global markets in natural resources made conflict easier to finance and profit from, and contemporary conflict in LICs was motivated more by potential profits than social or political grievance. The first wave of academic literature focused on artisanal diamond mining in West Africa, or 'blood diamonds', and was mostly based around economic modelling (including econometrics) (cf. Lujala et al. 2005, Rodgers 2006, Olsson 2007). This was followed by a second wave on 'conflict minerals', focused on ASM in Central Africa, with particular attention on the DRC but also neighbouring Burundi, Rwanda and Uganda (cf. Garrett and Mitchell 2009, Global Witness 2009, Free the Slaves 2011, Enough Project 2012, Rustad et al. 2016).

One of the arguments made by the literature is that TNC-led supply chain management can exclude armed groups from a share in the value generated by productive activity, helping reduce levels of conflict financing from mineral production. As the United States (US) advocacy organisation, the Enough Project (2015: 3), has argued, by efficiently managing their supply chains, 'industrial mining companies can help limit revenues for armed actors operating in the informal market'. Similarly, the economist Ola Olsson (2006) argued that Botswana and Namibia achieved better development outcomes from their diamond sector than Angola, the DRC and Sierra Leone due to the presence of the industrial diamond transnational De Beers in the former group compared to the presence of ASM (and the absence of De Beers) in the latter group. In this sense, this literature adjoins itself to the various other strands discussed above in bolstering belief in the development potential of TNC-led industrial mining in the African periphery.

1.2 Classic Critiques of Peripheral Development

In establishing this consensus position around mining (re)industrialisation in Africa, proponents have tended to misrepresent or disregard some of the classic critiques mounted by pioneering

groups of early development economists concerning the specific challenges and constraints faced by income-poor peripheral countries seeking development through deeper integration with the global capitalist economy. While this has enabled proponents to claim the validity of their own theoretical positions, the insights generated by these earlier lineages have been lost. Consequently, as will be shown, the simplistic representation (or absence) of this rich body of work has led consensus proponents to misinterpret the contemporary relevance of historical processes of mining industrialisation and overlook a number of tensions and contradictions surrounding industrial mining in African LICs today. Returning to these earlier lines of scholarship provides helpful lenses with which to explore, with some adaptations, several fundamental axes of tension within the process of peripheral TNC-led mining (re)industrialisation.

The first tension derives from the silent abandonment of the central concept of peripherality itself, developed by a group of structuralist economists in the 1940s and 1950s, most notably by Raul Prebisch (1950) and his colleagues at the United Nations Economic Commission for Latin America (CEPAL). As Fischer (2015: 701) notes, peripherality ‘is an assessment of structural modes of integration into the world economy via the dissemination of technological and industrial development, and associated factors such as finance and ownership. Within these specific dimensions – which are vital to wealth and power in the global economy – centres generally emit and peripheries generally receive’. The centre-periphery framework arising out of Prebisch’s seminal 1950 formulation drew attention to the structural constraints faced by countries in the periphery that were distinct from but linked to those faced in the industrialised centre, and that risked undermining peripheral development. This framework of understanding was essential to the work of early structuralist economists and the potency of their insights.

By abandoning this framework, consensus proponents pave the way to point to supposed historical examples of resource-based industrialisation and economic development as refuting the basis of these early structuralist insights. To return to the two most influential papers from the GVC literature, referring to the critiques of resource-based development raised by Prebisch and other development economists of the time, Kaplinsky et al. (2011: 7) argue: ‘A number of factors are forcing a rethink of this inherited wisdom on the relationship between commodities production and industrialisation. One is that there is an increasing awareness that the historical relationship between manufacturing and the resource sector is more complex than has been portrayed in much of the literature’. (Ibid.: 7). Morris et al. (2012: 409) follow the same logic, noting this time Singer’s (1950) critique that the benefits of resource extraction largely accrue to high-income countries, but arguing ‘this inherited wisdom is problematic...there is evidence of synergistic links between manufacturing and the resource sector in a number of industrialised [countries]’. In support of this, the papers cite examples from Canada, the US, Australia, Norway and Sweden, where commodity production supposedly stimulated structural economic change through the development of domestic manufacturing and industry.

For the Africa Mining Vision:

A resource-based African industrialisation and development strategy must be rooted in the utilisation of Africa’s significant resource assets to catalyse diversified industrial development, as was successfully

implemented by several erstwhile resource-based economies in the developed world such as in Finland, Sweden, Germany (especially in the Ruhr region), and the US over a century ago (AU 2009: 3).

In their 2011 Economic Report on Africa, *Minerals and Africa's Development*, the United Nations Economic Commission for Africa (UNECA) and the AU (2011: 101-102) note that recent enthusiasm for African mining industrialisation:

...has been partly shaped by the experiences of resource-rich countries such as Canada, Finland, Norway, Sweden, the United States, and, to some extent, Australia, whose economies have evolved from a basis of primary extraction to ones characterised by highly skilled and knowledge-intensive manufactured exports. In these countries, industrial development was based on continued exploitation of resources and increasing domestic value added...mining sites became centres of growth not enclaves, an agglomeration of not only increased workforce productivity, but also raised incomes among the local population and economic growth more widely. Of greater significance, it promoted a shift to a more dynamic and sustainable growth trajectory as secondary and tertiary industries, fostered early on in the evolutionary process, continued long after the minerals had been depleted.

In its 2014 report *Growth with Depth*, the African Centre for Economic Transformation (2014: 65) notes: 'The prospects of sub-Saharan countries are brighter for manufacturing exports based on processing agricultural and extractive resources (oil, gas, and minerals), which they have in relative abundance. Many development successes have begun by working and transforming local natural resources'. The accompanying footnote records the examples of Britain in iron and coal and Belgium, France, Germany, and the US as leading producers of several minerals (Ibid.: 72).

Yet citing historical examples of resource-driven economic development in today's industrialised countries as evidence to invalidate early structuralist thinking misses the key insight of this line of thinking. As Prebisch (1950: 7) commented in a footnote to his CEPAL paper, 'one of the most conspicuous deficiencies of general economic theory, from the point of view of the periphery, is its false sense of universality'. Neither Prebisch nor Singer denied that resource exploitation might have been a contributing factor to the industrialisation and diversification of European and North American economies. This was neither the focus nor interest of their critique. Indeed, it was rather their starting point. Precisely because of the successful industrialisation of these economies, early structuralism was concerned with the specificity of twentieth century resource exploitation in non-industrialised Latin America, which Prebisch and his contemporaries contended led to a polarising spread of productivity in these countries, in contrast to the homogenised growth experience of the industrial centres, where productivity spread more evenly and widely throughout domestic economies.

According to Prebisch (1950), this was because peripheral resource extraction was dependent upon capital and technology emanating from and developed in the centre, which once received by the periphery created externally-oriented production structures disarticulated from domestic economies (unlike the more strongly articulated economies of early industrialising countries as, somewhat ironically, evidenced by the earlier examples) and prone to productivity and wage polarisation and higher income inequality than in the centres, exerting downwards pressure on domestic demand. As a result, peripheral capitalist economies were prone to experiencing declining

terms of trade, macroeconomic instability and the marginalisation of local populations (Fischer 2015: 705).

The work begun by the early CEPAL structuralists was continued and expanded by a new generation of Latin American economists who developed a line of critique centred around the idea that the outcomes of peripheral development were dependent upon (but not determined by) development in the industrialised centre. This lineage is more or less completely ignored by consensus proponents or, on the rare occasion it is invoked, summarily dismissed. From the GVC literature, for example, Bridge (2008: 392) cites Gunton (2003: 71) in summarising ‘the pessimism of the dependency tradition that staples have a pathological disorder that leads inevitably to crisis’. Yet such an understanding of dependency theory is based on a narrow interpretation of this lineage, represented primarily by the work of the German-American economist Andre Gunder Frank (1966). By virtue of being written in English and published in American academic journals, Frank’s work became the dominant representation of dependency theory, continued by scholars at the Centre of Social Studies at the University of Chile (CESO). Yet this school provided a static and economic determinist framework for understanding dependency and global capitalist development (Cardoso 1977, Palma 1978: 898), arguing there was no way out of dependency and underdevelopment within the global capitalist system.

The success of industrialising East Asian economies by the end of the twentieth century made this position easy to discredit. The following commentary challenging the continued relevance of dependency theory in the twenty-first century, from one of the most seminal scholars working on the East Asian ‘miracle’ in the 1980s and 1990s, Alice Amsden (2003: 37), is illustrative:

...dependency theorists have tended to dismiss the possibility that the Third World state may act as an agent of growth.... they ignore Southern structures of power. Whatever happens in the South thus becomes a function of ‘the world system’. But clearly some developing countries, due to their size, manufacturing know-how, and human capabilities, have been able to beat the system.

This line of objection – along with the rise of neoliberalism – led to dependency theory falling out of favour from the 1980s onwards and explains the short shrift it is given by AMC proponents today. Yet, and again somewhat ironically, the shortcomings identified in the Frank and CESO school of dependency analysis are precisely the strengths of two alternative Latin American schools identified by Palma (1978: 898). The first school, found principally in the work of Furtado, evolved out of the CEPAL lineage as a critical response to and expansion of the earlier work of Prebisch and others, and focused on highlighting the obstacles to national development in the periphery. The second, of which Cardoso was the main proponent, evolved from a more Marxist position and with a greater emphasis on studying the historical specificity of concrete situations (Ibid.: 898-899).

Contrary to the Frank and CESO school, these two lineages prioritised a dynamic, dialectical understanding of development as an unknown outcome of alliances, class relations and social struggle that gave analytical primacy to dependency’s internal dynamics and the open-ended nature of capitalist development, in their search for the possible limits to and contradictions within the process that may open up alternative possibilities (Cardoso 1977; Cardoso and Faletto 1979;

Furtado 1983). Crucially, and following in the earlier footsteps of Prebisch, Furtado (1983: 44-45) conceptualised a structural break between the central capitalist nation-states and the peripheral nation-states, attributed to the indirect form of access to industrial civilisation in the periphery, experienced through imports and consumption rather than production and local processes of technological innovation and development. This indirect access created the basis for dependency by structurally linking a marginal industrial sector in the periphery to more advanced and constantly expanding economies in the centre (Ibid.: 48).

For Furtado (Ibid.: 5), the controlling superstructure driving this centre-periphery system in the second half of the twentieth century revolved around the two central axes of TNCs and nation-states. The evolution of this historical process, he argued, means ‘for almost all the peripheral countries there is no longer any chance of escaping from the gravitational pull of industrial civilisation; consequently, it is in this framework that the struggle against dependence will take place’ (Ibid.). The foundation for this struggle is seen as the possibility in the periphery to retain part of the value generated by productive activity locally, thus providing the basis for capital accumulation and the emergence of a domestic market large enough to provide sufficient demand for industries and eventually more autonomous paths of development (Ibid.: 66).

While this scholarship was primarily focused on the Latin American experience, a similar line of African scholarship emerged around the same time, in which the Egyptian economist Samir Amin offered a strikingly similar historical analysis of the African experience. In his seminal article ‘Underdevelopment and Dependence in Black Africa: Origins and Contemporary Forms’, Amin (1972) contended that dependency was established in Africa primarily through colonisation, which from the 1880s onwards signalled the continent’s structural linking with and subjugation to the emerging capitalist European powers of the time.⁸ This provided the foundation for a similar body of research to that coming out of Latin America, which likewise gave analytical primacy to the potential of class formation and struggle to overcome the constraints of dependency and generate more autonomous development pathways (Bush and Harrison 2014: 1).

Working within these traditions, the scholarship of Sunkel and Vaitsos leads us to a second axis of tension within the process of peripheral TNC-led mining (re)industrialisation. Sunkel (1972a, 1973) and Vaitsos (1973) were among the first to highlight the contradictions and tensions of a model of Latin American development delivering high growth rates but predicated on the dominance of FDI in key industries. Their critique centred on the effects of TNC structures of ownership and control, which entailed a massive penetration of foreign subsidiaries into Latin American economies. This allowed TNCs to exert control over value flows and induced dramatic socio-political consequences – including (à la Prebisch) widening inequality – by instigating fundamental changes in the ownership patterns, social structures and political systems associated with production (Sunkel 1972a: 527). These changes included the interruption of the formation of a national class of industrial entrepreneurs (Sunkel 1972a), as well the creation of a managerial class in the service of TNCs, privileged and underprivileged sectors of the working class, and classes of absolutely marginalised (Sunkel 1973). In these ways, the heavy presence of FDI in key sectors of

⁸ Other prominent scholars writing in this tradition included the Guyanese historian Walter Rodney (1972) and the Ugandan economist Claude Ake (1981).

the economy might represent a deepening of, rather than a departure from, the condition of dependency.

The Saint Lucian classical economist Arthur Lewis' open economy model of economic growth with unlimited supplies of labour provides a third and final axis of tension for further exploration. Taking the sugar industry as an example, Lewis (1954: 183) observed that despite the industry's high productivity compared to the wheat industry, 'workers in the sugar industry continue to walk barefooted and to live in shacks, while workers in wheat enjoy among the highest living standards in the world'. Pursuing the question of why this was the case and, more broadly, why tropical commercial crops were so cheap despite their high productivity:

He argued that because wages are set in what he called 'subsistence sectors' rather than in capitalist export sectors, the benefits of increasing productivity in the latter accrue chiefly to the (Northern) importers of these exports by way of lower prices. Hence, he contended that 'the prices of tropical commercial crops will always permit only subsistence wages until, for a change, capital and knowledge are put at the disposal of the subsistence producers to increase the productivity of tropical food production for home consumption' (Fischer 2011: 521).

Transposed to GALIC economies today, Lewis' model suggests industrial miner wages are likely to be set in the subsistence sectors of the informal economy, not according to the productivity of the mineral export sector. Under these conditions, unless the productivity of subsistence producers or the overall availability of employment are simultaneously increased, general living standards will not improve. By questioning if and how the value created by productivity is captured in peripheral settings, and to what extent workers in the periphery benefit from productivity gains via increased wages, Lewis' theorisation complicates the consensus assumption that – to paraphrase from the UNECA and AU report cited above – mining (re)industrialisation can raise wages among the local population, driving broader processes of consumption-led economic growth and structural change.

In this sense, Lewis' critique is focused on the same distributional concerns as the critiques mounted by Latin American structuralists and dependency theorists. At their core, these critiques are preoccupied with four central issues: how and by whom productivity is created in the periphery; how the value generated by this productivity is distributed between and within different groups; what use these different groups make of the value accruing to them, and; the resultant effects of these processes on social relations and structural transformation in the periphery, with a particular focus on TNC strategies of ownership and control.

1.3 Towards a Contemporary Study of Congolese Peripherality

More recent developments in the global economy suggest the analytical framework advanced by the classic critiques of peripheral development remains as relevant in the 2010s as it was when first developed during the mid- and late twentieth century.⁹ The productivity gap between the

⁹ Indeed, in an introduction to a *Review of African Political Economy* special issue on African development several years ago, Bush and Harrison (2014: 1-3) advocated for a return to the analytical advantages of a 1970s political economy 'heavily influenced by Latin American theories of dependence'.

Organisation for Economic Cooperation and Development (OECD) countries and LICs in 2010 was more than five times greater than the gap in the nineteenth century between the Netherlands and the United Kingdom and the first round of late-industrialisers, such as Finland and Japan (UNCTAD 2010: 174). Further, the recent success of East Asian economies has shrunk the industrialisation space for African LICs, while more liberal trade rules and deregulated capital markets have limited the room for industrial and trade policies (Storm 2015). Contemporary structuralists have also drawn attention to the continued monopoly of technology and capital flows in industrialised countries and the resultant technological and industrial lagging and subordination of the periphery in the global South (cf. Ocampo et al. 2009, Ocampo 2012, Montes 2014, Akyüz 2012, 2015). Highlighting the challenge of overcoming modern African peripherality, only three of the original 36 African least-developed countries (LDCs) have graduated from their status since the list's inception in 1971: Botswana (in 1994), Cape Verde (in 2007) and Equatorial Guinea (in 2017).¹⁰

In addition, neoliberalism has facilitated the continued expansion of FDI and TNC activity to levels far beyond those of the 1970s. The value of global FDI stock has risen from 7.8 percent of global Gross Domestic Product (GDP) in 1967 to 11.5 percent in 1980, 17.3 percent in 1990 and 46.6 percent in 2005 (Dunning and Lundan 2008: 35). By 2014, the value of global FDI stock had risen again to 67.2 percent of global GDP (UNCTAD 2015: 18), representing a total rise of nearly 60 percentage points in less than 50 years. In 1969, there were around 7,000 TNCs globally, but by 2012 the total number was estimated to have risen to more than 100,000 (Ietto-Gillies 2013: 3). In 2013, 40 percent of total world trade was estimated to be intra-firm trade taking place within the affiliates of TNCs (Pirie 2013: 157), with TNCs themselves responsible for over three-quarters of world trade (Ietto-Gillies 2013: 10).

Significantly, these trends have been associated with a spatial reconfiguration of the destination of FDI and the location of TNC activity, with the average annual share of inward global FDI flows to non-OECD countries rising from around 16 percent during the 1970s and 1980s to 45 percent in 2010 (Farole and Winkler 2014: 9). In 2012, and for the first time, the primary destination of FDI inflows became developing economies (Margeirsson 2015: 2). In 2014, while global FDI flows dropped by 16 percent, flows to developing economies increased by two percent to reach their highest level of \$681 billion, representing 55 percent of the total \$1.23 trillion in global FDI flows for the same year (UNCTAD 2015: ix). Low-income countries have been and look set to be a fertile area for continued growth in FDI and TNC activity. From 2004 to 2014, FDI stock in LDCs tripled, and the United Nations Conference on Trade and Development (UNCTAD) forecasts the possibility of a further quadrupling of this stock by 2030 (UNCTAD 2015: x).

The contemporary relevance of earlier critiques of peripherality is further supported by the empirical findings of recent scholarship concerned with the economic and social effects of FDI-led development in the DRC and across Africa. Several studies have found Africa to be a net exporter of capital, noting the particular pervasiveness of transfer pricing (whereby prices of intra-firm trade are manipulated by TNCs to syphon value to low-tax or no-tax jurisdictions) in the African extractive sector (cf. UNCTAD 2005, 2010, Ndikumana and Boyce 2011, Boyce and

¹⁰ This will increase to four, if Angola graduates as planned in 2021.

Ndikumana 2014, Ndikumana 2014, Sylla 2015). Aggregate and case studies have found resource-seeking FDI to Africa to contribute little domestic value-added (cf. UNCTAD 2005, Larsen et al. 2009, Morrissey 2011, Herzer 2012, Knierzinger 2014) and to ‘crowd out’ domestic firms and capital (Rugraff et al. 2009: 36-37). Montes (2014: 3), Taylor (2015: 4) and Sylla (2015: 7-8) argue that trade liberalisation in African LICs has resulted in greater export concentration and has not advanced processes of broader, non-extractive industrialisation. In the context of a global mining industry that ‘is openly anti-union and lobbies governments incessantly for less regulation and more ‘flexibility’ around labour’ (Marshall 2015: 5), Ndikumana and Boyce (2011) found capital flight from the subcontinent to have increased inequality, benefiting a narrow class of economic and political elites. A review by the International Labour Organisation (2017) of employment trends in extractive-dependent African countries found natural resource wealth to have had no discernible effect on unemployment or poverty reduction.

In the DRC, between 2005 and 2010, an estimated seven billion dollars was directed (legally and illegally) out of the country, including a record three billion dollars in 2007 alone (Trapido 2015: 35). Using IMF data, Marysse (2015) shows that repatriated profits began to exceed fresh entries of FDI to the DRC in 2013, projected to represent a total net loss of \$17 billion through to 2019. The use of creative accounting practices, including transfer pricing, appears to be contributing to these outflows. A 2014 study of Swiss-headquartered mining TNC Glencore found its subsidiary in the DRC Kamoto Copper Company (KCC) had run at losses of hundreds of millions of dollars per year from 2009 to 2013, while its Canadian-registered subsidiary Katanga Mining Limited ran at a net profit of \$401 million over the same period (Peyer et al. 2014). Marysse and Tshimanga (2014: 149) found US-headquartered mining TNC Freeport McMoran to artificially reduce its profits made in the DRC through transactions between itself and its subsidiaries. Five TNC subsidiary case studies conducted by Congolese civil society organisations between 2015 and 2017 revealed that ‘profit tax payments to the Congolese state are minimised by mining companies, and thus...this very important flow often remains hypothetical, or even almost zero’ (The Carter Center 2017: 4). Some evidence from gold mining in the north-east has suggested mining TNCs operating in the DRC retain knowledge- and material-intensive operations while only outsourcing labour-intensive and low profit margin activities (Schouten 2011: 12). Kuediasala (2012) has argued that the benefits of mining reindustrialisation in the DRC have been captured by a small political circle around President Kabila, without whose agreement nothing can be undertaken in the mining sector and whose interests have little in common with the collective interest of the Congolese people.

This scholarship is suggestive that African mining (re)industrialisation under TNC tutelage might be – far from the expectations of AMC proponents – reproducing similar processes of polarisation and marginalisation identified by earlier critiques of peripheral development. Together with the recent developments in the global economy noted above, this body of work invites a return to and re-examination of these critiques, and the possible tensions and contradictions they identified surrounding processes of TNC-led industrialisation in the periphery. Yet before applying the framework mounted by these earlier critiques to a case study of gold sector reindustrialisation in South Kivu, three adaptations are required.

The first derives from reviewing the literatures that have charted and analysed the evolution of TNC strategy and behaviour since the rise of neoliberalism and the demise of dependency theory from around the 1980s onwards. Global Commodity Chain (GCC) analysis emerged in the latter part of the 1980s as a new lens through which to critically analyse global capitalism, pioneered by the early work of Hopkins and Wallerstein (1986) and later Gereffi (1994). Influenced by world-systems analysis, of which Wallerstein himself was an originator, they defined commodity chains as ‘a network of labour and production processes whose end result is a finished commodity’ (Hopkins and Wallerstein 1986: 159). In their introduction to *Commodity Chains and Global Capitalism*, Gereffi et al. (1994: 2) expand on this definition:

Specific processes or segments within a commodity chain can be represented as boxes or nodes, linked together in networks. Each successive node within a commodity chain involves the acquisition and/or organisation of inputs (e.g. raw materials or semi-finished products), labour power (and its provisioning), transportation, distribution (via markets or transfers) and consumption. The analysis of a commodity chain shows how production, distribution and consumption are shaped by the social relations (including organisations) that characterise the sequential stages.

Within this framework, Gereffi (1994: 97) distinguished producer-driven chains – such as those characterised by the mining industry – by ‘the control exercised by the administrative headquarters of the TNCs’ over chain processes of production, distribution and consumption. In the 2000s, GCC analysis was superseded by GVC and (to a lesser degree) Global Production Network (GPN) analysis. GVC analysis was promoted most prominently by the ‘Manchester School’ of political economists (cf. Kaplinsky and Readman 2001, Kaplinsky and Morris 2002, Kaplinsky et al. 2011, Gereffi and Joonkoo 2012, Morris et al. 2012, Gereffi 2014). GPN analysis emerged in economic geography, and initially distinguished itself from the GVC literature through its claims to consider non-firm actors, including labour and states, and to be grounded in a more historically-informed and dynamic understanding of how GPNs are constituted and the interactions that take place within them (Coe 2012).

Yet by limiting analysis to a focus on the institutional and regulatory contexts in which domestic firms in low- and middle-income countries can ‘upgrade’ within global commodity chains to higher value-added activities, the GVC Manchester School marked a conceptual shift away from the literature’s ‘foundational roots in critical analyses of global capitalism’ (Neilson 2014: 38). As noted in the above review of the influential work of Kaplinsky et al. (2011) and Morris et al. (2012), this shift hampered the literature’s ability to identify tensions and contradictions inherent to TNC-led processes of peripheral development and industrialisation.

Despite these limitations, conceptualising TNCs as ‘lead firms’, the GVC-GPN literature asserts ‘the ability of lead firms to coordinate the value-added activities of a multitude of economic actors’ (Neilson et al. 2014: 1). Or, as Lee et al. (2011: 2) put it, ‘value capture is critically determined by who leads GVCs’. This view is echoed in recent critical scholarship on TNC strategic behaviour, which argues ‘we must acknowledge that firms often exercise control over much wider business networks...in which substantial parts of the network or chain are not owned, but are effectively controlled or orchestrated by the flagship firm’ (Cantwell 2013: 3, cf. also Pirie 2013: 158). For Letto-Gillies (2013: 14), this strategic control includes the manipulation of advantages held by

TNCs ‘towards other players in the economic system from labour to governments to suppliers’. Any advantages held by TNCs over other actors will result in higher profits leading to advantages over rivals, and will thus be leveraged as much as possible (Ibid.).

Similar to the central concerns of the classic critiques of peripheral development discussed in the previous section, these literatures are primarily preoccupied with understanding how value is created, captured, distributed and reinvested, and with what consequences for labour and advancing industrialisation and development. GVC-GPN theories and critical TNC theories, then, provide more recent theoretical foundations for an analytical focus on these issues, as well as on Banro’s strategic behaviour and interactions with Congolese labour and firms and the Congolese state.

Related to these literatures is the scholarship on financialisation, which argues that the increasing dominance since around the 1970s of the sphere of circulation over the sphere of production has created new processes of surplus extraction from the periphery to the capitalist financial centres (Newman 2012). In a review of this scholarly body of work, Fine (2008) notes the tendency of financialisation to reduce overall levels of accumulation of real capital and to prioritise shareholder value over other values. While contributing to the further redirecting of monetary value from productive centres in the periphery to predominantly Northern centres of non-productive financial capital, financialisation might also exert downwards pressure on TNC profits, alleviated in turn by squeezing the value accruing to domestic governments, firms and labour further down the chain.

This tension is the corollary of the global mining industry restructuring away from vertical integration observed by scholars of African commodity GVCs, but absent in their analyses; while providing opportunities for productive and service sectors in the periphery at the lower levels of the chain, it also directs value at the upper levels into non-productive, financial activities located primarily in financial capitalist centres. In the 2010s, gold has become as easy to trade as any stock or share (Shafiee and Topal 2010), and ‘in the context of the growing financialization of commodity markets, commodity futures and particularly energy products and precious metals have become attractive for portfolio diversification and hedging’ (Sensoy et al. 2015: 159). These developments lead to the second adaptation, as analytical attention is merited not only on Banro’s industrial structure, but also on how its financial structure influences the flow of value within its global chain, and with what effects on Congolese actors and social groups.

The third and final adaptation derives from the specificity of FDI dominance in GALIC gold sectors today. As touched upon earlier, FDI to GALIC gold sectors has facilitated TNC entry into and displacement of pre-existing artisanal gold economies. Arthur Lewis (1954: 184) theorised the potential of these artisanal mineral economies in his open economy model of economic growth. He made the proviso to this model that wage stagnation in the tropical commercial crops export sector, on which the model was based:

... does not apply where natural resources of a particular kind are scarce. For example, the lands suitable for cultivating sugar or peanuts are very extensive. But mineral bearing lands, or lands with just the right suitability for cocoa, are relatively scarce. Hence the price of a mineral, or of cocoa, may rise to any level consistent with demand. If the lands are owned by capitalists, employing workers, this will make little

difference to their wages. But if these scarce lands are owned by peasants, the peasants may of course become rich. In general, the peasants have got little out of their mineral bearing lands, especially when these have been expropriated by imperial governments (or declared to be Crown property) and sold to foreign capitalists for a song.

The contention is that while labour will not necessarily benefit from the productivity growth induced by mining (re)industrialisation, if scarce mineral-bearing land is owned by the peasantry, the dynamic might change. Supportive of Lewis' theorisation, a current strand of social science literature focused on GALIC artisanal gold mining hints this alternative form of production might provide a more appropriate model for advancing development in the periphery than TNC-led industrial mining. In so doing, it identifies a further axis of tension around TNC-led mining (re)industrialisation generally absent from the framework of consensus proponents; namely, from whom is value being diverted by this process, and with what consequences?

The ASM literature has drawn attention to how GALIC artisanal gold mining can boost labour absorption, promote social differentiation, and contribute to the expansion of domestic demand as earnings from the sector are consumed and reinvested locally. In Liberia, Mali and Sierra Leone, research has documented how artisanal gold miners have helped revive local agricultural production and agrarian institutions (cf. Panella 2010; Cartier and Bürge 2011; Pijpers 2014). Bryceson and Jönsson (2010: 389) found retired artisanal gold miners in Tanzania to have 'capitalised on their earnings by investing in various kinds of local service provisioning or trading businesses'. Similar findings have been reported from the DRC (Geenen et al. 2013; Geenen 2014a; Stoop et al. 2016). Giving colour to these accounts, an artisanal shaft manager in rural southern Malawi explains:

Mining has allowed me to accomplish a number of things, I started as a digger, but eventually I have built a house, I had a car which I just sold and am involved in businesses whose capital has come from mining activities...even for the diggers, some of them have managed to buy cattle, and build houses with corrugated iron sheets. If we all save some money and invest in other activities, mining can pay off (Kamlongera 2011: 1135).

Through these observations, the literature provides clues that by its promotion of – among other things – 'capitalism from below' (Byres 1996), artisanal gold mining might be supporting the creation of a domestic capitalist class raising productivity and inducing structural change through productive investment in mining and other sectors. Yet the literature nevertheless falls short of providing conclusive evidence on this point. Whether GALIC artisanal mining catalyses local processes of capital accumulation and structural change, or whether gains from the sector are simply dispersed in existing conditions, is unclear.

In this sense, both proponents of ASM and TNC-led industrial mining provide similarly incomplete assessments of the economic development induced by their preferred form of mineral production. For ASM, evidence of sector profitability and reinvestment is generally taken as sufficient. For industrial mining, benefits are usually attributed to crude measurements of economic growth. The World Gold Council (2011: 1), for example, notes that between 2000 and 2013, 'the world regions that have benefited most from the growth in the value created by gold

mining are Asia and Africa, which account for the largest shares of gold mining gross value-added'. For the World Bank (2010: 21), high annual GDP growth rates in countries that have undergone neoliberal mining sector reform since the 1980s, alongside improvement in human development indicators across a sample of reform countries, provide evidence to 'suggest that countries are benefiting in a sustainable way from their mining sectors'. In these mainstream conceptions, the distributional concerns highlighted by critiques of peripheral development are ignored.

Contrary to both of these understandings, 'economic development' will be understood here as a process of modern (capitalist) economic development, measured by:

...an increasing amount of value-added per person, achieved through increasing labour productivity (output per unit of labour time rather than simply people working more or more people working) and sustained by capital accumulation. Capital accumulation refers to the accumulation of produced means of production – for example, machines and also infrastructure – rather than simply an increase of inputs such as labour, land, natural assets, or money (Fischer 2014: 14).

Or, in other words, as a process achieved via the accumulation of capital and structural transformation in the productive base of the economy. Based on this understanding, analytical primacy will be given to exploring the contribution (or otherwise) of South Kivu's artisanal gold sector to economic development, and the extent to which the arrival of Banro has disrupted or augmented this process.

For this, Barbara Harriss-White's (2003) study of the Indian economy as a set of Social Structures of Accumulation (SSA) provides a useful analytical lens. Through her dialectical and dynamic understanding of capitalist development as an open-ended process of conflict and contradiction, and her focus on how processes of accumulation are underpinned by capital-labour social relations and class struggle associated with production, Harriss-White's work shares much common ground with the Latin American theorists of dependency discussed in the previous section. For Harriss-White (Ibid.: 14), 'the SSA school focuses on the social institutions chiefly involved in the process of assembling factors of production and then converting the resulting products back into money'. The SSA literature has identified the state, race, gender and culture as some of the core social institutions legitimating the accumulation process through the organisation and control of labour (Ibid.: 15-17). Understanding the nature of the social relations underpinning gold mining in South Kivu, and how these relations might be changing as a result of Banro's arrival, will provide insight into the effects of TNC-led mining industrialisation on labour and associated processes of economic development.

Considering these adaptations, and grounded within the identified axes of tension and contradiction surrounding GALIC gold sector reindustrialisation, the main research question framing this thesis is: how has the entry of foreign corporations into the mining economy of South Kivu influenced labour relations and local and national processes of capital accumulation and structural transformation? The central sub-question guiding this line of enquiry is: what were the pre-existing labour relations and trajectories of capital accumulation and structural transformation (or lack thereof) associated with South Kivu's mining economy, prior to TNC arrival?

1.4 Disruption and Dependency in South Kivu

Pursuing these lines of enquiry, the main argument of this thesis, as stated at the beginning of the chapter, is that a locally-owned and led process of mining reindustrialisation was, in fact, already underway in South Kivu, independent of TNC tutelage. Yet recent TNC entry into South Kivu has disrupted this process, replacing it with a foreign-managed, externally-oriented and enclaved mining economy. This, in turn, has reproduced (and in some cases accentuated) historically-rooted forms of peripheral marginalisation, polarisation and conflict, which date back to the beginning of gold mining in South Kivu in the early twentieth century. By the 1980s, industrial mining in South Kivu – which remained under the leadership of predominantly Belgian-owned and managed subsidiaries throughout the century – was fully dependent upon the foreign supply of goods, capital equipment and inputs, and poorly articulated with the Congolese economy. Inequality was increased through wage polarisation, largely to the benefit of a foreign managerial class, while wages to local workers were generally low and stagnant.

Yet from at least as early as the 1950s, the predominantly artisanal structure of formal gold mining at the time fed the emergence of a parallel and more locally-anchored informal network of gold production and trade. This network gained autonomy from state-TNC suppression following the collapse of foreign-led industrial mining in the late 1990s. In Luhwindja, the government collectivity-chiefdom (hereafter, collectivity) where Banro has recently entered, an estimated 95 percent of the end value generated by the artisanal sector in 2017 accrued to Congolese groups of workers, managers and traders. In addition, Luhwindja's artisanal gold sector has raised wages for workers compared to surrounding conditions, contributing in the process to structural transformation through sectoral shifts in the labour market. These shifts have also been linked with increasing productivity, through a locally-owned and managed process of technological assimilation and capital formation towards a semi-mechanised form of production. Thus, while the productivity of artisanal gold mining in South Kivu might be low, it appears to be increasing, with the process led and managed by an emergent proto-capitalist class of local shaft managers and gold traders.

Banro's entry into South Kivu's gold mining economy, through the construction of its Twangiza mine (which began commercial production in 2012), has led to a significant and historically unprecedented increase in the sector's productivity. Yet an analysis of the industrial structure underlying this increase shows that the Twangiza mine had few domestic linkages in the DRC and was generally disarticulated from the local and national Congolese economy due to the DRC's dependence upon predominantly Northern centres of financial, technological and industrial diffusion. In addition, Banro's practice of corporate outsourcing led to the marginalisation of Congolese firms by the arrival of foreign firm subsidiaries, and the position of Congolese actors in Banro's chain faces the structural constraint that the industrial machinery required by the sector is relatively narrow, technologically advanced and highly specialised, and the DRC is wholly dependent upon the external manufacture of this machinery, whose development is monopolised by predominantly Northern firms (as was the case in the previous century).

Meanwhile, due to the neoliberal regulatory regime in which Banro has been operating (as well as the corporation's use of financial accounting strategies that might be furthering the rerouting of

value outside of the DRC), the Congolese state has captured very little of the end value generated since Banro's arrival. Moreover, corporate mismanagement and inefficiency at the heart of Banro's operations contributed to a failure to control costs following the gold price crash between 2012 and 2014, eventually leading to the intervention of the Canadian government in 2017 to save Banro from bankruptcy. The speed of Banro's financial deterioration was hastened by underlying mechanisms of surplus extraction, the most important of which appears to have been senior director compensation, which continued apace even as Banro was increasing its indebtedness and the noose of bankruptcy began to tighten.

In the realm of labour (and again, as was the case historically), local worker wages at Twangiza were comparable to those found in the informal economy and, since at least 2012, have been stagnant, declining in real terms. In addition, the practice of corporate outsourcing has weakened the collective strength and ability of workers to resist their adverse incorporation into Banro's labour regime, by facilitating the expansion of worker informality and heightening their spatial separation. Banro's narrow managerial class has been the main beneficiary of the increased wage inequality induced by the corporation's arrival, capturing around half of the total wages accruing to employees at Twangiza, most of which is consumed and invested overseas.

In addition, Banro's arrival has induced new processes of marginalisation via the displacement, shrinking and suppression of the locally-embedded and mechanising artisanal mining economy. This has, in turn, given rise to novel forms of protest, violence and killings as people seek to resist and counteract their newfound marginality. Banro also appears to have contributed to conflict financing by making ransom payments to armed groups and, through one of its subcontractors, making continued regular payments to a non-state armed group to secure a major transport route.

These findings draw attention to processes of polarisation, marginalisation and conflict reproduced or accentuated by TNC-led gold sector reindustrialisation in South Kivu, including the side-lining of domestic firms, open hostility to locally-led processes of mechanisation and capital formation, and the redirection of the value generated by mining overseas. Drawing from the findings, a radical rethinking of the theoretical, neoliberal foundations underpinning the African Minerals Consensus is required, away from both the currently dominant TNC-led model as well as from the more general expectation that the gold sector can drive structural change in the productive base of peripheral African economies. Nevertheless, within the confines of the gold sector's transformative constraints, supporting locally-managed efforts to move artisanal mining towards semi-mechanised modes of production would better meet the needs of GALIC economies for rising productivity, labour absorption and the domestic retention of the value generated by productive activity than the currently favoured TNC-led industrial model.

1.5 Methodology

1.5.1 Case Study Selection

The case of South Kivu was selected primarily due to my experience in and access to the province and its mining sector. My acquaintance with South Kivu began in 2010, when I moved to Burundi to work for the American non-governmental organisation (NGO) Heartland Alliance. Based out

of Burundi's capital Bujumbura, I began making regular work trips to and from Uvira, South Kivu's second largest city after the provincial capital of Bukavu. In 2011, I moved to Bukavu to implement a new project working with artisanal mining associations and cooperatives across South Kivu. Shortly after, in 2013, I began researching and co-producing a documentary exploring the effects of Western 'conflict minerals' legislation on local economies and the conflict in the region. It was this exposure, around the same time that the Canadian TNC Banro's Twangiza mine entered production, that sparked my interest in the relationship between mining and development in the province (and the potential impact of the re-entry of foreign mining corporations on that relationship), and motivated my return to academia in 2014 to begin my doctoral studies.

My work experience gave me access to the world of artisanal mining in South Kivu, often somewhat difficult for foreigners to penetrate due to its generalised illegal status and the stigmatisation it has faced precisely from foreigners over the years due to its association with conflict financing in the region and labour and human rights abuses. It also gave me access to Banro's in-country staff, who were courteous and welcoming. Through this access, my time in South Kivu allowed me to develop relationships in and knowledge of both the artisanal and industrial gold sector that cannot always be successfully negotiated and established by a newcomer within the time constraints of doctoral fieldwork. This was the driving consideration behind my case study selection, even when I became aware in the earlier stages of my PhD research design that the South Kivu mining context was related to a much broader regional process (which forms the focus of the next chapter). In this sense, the research methods described below were informed by several years of prior experience living and working in the region.

Yet South Kivu also offers an ideal case to study the broader debates and contentions around peripheral development and GALIC gold sector (re)industrialisation under TNC tutelage. The case is typical in that, as across the GALIC group, South Kivu's gold sector operates in a neoliberal regulatory framework that prioritises a TNC-led model of mining industrialisation in a context of unlimited labour supply (discussed in more detail in the next chapter). South Kivu also offers an 'extreme case' for the study of peripherality, in that it is 'prototypical or paradigmatic' (Gerring 2007: 101) of this condition. As the sixth most income-poor country in the world,¹¹ the DRC is – by this metric, however imperfect – one of Africa's most peripheral countries. Within the DRC, South Kivu is one of the country's most peripheral regions, located on the eastern border more than 2,000 kilometres away from the western-situated capital city of Kinshasa.¹² According to national household survey data, South Kivu is also one of the most income-poor provinces in the DRC (Ansoms and Marivoet 2009: 262). As the province's only industrial operation at the production phase when I began my doctorate, Banro's Twangiza mine represented an obvious focal point for the study.

¹¹ World Bank data, data.worldbank.org, accessed June 12th 2018.

¹² To take two examples, between 2007 and 2010, South Kivu was consistently in the bottom three of the 11 provinces in the DRC at the time (along with the neighbouring provinces of North Kivu and Maniema) for the amount of state revenue redistribution received from central government (Cour des Comptes 2013: 17-19). Similarly, of a total \$125.9 million invested in supporting domestic firms in the three-year period 2013 to 2015 by the Congolese Ministry of Industry agency *Fonds de promotion de l'industrie* (FPI) – Funds for the Promotion of Industry – only \$2.7 million (or two per cent) was invested in South Kivu, according to FPI's 2013 to 2015 annual reports.

While a comparative or multi-country case study could arguably have strengthened any claims to generalisation, it would also have limited the scope and depth of work possible to undertake in each country (as well as the associated understanding and interpretation of insights and findings). Moreover, while there is a widely held view in the natural and social sciences that one cannot generalise from a single case, Flyvbjerg (2006: 228) has argued to the contrary that ‘one can often generalise on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas ‘the force of example’ is underestimated’. For similar reasons, Gerring (2007: 178-179) also contends single case studies can be generalisable to a broader set of cases. Through ‘the force of example’ and analytic generalisation, then, the theoretical and policy implications of the findings for the broader country group will be considered in the concluding chapter.

There are, nonetheless, three limitations or potential objections related to the generalisability of the South Kivu case. First, the study is restricted to gold, whose specific characteristics limit the degree to which the findings might be generalised to other minerals. Each mineral value chain has its own unique features and dynamics. Gold, for example, is relatively easy to process into a semi-finished state without diminishing its value for further transformations. This is why the broader country group to which the study relates is restricted to African LICs with significant gold deposits, nearly all of whom have – to greater or lesser degrees, and as discussed in more detail in the next chapter – undergone a World Bank-led neoliberal process of mineral sector reform followed by TNC-led gold sector (re)industrialisation. The purpose of generalisation to this group is to speak specifically to gold sector dynamics, without presuming the relevance of the findings for other minerals.

Reflecting on this point, however, it would seem plausible that some of the more structural insights generated – relating for example to wage setting logics in open economies with unlimited supplies of labour, the effects of exposure to price volatility, or the industrially and financially enclaved nature of TNC-led mines from surrounding local and national economies – might apply across other mineral sectors and in other African LICs, as these countries demonstrate broadly similar demographic characteristics and are at broadly comparable stages of economic development (and hence, dependence on dissemination from the centres). Yet the groups involved in artisanal and industrial mining, and dynamics of value capture and distribution between these groups, are nevertheless likely to differ considerably from one mineral to another.

Second, and as discussed in Chapter 7, Banro started out as a junior mining company, operating like the thousands of other venture capital firms registered on the Toronto Stock Exchange (TSE) in the early 2000s, looking to raise financing to conduct mineral exploration, secure valuable deposits, and sell them off to larger corporations. Junior mining companies grew so rapidly in the 1990s that, by 2004, they made up the bulk of the mining industry in that year (Dawson 2004). In Africa, according to McKinsey, the largest mining corporations have tended to shy away from investment on the continent, and as a result junior firms ‘have played a significant role in

developing the continent's resources'.¹³ Banro then moved into production, with all of its assets located in the DRC, and before delisting from the Toronto stock exchange in 2018, had a relatively low market capitalisation of around \$80 million (compared, for example, to Barrick Gold's equivalent value of around \$24 billion).

In this sense, Banro is quite different from larger mining TNCs, such as Randgold Resources and AngloGold Ashanti, who jointly manage the larger Kibali gold mine in the north-east of the DRC yet also operate gold mines across North America, South America and Africa. It might therefore be argued that Banro is not representative of a sector where, in 2008, 149 major transnational mining corporations accounted for 60 percent of the total value created by the mining industry, with the top 10 metal corporations producing one-third of total world output (Dicken 2011: 262-263). In a more recent continuation of this trend, in March 2019, Barrick Gold and Newmont Mining – two of the largest gold TNCs and historic rivals – were considering an \$18 billion merger, just one month after Barrick acquired London-listed rival Randgold and Newmont acquired Canadian-listed Goldcorp, the world's fourth largest gold producer.¹⁴

While there is some truth to this, many of the core elements of the case study nevertheless centre around the effects of structural constraints related to TNC-led industrial gold mining in the African periphery, such as the sector's exposure to price volatility, its dependence on predominantly Northern manufactured, technologically complex and specialist capital infrastructure, and the difficulty of raising local wages in a context of unlimited supplies of labour. It is the theoretical and policy implications of these structural elements, in particular, that will be explored when considering the case's relevance for the GALIC group in the final chapter.

A third and final aspect of the South Kivu case that might be considered unique is the ongoing conflict in the eastern DRC, and in particular the relevance for or generalisability to the GALIC group of the findings presented in Chapter 9 concerning Banro's reproduction of processes of violence and conflict. Yet, as will be discussed further in the next chapter, processes of artisanal displacement – which were a significant driver of violence and conflict in South Kivu – are not unique to the DRC. Similarly, Chad, Liberia and Senegal all emerged from civil war at a similar time to the DRC, and in early 2019, civil wars were ongoing in the Central African Republic and South Sudan, and Niger, Senegal and Uganda were experiencing differing degrees of armed conflict domestically.

1.5.2 Methods Used

Four related questions guided my methodology: what is the productivity of artisanal and industrial gold mining in South Kivu; how is value created by each respective form of production; how is this value distributed, and; what use is made of this value by those who capture it? Within these questions, given the difficulties inherent in determining the value of inputs to industrial mining, I decided to study gross (or end) value when considering both artisanal and industrial production.

¹³ McKinsey, 'Africa's Path to Growth by Sector', www.mckinsey.com/featured-insights/middle-east-and-africa/africas-path-to-growth-sector-by-sector. Accessed February 27th 2019.

¹⁴ Financial Times, 'Key Shareholder Voices Support for Barrick-Newmont Deal', February 27th 2019. www.ft.com/content/873ff696-39e6-11e9-b72b-2c7f526ca5d0, accessed March 23rd 2019.

In pursuit of the answers to these questions, the research conducted was interdisciplinary in nature, combining (as mentioned earlier) primarily qualitative studies of local-level labour relations and capital accumulation with primarily quantitative studies of Banro's insertion into national and international economies.

My research took general inspiration from the approach of 'field economics', in deference to the prior work of Polly Hill (1963) in Africa and Barbara Harriss-White (2003) in India. As Harriss-White (*Ibid.*: 11) stresses, in a context where the economy is overwhelmingly informal and the availability of quantitative data is poor, there is no viable alternative to field economics 'if one wishes to see capital accumulation and class formation at work'. This certainly applies to the DRC, where data scarcity and a close protection of existing data by those who hold it stretches from the local to the national level. The few national household and other survey data that do exist are either inaccessible or fragmented to the extent of preventing exploitation (Marivoet and De Herdt 2014: 115). Data of any sort in the DRC is often tightly guarded by the state officials that hold it, and its release never a guarantee.

Reflecting on his doctoral research of economic practice in the Katanga region of the DRC, the Belgian ethnographer Rubbers (2006: 62-64) concluded that in the absence of available and reliable quantitative data, 'a qualitative approach warrants priority: it is without doubt the least worst tool to interrogate economic practices in the region' (*Ibid.*: 62-64).¹⁵ Rubbers noted success triangulating between interviews, observation and documentation, and my own approach broadly followed these learnings. This involved sustained local-level fieldwork between May 2016 and August 2017, including five to six months spent in Luhwindja, where the Twangiza mine is located, and two to three months spent in the nearby provincial capital of Bukavu. In Luhwindja, where I travelled with a research assistant (discussed below), we lodged in accommodation offered by the local Franciscan parish. Towards the end of the fieldwork, I also spent a few weeks inside the Twangiza mine itself. In Bukavu, I spent my time moving between Congolese families and the homes of foreign aid workers I knew from my prior NGO work in the province.

This time in South Kivu was complemented by around two months spent conducting research in the national capital of Kinshasa. This was also my place of residence throughout the fieldwork, and it remained so throughout most of the writing phase (up until February 2019). From Kinshasa, I would leave for four- to six-week trips to South Kivu. I would then return home, look through and reflect upon the data I had collected and follow-up on the various research threads I had going in Kinshasa, before departing for the next trip. This pattern fed nicely into a grounded theory approach of continuous data assessment until saturation. In addition, I undertook two weeks of fieldwork in Kamituga (another of Banro's South Kivu concessions), one week in Belgium, and a significant amount of online research.

Before beginning the process of data collection in the DRC, I spent a month or so mainly negotiating access to the various sites I would be visiting the most frequently for my fieldwork (even though I'd visited these areas prior to this fieldwork, my purpose was now different, and so access had to be renegotiated). These were Luhwindja, the Twangiza mine and the artisanal gold

¹⁵ Author translation.

mine of Kadumwa situated a few kilometres downhill from Twangiza and which I used to study the nature of the pre-existing artisanal economy into which Banro had entered (see Appendix A for an author-created map of Luhwindja, including the locations of Twangiza and Kadumwa). While a somewhat lengthy process in the case of Banro, I emerged from these negotiations with four signed letters that were critical in securing access to the research sites and respondents throughout the course of the fieldwork: one from the South Kivu Provincial Minister of Mines; one from Mwami Chibwire V of Luhwindja (the local customary ruler and senior government representative of the collectivity of Luhwindja); one from the General Director of Banro's subsidiary Banro Congo, and; one from the *Comité des creuseurs artisanaux de Luhwindja* (CCALU) – the Luhwindja Artisanal Miners Committee – an elected worker committee representing artisanal miners in Luhwindja.

For Banro, the letter was accompanied by a counter-signed Memorandum of Understanding whereby Banro agreed to give me the required access to its mine and its employees and in return I agreed to a two-year moratorium on the publication of any data collected through the research (negotiated down from an initial proposal of five years). The Memorandum often helped for accessing people or actors within Banro's production network, particularly subcontractor managers who were often reticent to talk without Banro's approval, with some of them citing contractual stipulations around this issue. Producing the Memorandum was, generally, sufficient to ease their concerns. While negotiating access was a continual process, responding to changing data collection needs or personnel in the selected sites over time, no major problems were encountered after these initial discussions.

In addition to these letters, my formal affiliation with the *Centre d'expertise en gestion minière* (CEGEMI) – the Centre of Expertise in Mining Management – at the *Université Catholique de Bukavu* (UCB) – the Catholic University of Bukavu – was critical for accessing archival and government documentation. Whenever requesting to see archives or government documentation in the DRC, a letter from your supporting institution is usually required. Having this letter from a well-known Congolese university – where many people in South Kivu have a family relation or friend who attended or is attending, and in a region where education is highly esteemed and valued – was certainly beneficial. Similarly, having a letter of recommendation and an *ordre de mission* – mission order – from UCB made life far easier when travelling through road blocks and negotiating other such routine obstacles to getting around as a foreign researcher in South Kivu.¹⁶ This affiliation also led to my recruitment of a research assistant, a young economics graduate working as a teaching assistant at the university who provided crucial support to my fieldwork, particularly in the collection of government documentation, translating exchanges with respondents (when French was not the preferred language and my rudimentary Swahili was failing to keep up) and as a continual sounding board as the research progressed.

While securing access to the sites, I developed an ethical protocol guide for use in the field. This included a one-page oral consent form which was read to all potential research participants at the outset to seek their informed and voluntary consent to participate in the project. The form opened

¹⁶ This accords with other foreign researchers (Vlassenroot 2003, Cuvelier 2010), who have emphasised the importance of such collaboration to conducting successful fieldwork in the eastern DRC.

by briefly describing the purpose of the research and the use that was likely to be made of any data provided. It then emphasised that the confidentiality and anonymity (if so desired) of participants will be fully respected throughout the process, from data collection to dissemination. Lastly, it emphasised that participants are under no obligation to participate in the project, and that if they do decide to participate, they retain the right to withdraw their participation and any information provided at any future point. The form closed by asking the potential participant three ‘yes or no’ questions: Do you have any questions you would like to ask us? Do you agree to participate in the project? Do you prefer for your participation to be made anonymous?

Oral consent was sought rather than the use of written consent forms, primarily because collecting written names and signatures in such a context can arouse suspicion, such as, that a census is being taken with a view to evicting ‘illegal’ miners, and is thus best avoided when trying to establish working, trust-based relationships with participants. In cases where informal conversations during fieldwork led to substantive insights for the research project, oral consent was sought retroactively. The answers provided to the three questions were marked on the form, and if the respondent agreed to participate, one copy was given to them and one copy retained by myself. At the bottom of the consent form, my phone number and email were provided.

To ensure participant confidentiality and anonymity, all participants were assigned a code which was written at the top of their consent form. Their name and contact details were then stored in a password-protected Excel document on my password-protected laptop, alongside their assigned code; the only location where this personal information was stored. The Excel file was given a random title and stored in a random folder. When writing down interview notes, collecting other data in the field, or writing up interview transcripts, I used the participants’ codes rather than their names. These measures ensured that in the eventuality (which fortunately never came to pass) that soft or hard data was reviewed or confiscated by the Congolese intelligence or other state services, there would be nothing that connected individual participants to the information provided. With few exceptions, most respondents requested full anonymity, which is why very few names are provided in the thesis when referencing interview data.

With access secured and ethical protocol in place, my arrival in the field required reflection on potential problems and biases arising from my positionality – understood as how I related to the topic, the participants and the research context and process (Savin-Baden and Major 2013: 71) – even if we should not imagine we can identify and answer all of the related issues that might arise, given ‘the impossibility of such a quest to know fully both self and context’ (Rose 1997: 311). An immutable and important aspect of my positionality for this work was my whiteness. Whiteness continues to wield a disproportionate degree of power and influence in the DRC, such as the power to demean and bypass state or other authorities deemed inconvenient, or the influence to meet with a provincial or even national minister, in ways that would not be possible for most Congolese, nor for most white people in their countries of origin.

This requires, then, for white people to condition behaviour and daily interactions with a degree of historical and self-awareness, in order not to deploy whiteness in such a way as to reproduce, as Hendriks (2017) found in his recent study of a TNC-owned timber concession in the DRC, structures of power and exploitation that recall, for Congolese, past colonial memories and

practices. While this was the path I attempted to walk during my fieldwork, I also wonder if – given the continued persistence of extreme inequalities in wealth, material comfort and opportunity between most black Congolese and visiting white foreigners – reproducing such structures is to some degree an inescapable by-product of whiteness in the DRC. The strength of their reproduction can be mitigated by individual agency and behaviour, but the structural context in which individual interactions take place might render the reproduction itself unavoidable.

Hendriks (Ibid.) also highlighted how whiteness in the DRC points towards what for many Congolese remains a distant world of modernity. In part related to this, I had learned from my prior experience working in the country that support in my work would often be provided with an anticipation or expectation of some kind of reciprocity. To paraphrase one respondent explaining why he was happy to help me, ‘we never know when or how you can help me one day in return’. Engaging in reciprocity is an important component of building social relations in the DRC (as well as in some cases of basic human compassion, if the act relates for example to urgent medical support), and so I continued to do so throughout my fieldwork, to the extent possible. Most often the desired help would relate to financial support or providing access to employment or overseas education, but it also consisted of smaller acts, such as printing a copy of the Congolese mining code or giving a lesson in a local secondary school, which appeared no less meaningful to the recipients.

Maleness was another important aspect of my positionality. While Geenen (2014a: 81) found that, in some instances, ‘being a white woman turned out to be an advantage’ for conducting research on gold mining in South Kivu, it is nevertheless a heavily male-dominated sector (both artisanal and industrial), embedded in a deeply patriarchal Congolese society. While I felt my maleness generally facilitated, rather than inhibited, my access to this world, it also presented a barrier to understanding and learning from the experiences of the women working in the sector. It was a significant hindrance, for example, when trying to interview and conduct life histories with female water carriers, a group of workers labouring at the bottom of the hierarchy at the artisanal mine of Kadumwa, located a few kilometres downhill from Banro’s Twangiza mine. They were the only female workers allowed at the mine, and while I was eager to learn more about their experiences, I was unable to connect with them and gain insight as I was with the male groups working at the site. I interpreted my failure here as due, at least in part, to my maleness (and whiteness, combined with the weight of Congolese patriarchy) functioning to prohibit the development of any meaningful dialogue.

Another aspect of my positionality was that going into my PhD, my prior experience working with artisanal miners in the region had left me empathetic towards the struggles of workers, managers and traders involved in artisanal gold production in South Kivu. Yet this was to fluctuate throughout the course of my four-year doctoral journey. By the end of the research design phase, around eighteen months in, I noticed that my pre-existing bias towards artisanal mining had shifted quite dramatically. My return to academia, and in particular my re-immersion in various strands of structuralist literature and thought, had made me far more critical of the potential and viability of artisanal mining as a development strategy than I had been as an NGO worker. This was to stay with me throughout the fieldwork period, but was to shift again once I began to analyse and think through the meaning of the data I had collected during this period. In other words, far from being

immutable, the biases I brought to the study from my prior experiences in the region, and the way in which I interpreted these experiences, were challenged and reshaped by reflection upon the literature and assessment of the data I was eventually to collect. The resultant thesis is an amalgam of these experiences and sources, from which my own subjectivity cannot of course be extracted, merely acknowledged and navigated.

Affecting my relation to participants, despite documentation of my university affiliation with UCB, a belief held by many workers at Kadumwa (as well as by some Bukavu-based traders buying gold from the site) was that I worked for Banro. According to this view, my real reason for being there was to gather information to inform their eventual displacement, as foreign (usually white) Banro staff had done during previous artisanal displacements. To counter this belief as best I could, I made every effort to distance myself from and maintain my neutrality with Banro. For example, having signed the Memorandum, Banro generously offered to drive us to and from Luhwindja (from Bukavu) and to lodge and transport us around while there. We politely declined, travelling instead on local buses, lodging (as mentioned) at the local Franciscan parish, and getting around in Luhwindja by foot or taxi motorbikes. I did, however, want to spend some time on-site at the Twangiza mine both to directly observe the labour and production process and to interview subcontractor and Twangiza Mining managers who were based there and could not be found easily off-site (in particular the ‘fly-in-fly-out’ foreign contingent, who barely touch foot in the DRC outside of the mine, as discussed in Chapter 8). As my on-site presence would no doubt have been noted by and roused suspicion among the several hundred local workers while I was there, I delayed these site visits until the end of the fieldwork period.

At Twangiza, many workers were concerned I would report critical comments back to management, and thus saw me as a potential threat to their job security. This was a particular concern for uncontracted day labourers and subcontractor workers (as one of them told me, ‘they can quickly put you outside’, an issue reflected on further in Chapter 8). To respond to this issue, I tried to place an emphasis on building relationships prior to asking more probing questions or eliciting sensitive data. Regardless, at both Twangiza and Kadumwa, for these and no doubt other reasons, many workers kept their distance.

Due in part to these difficulties, as well as the illegality of artisanal mining in Banro’s concession, a combination of convenience sampling (identifying respondents who seemed most interested) and snowball sampling (using one respondent to refer the researcher to other respondents) was used to identify respondents and key informants at both sites. The former method was used by Geenen (2014a: 86) during her doctoral research on artisanal gold mining in South Kivu and the latter was recommended by Rubbers (2006: 62-62) and Vlassenroot (2003: 195) from their own experience conducting research in South Kivu and the Katanga region of the DRC respectively. I rarely recorded interviews for transcription, having observed from prior research in the area that producing a voice recorder often inhibited respondents and negatively affected the quality of the exchange. Instead, I either wrote notes or remembered the key insights to write down at a later stage, often immediately afterwards in a small notebook I carried around in my pocket for this purpose.

In Luhwindja, my approach was predominantly ethnographic, involving a combination of direct and participant observation, conversations and informal interviews. While this approach was supplemented by more formal interviews and survey data, in retrospect the most insightful data was often elicited by ethnographic methods, from relaxing with artisanal miners at the entrance to a shaft or eating breakfast with industrial mine workers to attending church or helping a local government official with his harvest. Some of the best leads or insights came when I wasn't even looking for them, suggesting the limits of even the best-laid research design and the benefit of being open to the unexpected and the unplanned when 'doing research'; something I would do well to learn from.

While it was difficult to keep track of every conversation, insights to the research problem were generated by speaking with or interviewing at least 126 of the estimated 718 workers and 14 of the estimated 44 managers at the artisanal Kadumwa mine and at least 96 of the estimated 1,149 workers and 31 of the estimated 217 managers at the industrial Twangiza mine, including subcontractor workers and managers. Most respondents from these groups were male, reflecting the male-dominated nature of mining at both sites. Women were only permitted to work at Kadumwa as water carriers, and I made sure to speak with this group, while I also spoke to around a dozen women working at Twangiza, most of whom were in administrative positions. While most of these interactions took place in Luhwindja, some were conducted in Bukavu and Kinshasa, including in the case of Banro some former employees. In Bukavu, this included an additional 18 gold traders, smelter managers and jewellers who all bought or manufactured artisanal gold from Luhwindja. Relationships built from my prior work experience made access to this group relatively straightforward. Most interviews were conducted by myself in French, while some – particularly those with artisanal miners – were conducted in Swahili or the local language Mashi, through the mediation of my research assistant or another native speaker. Some basic conversations were conducted by myself in Swahili.

From these encounters, 20 life histories were conducted with five artisanal workers, two artisanal managers, three artisanal traders, six industrial subcontractor workers and four workers directly employed by Banro's subsidiary Twangiza Mining. Following Adriansen (2012), these involved two to three sixty- to ninety-minute sessions, during which respondents were invited to create a visual timeline representing the main events in their lives and which was then used as the basis for discussion. Generally, the first session focused on developing the timeline, the second session on respondents' work histories and the third session on their consumption and investment patterns. The life histories were taken towards the end of the fieldwork, selecting respondents who had shown the most openness and willingness to talk in prior exchanges and with whom the strongest relationships had been established. This particular research technique is certainly not of much use if undertaken with people with whom little rapport has been established, as was proven during a few failed attempts earlier on in the fieldwork.

Outside of those working directly in South Kivu's mining sector at the time, conversations or interviews with at least a further 103 people contributed to the study. Locally, these included farmers, herders, teachers, hospital workers, priests, police, military, civil servants, government authorities and unemployed people. In Bukavu and Kinshasa, these included civil society leaders, journalists, aid and development workers, university professors, civil servants, government

authorities, and former industrial mine workers for Belgian corporations in South Kivu from the 1950s through to the 1990s. These also included several conversations and interviews by phone with former Banro and Belgian-era managers, based outside of the DRC. These latter groups were identified and contacted by signing up to a free, one-month ‘premium’ membership on the social networking site LinkedIn.

Several months into the research process, once I felt I had established my position as a non-partisan researcher as well as would be possible, I conducted two local labour surveys. While (unintentionally) proving a good basis for the convenience sampling of respondents who seemed particularly interested by our presence and willing to talk further, their use in generating meaningful insights to the research problem was somewhat mixed. The first was a brief survey conducted across 118 workers at Kadumwa and 110 workers at Twangiza, attempting to generate understanding around the criteria influencing the mobilisation of labour and the upwards mobility of labour within the hierarchy once mobilised. Interestingly, while one’s place of origin or ethnicity were cited as of some influence at Twangiza, this was not the case at Kadumwa, where merit and competence were by far the most important criteria, and less than two percent of respondents cited either place of origin or ethnicity as being of any influence. However, further observation, interviews and the second labour survey were to eventually demonstrate the centrality of territorial origin and ethnicity to labour mobilisation and organisation at Kadumwa (a point developed further in Chapter 5). This suggests an interesting disconnect between the discursive and real-life practices of artisanal mine workers, as well as the importance of data triangulation.

The second survey was a slightly longer investigation into the social and economic profile of workers, focusing on their family and work histories, current working conditions, wage and asset levels, and consumption and investment patterns. At Kadumwa, 316 people were surveyed (291 workers, 14 managers and eleven traders) and 126 people were surveyed at Twangiza (90 subcontractor and unskilled Twangiza Mining workers and 36 semi-skilled and skilled Twangiza Mining workers). The survey demonstrated the value of piloting before full implementation, as many questions were reformulated or taken out altogether through this process. We also hired and trained several local people to help implement the survey, rather than bring in university students or other outsiders as is often the custom, and this seemed to work well in establishing trust and rapport with respondents. Particularly at Kadumwa, having some current and former artisanal miners was visibly beneficial to the data collection process.

A third and final (non-labour) survey was implemented from early 2017 onwards, in collaboration with Sara Geenen’s research project.¹⁷ This survey targeted managers of domestic and foreign subcontracting firms identified as providing labour or other services to the Twangiza mine. The survey was designed to elicit insights regarding the nature of the service provided, the nature and origin of any capital goods and equipment procured, worker origins and composition, labour conditions, and the nature of the relationship with Banro. Requests were also made at the end for company statutes and financial data. Only two of the 14 surveyed subcontractors responded

¹⁷ Funded by the Flanders Research Foundation, the project was entitled ‘Towards a New Theoretical Framework for Linkages from Large-Scale Mining: Bringing in Power and the Production of Access and Exclusion’.

positively to this final request, with one of these two happily being the catering corporation, providing some quantitative insight on Twangiza's stimulation of local production.

Once I felt I had built strong enough relationships with a number of artisanal shaft managers and traders, from November 2016 onwards, I began collecting monthly logbooks from these groups. The purpose of these logs was – in the absence of documented or official production, employment and wage data – to help determine the productivity of artisanal mining at Kadumwa, and the distribution of the resultant end value to different groups of artisanal labour. It transpired, however, that the logbooks were as useful for generating qualitative insights about the artisanal labour process and related capital-labour social relations as they were for generating quantitative insights into productivity and value distribution.

Between November 2016 and June 2017, 13 monthly production and financial logs were collected across a convenience-selected sample of four artisanal shaft managers, representing just less than 10 percent of the 44 shaft managers working at the site. The logs kept daily records of shaft production and how this production was distributed between various groups (either in-kind or in monetary form). Each log was tailored to correspond to the idiosyncrasies of shaft manager systems of production sharing and distribution (each one being different), based on extended conversations with shaft managers prior to, during and after data collection. In two instances, the first month of recorded data was discarded as I had misunderstood the (often quite complex) functioning of these systems.

In addition, and across the same time period, 14 monthly financial logs were collected across a convenience-selected sample of eight traders. Six of these were traders buying on-site at Kadumwa, representing around 20 percent of the estimated 30 or so traders operating at the mine site, and two were from the group of seven Bukavu-based traders who buy the majority of the gold produced at Kadumwa (and across Luhwindja). The Kadumwa traders provided 11 of the 14 logs, and the Bukavu traders the remaining three. The logs kept daily records of how much gold a trader bought and sold, and the corresponding buying and selling price.

For the Kadumwa traders, conversations prior to data collection revealed gold trading transactions to be more uniform and less complex than the distribution of production overseen by shaft managers, and so each trader completed a standardised log template based on these transactions. For the Bukavu traders, data was taken directly from their bookkeeping, which kept daily records of the weight and price per gram of each purchase and sale. With both shaft managers and traders, conversations were held at the end of each month of collected data, to check for inconsistencies and clarify any ambiguities. Aiding this process, three of the four shaft managers were already recording some, but not all, of the data in notebooks. These logbooks are presented in more detail in Chapter 4, alongside a discussion of their associated limitations.

Local-level insights generated by observation, conversations and interviews, survey data and logbooks were complemented by national-level and online research oriented towards the collection of archives, documents and secondary data to generate insight on Banro's integration with the Congolese and global economy, as well as the integration of historic forms of industrial gold mining in South Kivu. Before beginning the research in the DRC, I spent one week exploring the

archives held at the Royal Museum for Central Africa in Brussels on the Empain Group, the Belgian corporation that financed mineral exploration and exploitation in South Kivu from the 1920s until the 1980s. In the DRC, the *Archives nationales du Congo* – Congo National Archives – and the *Cellule technique de coordination et de planification minière* – Technical Unit for Mining Coordination and Planning – at the Ministry of Mines (both in Kinshasa) were excellent sources of further archival material on mining in South Kivu during the twentieth century, as were visiting university dissertation archives across Bukavu.

Collecting archival material going back to the early 1900s was crucial to my developing a longer historical perspective on gold mining in South Kivu, that informed not only much of the content in Chapter 3, but also my own understanding and interpretation of what I observed taking place today. As Cardoso and Faletto (1979: xx) argue, ‘historical-structural analysis illuminates the basic trends through which capital expansion occurs and finds its limits as a socio-political process’. I certainly found this to be the case here, as the argument I develop and conclusions I reach over the course of this thesis draw heavily on the insights I gained by collecting and reviewing this historical and archival material.

For Banro, the System for Electronic Document Analysis and Retrieval (SEDAR) website organises and stores all publicly available documentation of Canadian-registered TNCs by corporation. In the case of Banro, this comprised an archival record dating back to 1997 of more than 300 documents, including annual reports, financial statements, management discussion and analysis, technical reports and press releases. Since 2016, the Canadian Extractive Sector Transparency Measures Act has also required all Canadian-registered extractive sector TNCs to publicly declare all tax payments on an annual basis, and these declarations can be found on the Canadian Ministry of Natural Resources website. This was a somewhat fortunate development, as getting official government data in the DRC from the *Direction des grandes entreprises* – Directorate of Large Firms – at the Ministry of Finance on TNC subsidiary tax payments had proven a difficult and time-consuming process, and one which bore little fruit.

The Aleph website is another excellent source of information, hosting a search engine that holds over two million corporate filings from the oil, gas and mining sector and that allows you to search specific people, corporations or projects. The online stock analyst websites Seeking Alpha, Investor Hub and Morning Star were also valuable for providing news alerts related to Banro, and keeping me informed of the corporation’s financial developments, including some degree of analysis from amateur investment enthusiasts.

In the DRC, the two best sources for FDI data were the Congolese Central Bank and the *Agence nationale pour la promotion des investissements* (ANAPI) – National Agency for the Promotion of Investments – both in Kinshasa, with the latter providing full historic data for the officially recorded levels of Banro’s investment in the DRC. The Congolese Central Bank was also an excellent source for macro-economic time series data on exchange rates, inflation, national accounts, balance of payments, sectoral growth and budget expenditure, although only some of this ended up being of direct use to the thesis. It also has an impressive and public access archival library. While I was unable to obtain detailed import data from the *Direction générale des douanes et accises* (DGDA) – General Directorate of Customs and Excise – at the Ministry of Finance in either

Bukavu or Kinshasa, through a friend working at the 100-year-old *Banque commerciale du Congo* (BCDC) – Commercial Bank of Congo – I discovered (again, somewhat fortuitously) that the BCDC compiles these records on behalf of the government, and I was able to obtain this data through the bank relatively easily. I was also able to obtain Banro subsidiary and subcontractor statutes and in some cases annual and financial reports from the *Tribunal de Commerce* – Commercial Court – in Bukavu and Kinshasa, a recently opened office under the regional initiative of the Organisation for the Harmonization of Corporate Law in Africa, of which the DRC is a member.

The *Direction des mines* – Mining Directorate – at the Ministry of Mines in Kinshasa holds the annual financial reports for the subsidiaries of foreign mining corporations. During the course of the fieldwork, however, accessing these required the right personal connections, deep pockets or negotiating skills beyond my own capacity, and this was not the path that I took. Having had formal requests to both Banro in Kinshasa and the Ministry of Mines refused, and after nearly a year of unsuccessfully pursuing these reports through various avenues, I was close to admitting defeat when several arrived through a chance encounter with an informant whose identity must remain anonymous. This encounter also provided a wealth of other secondary corporate documentation, including subcontractor and supplier invoices and contracts, employee wage data and policy documents. The *Direction des Mines* in Bukavu did, however, provide official gold production and export data as well as its annual reports submitted to Kinshasa.

Negotiations to access sensitive (or even non-sensitive) government data took in some cases upwards of 12 months, and in these instances, I was only ultimately successful due to the good fortune of living in Kinshasa and being able to continue these negotiations beyond the official end of my doctoral fieldwork. In hindsight, I would have prioritised beginning these tasks at the outset, to avoid the possibility of ending the research empty-handed. One particularly useful strategy was to start as high up the political food chain as possible, as this would often open doors at the lower levels that might otherwise have remained shut or required longer to open. For example, a meeting with a senior advisor to the Provincial Governor of South Kivu – the second most senior political figure in the province – resulted in two phone calls to civil servants at the Ministries of Mines and Finance that resulted later that day in the provision of mineral production and export data from the former and budget data from the latter.

Some documentation was also collected at the local level of Luhwindja. This centred mainly around local government and community correspondence with Banro, including hand-written letters by local activists and exchanges between local government and other local opposition groups. It also included meeting minutes and other documentation from the Community Forum, which brings together Banro, local government and community leaders to discuss key issues relating to the corporation's presence in Luhwindja. Some documentation of local government revenue and expenditure was also collected.

For data collation, at the end of each day (or, where not possible, at least once every two to three days), I would write up all of my observations and interview notes into thematically organised Word documents. With similar regularity, I uploaded, stored and coded archives and documentation using ATLAS.ti software. At the end of the fieldwork, I also used ATLAS.ti to code and analyse all observations, conversations, informal and formal interviews (once transcribed,

in the case these were recorded), and life histories. Having undergone a similar process during my background reading towards the research design, I was then able to easily locate the required data to draw upon when reflecting on and developing my thesis argument. The two labour surveys and monthly logbooks were stored and analysed in Excel, while the subcontractor survey implemented with Sara Geenen was entered into and analysed through Qualtrics.

Data analysis was inductive, drawing on insights gained throughout the fieldwork to interpret the meaning of the trends, correlations and observations emerging from the data. I also returned to Luhwindja and Bukavu around one year after the end of my fieldwork, and presented and discussed my findings both at UCB in Bukavu and to a well-attended public forum at the local Franciscan parish in Luhwindja. This was a valuable exercise, both for further refining my own ideas as well as allowing the reciprocal sharing of my findings with some of those who had provided crucial insights or support to my research. Participant confidentiality and anonymity was respected throughout data collation and analysis, in accordance with the ethical protocol described earlier in the section.

1.6 Outline of the Thesis

The argument of this thesis is presented in eight chapters. It begins in Chapter 2 with an assessment of the broader regional context, of TNC-led gold sector (re)industrialisation taking place across the GALIC group, alongside the displacement and marginalisation of a more locally-led form of artisanal production. The history of formal gold mining in South Kivu is charted in Chapter 3, which began in the 1920s, and during which a Belgian-owned and managed mining subsidiary controlled most of the major gold deposits, yet fell into bankruptcy in the 1990s after failing to control costs in the face of severe price volatility. In Chapter 4, the history of the parallel emergence of South Kivu's informal mining sector is considered, alongside an assessment of the sector's productivity in 2017, and the distribution of the end value it generates to different groups of Congolese workers, managers and traders. This analysis is extended in Chapter 5 by describing how the sector, led and managed by a rural class of shaft managers and traders, has raised local wages and contributed to structural transformation and capital accumulation in the local economy.

Chapters 6 to 9 then focus on Banro's recent arrival into this context and associated distributional dynamics. In Chapter 6, the more recent history behind Banro's arrival in South Kivu is covered, noting that while the corporation has stimulated a significant productivity increase in the province's gold sector, the industrial structure driving this increase is highly specialised and deeply disarticulated from the Congolese economy, with corporate outsourcing having marginalised domestic Congolese firms in favour of foreign firm subsidiaries. In a case of corporate *déjà vu*, Chapter 7 charts how Banro's mismanagement and inefficiencies in a context of severe price volatility – which led the corporation to enter creditor protection at the end of 2017, in a repeat of the earlier failures of Belgian-led mining in the twentieth century – further limit its potential to support transformational change in the Congolese economy. In Chapter 8, the negative effects of corporate outsourcing on the collective power and strength of workers at Twangiza are highlighted, along with how most workers at the mine earn less than or comparable wages to those earned in the artisanal gold sector, while a narrow managerial class has captured most of the benefits of increased wage polarisation and inequality. In Chapter 9, an exploration is made into

how Banro's arrival has reduced the amount of mining labour and wages available locally, led to state suppression of artisanal mechanisation efforts, and reproduced historical forms of violence and conflict. Chapter 10 concludes, reviewing the main findings and considering their broader implications.

2. From Colonial to Neoliberal Extractivism

The purpose of this chapter is to situate the case of Banro’s Twangiza mine within its broader regional context, and its original contribution is its focus on African LICs (a country grouping generally overlooked by much of the literature, as noted in the opening chapter), and in particular the GALIC group. Drawing on the compilation of secondary data, it can be observed that a process of FDI-led gold sector (re)industrialisation is well underway across a group of 20 GALICs, including the DRC (Figure 2.1).¹⁸ The first section situates this process historically, arguing that the World Bank’s financing of mining reforms since the 1980s has established an era of neoliberal extractivism across the GALIC group. In the second section it is charted how, conjoined with a steadily rising gold price, this era has seen increased inward FDI flows to GALIC gold sectors since the 1990s, leading to the *en masse* arrival of TNCs and significantly increasing officially recorded gold production. The third and final section draws attention to processes of artisanal marginalisation and displacement that have been concurrent with TNC-led gold sector (re)industrialisation.

Figure 2.1 African LIC gold wealth

None or Negligible	Gold-endowed
Benin, Burundi, Comoros, Gambia, Guinea-Bissau, Rwanda, Somalia	Burkina Faso, Central African Republic (CAR), Chad, DRC, Eritrea, Ethiopia, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Senegal, Sierra Leone, South Sudan, Tanzania, Togo, Uganda, Zimbabwe

Source: Author classification based on a qualitative reading of US Geological Survey (USGS) Country Reports and The Artisanal and Small-Scale Mining Knowledge Sharing Archive, artisanalmining.org/Inventory/, accessed July 16th 2016.

Throughout these sections, three central issues are raised. First, the cogency, as per the IMF and the World Bank, of attributing the failure of Africa’s post-independence era of resource-based national developmentalism to state inefficiencies, mismanagement and corruption. Second, whether the current neoliberal extractivist era can drive the structural transformation and sustained economic development that the earlier developmental era was unable to deliver. Third, the labour and economic implications of the shift from a locally-led form of artisanal gold production to a TNC-led form of industrial production. These issues are taken up for further investigation from Chapter 3 onwards.

2.1 Historical Eras of African Extractivism

Placed in historical context, the current neoliberal era of new African extractivism can be identified as the third extractivist era on the continent since the colonial period (Figure 2.2). Drawing on Amin’s (1972) typology, the first ‘colonial extractivist’ era can be broadly distinguished as lasting

¹⁸ Observed through the measurement of their low income per capita (less than \$1,005 per person, in 2019), 27 of the world’s 31 LICs are located in sub-Saharan Africa.

from the 1880s until the 1960s.¹⁹ Prior to this era, Amin argues, the metropolitan powers had made limited attempts and progress at capitalist penetration, but the period of African colonisation ‘developed with tenfold vigour the present forms of dependence of the continent’ (Amin 1972: 506). Mineral extraction led by colonial capital was the prominent feature of this period.

Figure 2.2. Historical eras of African extractivism

Extractivist Era	Period	Main Characteristics
Colonial	1880s to 1960s	Foreign (colonial) capital
Developmental	1950s to 1980s	Nationalisation, state intervention
Neoliberal	1980s to Present	FDI-oriented privatisation, state deregulation

Source: Author classification.

Some African LICs were affected by mineral-oriented transformation, including the DRC (copper, gold and diamonds), Guinea (aluminium) and Liberia (rubber and iron). Yet most African LIC mineral deposits remained unknown to foreign capital throughout this period, particularly in West Africa, with the remaining countries undergoing instead a transformation towards cash crop production. Where mineral sectors were developed, these were disarticulated from pre-existing economies, establishing economic enclaves through which a substantial proportion of profits were repatriated to mother companies overseas (Ghai 1972: 261). In this way, and as discussed in the previous chapter, marginal industrial African economies were linked to more industrially advanced and expanding economies of the metropolitan centre.

Yet African countries gained their political independence through a period of decolonisation, beginning in the 1950s.²⁰ This marked the end of the colonial era of African extractivism and ushered in the ‘developmental extractivist’ era, characterised by resource nationalisation at a time when ‘the international policy agenda cohered around a stronger role for the state as the primary driver of economic development’ (Singh and Bourgooin 2013: 25). Buoyed by the long commodity boom of the 1950s, there was a general consensus during this period around the need to modernise and diversify African economies, and the role of the state as a centrally important agent of change within this process.

Reflecting the continued constraints of African dependency despite political independence, a series of external shocks beginning in the 1970s brought this period to an abrupt end. Commodity prices began to decrease as the oil price rose and demand for African exports diminished due to recession in the global North, shrinking already limited government revenues. Meanwhile, as African government loan repayments became due, interest rates on the loans began to rise as the US sought to control inflation through monetary policy. Growth slowed and debt grew dramatically across

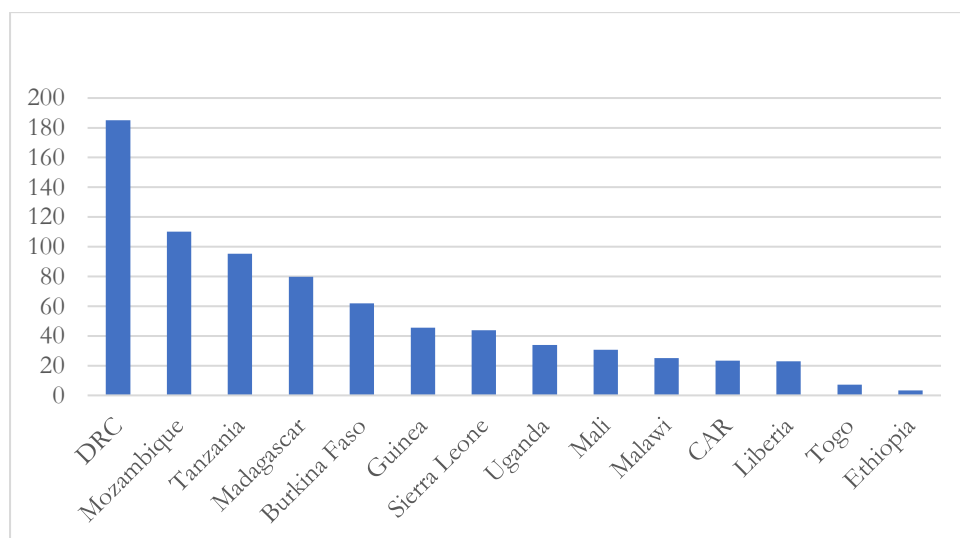
¹⁹ In this article, Amin distinguishes four distinct periods of pre-Independence African history. The first, pre-mercantilist period lasts up until the seventeenth century, during which Africa was neither inferior nor weaker than the rest of the Old World. The second, mercantilist period stretches from the seventeenth century to 1800, and was characterised by the slave trade, which led to a decline in productive forces throughout the continent. The third period lasted from 1800 to the 1880s, and was characterised by limited attempts to establish forms of dependence with the capitalist powers of the time. The fourth period of African colonisation lasts from the 1880s until the 1970s.

²⁰ With the notable exception of Liberia, which won its independence through a referendum held in 1846.

the continent, reducing the foreign exchange required to purchase imports; between 1980 and 1988, 25 sub-Saharan African countries rescheduled their debts 105 times (Cheru 1992: 503).

Seeking to understand why African economies had failed to develop and diversify as hoped during this period, a number of influential publications – notably from Bates (1981) and the World Bank (1981) (‘the Berg report’) – proposed misguided state intervention and government corruption as primary causal explanations. This line of thinking was taken up by the IMF and the World Bank, and formed a central component of the African Minerals Consensus discussed in the previous chapter. Both the IMF and the Bank grew significantly in influence during this period, formulating a set of policies that came to be known as the Washington Consensus (Williamson 1993). The policies revolved around a neoliberal menu of fiscal discipline, reducing public expenditure, import liberalisation, FDI liberalisation, the privatisation of SOEs and general deregulation of economic activities. ‘Getting the prices right’ was the central tenet, and the state was perceived as an obstacle to this process. This economic doctrine was implemented across Africa by World Bank- and IMF-financed Structural Adjustment Programmes (SAPs), geared towards currency devaluation, trade liberalisation, reducing the role of the state, eliminating subsidies and increasing primary commodity exports. Between 1980 and 1987, 27 of sub-Saharan Africa’s 38 countries underwent structural adjustment (Mosley and Weeks 1993).

Figure 2.3. World Bank mineral sector loans to GALICs, 1980 to 2016 (millions of USD)



Source: Author calculations based on data from the World Bank Country Database.

It was out of this context, and developed under the tutelage and financing of the World Bank, that the ‘neoliberal extractivist’ era emerged. Since 1980, the World Bank has provided around \$768 million in loans to 14 GALICs, of which more than \$150 million remained active in 2018.²¹ The country-level distribution of these loans is listed in Figure 2.3, which shows more than fifty percent of the total amount has been loaned to just three countries: the DRC, Mozambique and Tanzania.

²¹ As in the previous chapter, these figures do not include loans provided for energy and infrastructure projects, which are often directly related to mineral sector development.

Yet this concentration of value masks a high level of uniformity in regulatory and institutional reform proscribed by the Bank across the GALIC group. Looking at the content and outcomes of mining sector projects implemented under the loans, the experience of loan-recipient GALICs over the last few decades has been, as Campbell (2008: 369) has reflected for Africa as a whole, ‘a cumulative process of reform leading to several generations of increasingly liberalised mining regimes’. The first generation focused on implementing a neoliberal strategy of privatisation and state deregulation (Smith and Dorward 2014: 32), articulated most clearly in the Bank’s defining 1993 strategy document, *Strategy for African Mining*:

Governments should clearly spell out their mining development strategies. The private sector should take the lead. Private investors should own and operate mines. The government should promote private investment, establish policies and regulations, supervise implementation of established policies, and monitor the private companies. Existing state mining companies should be privatised at the earliest opportunity to improve productivity of the operations and to give a clear signal to investors with respect to the government’s intention to follow a private-sector-based strategy (World Bank 1993: xiii).

This strategy is reflected in the national-level GALIC mineral policies that followed soon after, such as the Government of Tanzania’s 1997 policy which stressed ‘private sector-led mineral development, while the major roles of the government are regulating, promoting and facilitating’ (Extractive Industries Transparency Initiative 2011: 10). The second generation of reform introduced a degree of regulation in the area of environmental protection, while the third emphasised stakeholder consultation and sanctioned limited state regulation, but only insofar as securing FDI and upholding the sanctity of private property (Bush 2010: 256). By the end of the third generation, African LIC governments had: reduced or eliminated state participation in mining enterprises; provided a wide range of fiscal and tax incentives to encourage FDI; liberalised exchange controls and exchange rate policy, and; enshrined investment-protection assurances (UNECA 2011: 17).

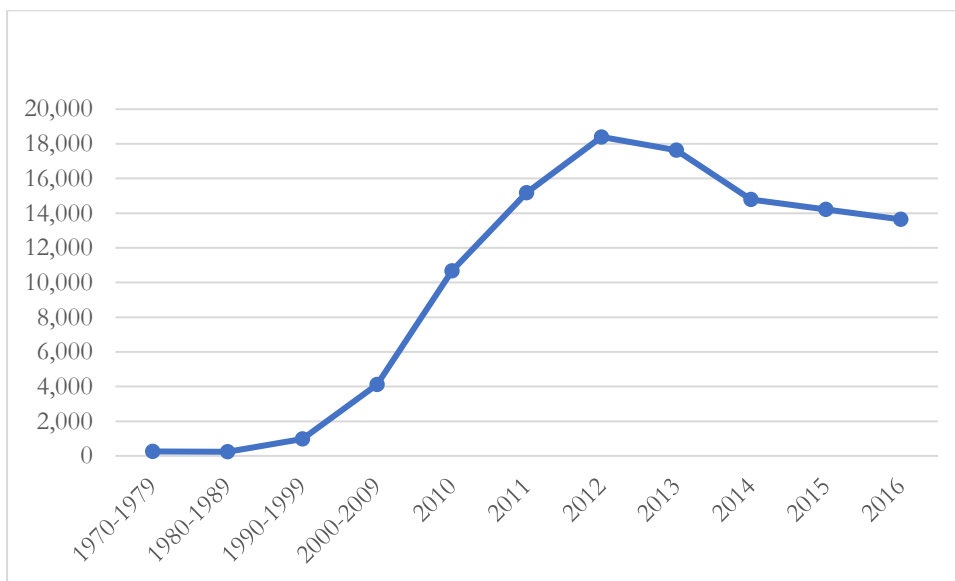
As Rubbers (2013: 5) has summarised, reforms promoted by the World Bank since the 1980s pursued a general strategy ‘to relaunch the African mining sector centred on the privatisation of public enterprises and the total or partial transfer of their assets to private investors’, structured by ‘a redefinition of [the state’s role] as a regulatory body’ (Ibid.: 18).²² The national developmentalist era has been abandoned. In its place, a neoliberal era has arisen, to which, as Hilson (2019) has recently observed, the World Bank remains firmly wedded. Yet there is a need to re-examine the IMF and the World Bank’s assessment that mining industrialisation strategies during the era of national developmentalism failed as a result of state inefficiencies and mismanagement. In light of some of the tensions around peripheral industrialisation discussed in the previous chapter, it might be the case that the fundamental problem of this era was linked to the particular resource-based development model being pursued, notably the dependence of this model on external prices and technology, and not the ownership structures underpinning the model *per se*.

²² Author translation.

2.2 FDI Increases and Production Growth

The change from an era of developmental to neoliberal extractivism – supported by the most recent commodity super-cycle beginning in 1999 and peaking in 2011 for most commodities (Le Billon and Good 2015: 206-207) – has seen increased mineral-seeking FDI to the GALIC group. Looking at aggregate trends, the country group has been the recipient of a significant and steady increase in inward FDI flows since the 1980s, with particularly rapid growth during the current decade (Figure 2.4). Total FDI inflows to the country group grew from an annual average of \$0.3 billion in the 1970s to \$4.1 billion in the 2000s and \$14.9 billion from 2010 to 2016. Despite a recent decline since 2012, coinciding with the end of the super-cycle, current annual levels are still significantly greater than those experienced during the previous decade.

Figure 2.4. Inward FDI flows to GALICs, 1970s to 2016 (millions of current USD)



Source: Author calculations based on data from UNCTAD and UNCTADstat.

Table 2.1 presents disaggregated country-level data on the size and importance of FDI inflows to GALICs since the 1990s, when they began to significantly increase (due to rounding, values and percentages in this table – and throughout the thesis – do not necessarily add to totals). Three stylised trends emerge from this data. First, there is a high level of FDI concentration in a few countries. For the period 2010 to 2016, more than half of total FDI went to Mozambique, the DRC and Tanzania.²³ Second, FDI concentration has been coupled with significant growth across all countries (with the exception of Eritrea, where growth has been less pronounced); the countries located towards the bottom of Table 2.1 have received the lowest absolute levels of inward FDI flows during the current decade, yet have experienced sharp increases in these flows since the turn of the century.

Third (and again with the exception of Eritrea), FDI has increased in importance across all GALICs during the current decade, relative to the size of their economies, their levels of gross

²³ Previous studies have noted a similar trend.

fixed capital formation (GFCF) and to other regions. During the 1990s, the average annual value of FDI inflows to GALICs expressed as a percentage of GDP was similar to other regions, at 1.7 percent compared to 1.2 percent in sub-Saharan Africa, 1.9 percent in developing economies and 1.3 percent globally. During the 2000s, this figure surpassed other regions at 4.1 percent, and has continued to rise during the current decade to 7.6 percent, while declining elsewhere (to 3.5 percent in sub-Saharan Africa, 2.5 percent in developing economies and 2.1 percent globally). These trends are similar, albeit less pronounced, if Liberia is excluded from the calculation.

Table 2.1 Select indicators on FDI inflows to GALICs, period averages (millions of current USD)

Country	FDI Flows								
	Value			As % of GDP			As % of GFCF		
	1990-1999	2000-2009	2010-2016	1990-1999	2000-2009	2010-2016	1990-1999	2000-2009	2010-2016
Mozambique	92	366	4,035	2.0	5.0	26.0	15.0	33.0	89.0
DRC	3	591	2,108	0.0	4.1	7.2	1.6	35.1	56.2
Tanzania	121	603	1,653	1.1	3.0	4.0	5.4	12.6	13.6
Ethiopia	85	311	1,397	1.1	2.9	2.7	5.9	11.2	6.7
Uganda	80	440	840	1.2	3.5	3.4	5.6	13.5	13.8
Niger	10	141	744	0.4	2.9	10.8	3.7	10.5	31.9
Liberia	72	130	620	12.4	20.4	38.3	46.3	241.2	181.5
Madagascar	19	382	619	0.6	5.1	6.3	4.4	19.0	37.1
Sierra Leone	3	54	503	0.4	3.1	13.8	4.5	33.0	59.7
Zimbabwe	95	43	377	1.0	0.7	3.0	3.4	18.4	20.2
Senegal	57	185	341	1.2	1.6	2.4	5.8	6.6	9.6
Mali	24	199	316	0.8	3.2	2.5	3.7	16.9	15.9
Chad	220	282	306	1.3	10.4	3.0	10.4	28.0	15.0
Guinea	20	123	290	0.4	2.2	4.0	3.5	10.6	19.6
Malawi	13	82	288	0.0	2.0	5.0	3.9	14.5	40.6
Burkina Faso	7	71	271	0.3	1.1	2.3	1.2	5.4	7.5
Togo	14	53	238	0.9	2.8	6.1	7.9	17.8	31.7
Eritrea	44	27	52	5.6	2.3	1.6	17.4	14.4	19.6
CAR	1	30.0	30	0.2	1.7	1.4	2.0	16.4	10.2
GALICs	981	4,112	15,027	1.7	4.1	7.6	8.0	29.4	35.8
GALICs (minus Liberia)				1.1	3.2	5.9	5.9	17.6	27.7
Sub-Saharan Africa				1.2	3.6	3.5	7.7	20.1	17.2
Developing Economies				1.9	3.0	2.5	7.7	11.2	8.3
World				1.3	2.4	2.1	5.7	10.0	8.5

Notes: GFCF = Gross Fixed Capital Formation. South Sudan has been excluded due to the absence of historical data.

Source: Author calculations based on data from UNCTAD and UNCTADstat.

Similarly, and excluding Liberia, the annual average value of FDI inflows expressed as a percentage of GFCF was lower than other regions during the 1990s, at 5.9 percent for GALICs compared to 7.7 percent in sub-Saharan Africa, 7.7 percent in developing economies and 5.7 percent globally. During the 2000s, this figure nearly trebled for GALICs to 17.6 percent, while increasing at a similar rate in sub-Saharan Africa but at a slower rate in developing countries and globally. Perhaps

most interestingly, during the current decade, the figure for GALICs has risen once more to 27.7 percent, while declining in other regions (to 17.2 percent in sub-Saharan Africa, 8.3 percent in developing economies and 8.5 percent globally). Thus, while in the 1990s the importance of FDI relative to GALIC GDP and GFCF was similar as across sub-Saharan Africa and developing economies, by the early 2010s, FDI had become a significantly more important component of GALIC national economies than in these other regions.

The bulk of this FDI growth has been directed to the mineral sector. Mineral exploration in Africa increased from 4 percent of total mineral exploration expenditure worldwide in 1991 to 17.5 percent in 1998, and overall mining investment in Africa doubled between 1990 and 1997 (Pegg 2006: 383). In 2004, the \$15 billion invested in mining in Africa represented 15 percent of the total of mining investment worldwide, up from five percent in the mid-1980s and putting the region third in the investment league, behind Latin America and Oceania (UNCTAD 2005). From 2002 to 2012, Africa's absolute mineral exploration spending rose by more than 700 percent, reaching \$3.1 billion in 2012 (Wilburn and Stanley 2013). Gold was the major attraction, representing around two-thirds of all African mineral exploration activity between 1995 and 2004.²⁴

In 2007, UNCTAD (2007: 35) noted that:

...the sweeping changes in African LDCs' mining policy in the 1980s and 1990s were aimed at attracting FDI and increasing exports, in which they have been successful. Total FDI inflows into African LDCs rose fourfold from an annual average of \$1.7 billion in the 1990s to \$6.8 billion in 2000 to 2005...the bulk of which was directed to mineral extractive industries.

In 2012, FDI inflows to LDCs grew robustly by 20 percent to a record level of \$26 billion and were highly concentrated in a few GALICs (the DRC, Liberia, Mozambique and Uganda) (UNCTAD 2013: xviii). In 2014, total FDI inflows to LDCs reached \$23 billion, and remained 'concentrated in a small number of mineral-rich economies', with GALICs among three of the top five LDC FDI recipients (UNCTAD 2015: 78-81).²⁵ The scale of the trend has been such that, according to Farole and Winkler (2014: 117), 'for many low-income countries [today], particularly in sub-Saharan Africa, the mining sector represents one of the most crucial sources of investment and income in their economies'.

Two provisos should be appended to this analysis. First, and as mentioned earlier, the current era of neoliberal extractivism has coincided with a commodity super-cycle, during which the gold price increased by a factor of six, from \$279 per troy ounce in 2000 to its peak of \$1,669 per troy ounce in 2012 (Figure 2.5).²⁶ Thus, it might be the case that much of the fresh mineral- and gold-seeking FDI would still have been forthcoming, regardless of the legal and regulatory context. Second, as

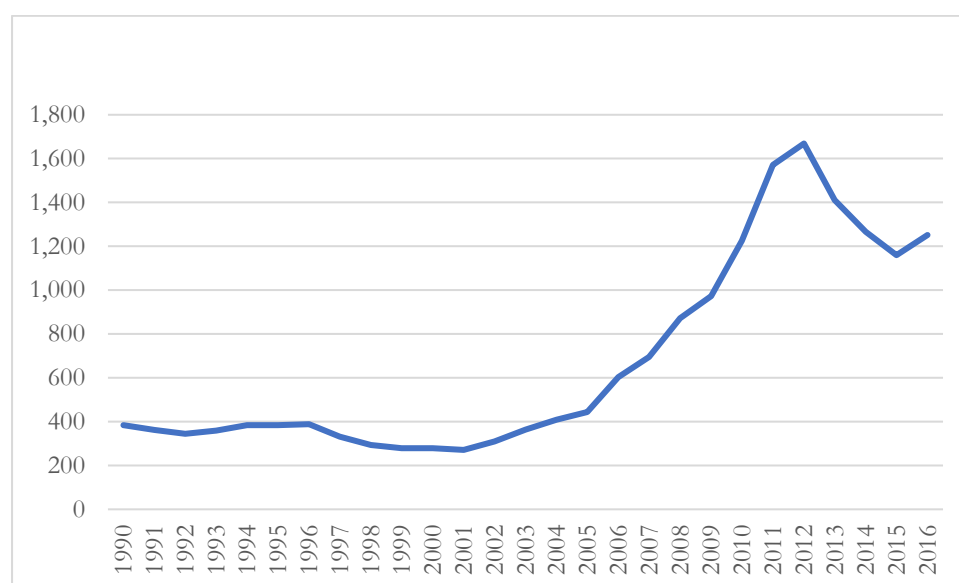
²⁴ USGS Data Series 139, pubs.usgs.gov/ds/2005/139/, accessed December 18th 2017.

²⁵ The top five countries were Mozambique (\$4.9 billion), Zambia (\$2.5 billion), the DRC (\$2.1 billion), Tanzania (\$2.1 billion) and Equatorial Guinea (\$1.9 billion).

²⁶ According to the World Gold Council (2016: 2), the bull run between 2000 and 2012 'was driven by a combination of factors: strong emerging market growth supporting consumer demand; the global financial crisis and its aftermath creating flight-to-quality flows; financial innovation making gold easier to buy; central banks' shifting from net gold sellers to net buyers to diversify foreign reserves'.

the Burundian economist Ndikumana (2015: 6) has pointed out, ‘although the volume of private capital flows into [Africa] has increased substantially over the past two decades, the continent’s share in global financial flows remains small’. For sub-Saharan Africa, this share has shrunk from its historic high of an annual average of 4.4 percent of the global total in the 1970s to 3.7 percent in the current decade, while for GALICs the share has remained constant, at 1.1 percent in the 1970s and one percent in the current decade (having fallen to a low of 0.2 percent in the 1990s).²⁷ Thus, while the absolute volume has grown, the group’s share of global flows remains modest. Yet given the level of absolute increase in FDI inflows to GALICs shown above, FDI is nevertheless a more important component of GALIC national economies than was the case during the previous century.

Figure 2.5. Annual average gold price per troy ounce, 1990 to 2016 (current USD)



Source: World Gold Council, www.gold.org/research/download-the-gold-price-since-1978, accessed November 24th 2017.

More recently, particularly over the last decade, official GALIC gold production has begun to increase steeply. From 1990 to 2015, annual gold production increased by a factor of eight at the aggregate level across nine of the 14 GALICS for which consistent data was available, including significant country-level increases in each of the nine countries (Table 2.2). For many of the GALICs where data was unavailable or significant official production increases were not recorded, a reading of United States Geological Survey (USGS) country reports indicated that in most of these countries the gold sector was undergoing a similar period of growth and expansion (with around a ten-year time lag between first investment and production not uncommon).²⁸

Illustrative of this, in 2012 alone, a South African company was granted a 25-year license to develop the Komahun gold project in Sierra Leone, and in the same country a British company forecast production of 4,000 kilograms a year from its Baomahun gold project. In Liberia, a Canadian company was constructing a new gold mine forecast to produce 3,700 kilograms per year and a

²⁷ Author calculations based on data from UNCTAD and UNCTADstat.

²⁸ USGS, minerals.usgs.gov/minerals/pubs/state/index.html#pubs, accessed December 18th 2017.

British company completed resource estimates for two additional gold projects, with exploration set to continue the following year. In Eritrea, the Canadian-owned Bisha mine produced 9,735 kilograms of gold, another Canadian corporation completed three feasibility studies with positive results for new gold projects, and a Chinese company began construction of a gold mine forecast to produce 3,200 kilograms per year. Finally, in Mozambique, a British company announced plans to sell its 93,000-kilogram gold deposit to the Australian company Auroch Minerals, and a South African company began exploration for gold at Tulo.

Table 2.2 GALIC gold production, select years (tonnes)

Country	1990	1995	2000	2005	2010	2015
Mali	2.4	7.8	28.7	49.2	42.4	46.5
Tanzania	1.6	0.3	15.1	47.3	39.4	43.3
DRC	-	1.2	0.1	7.2	10	43
Burkina Faso	2.7	1.4	0.6	1.4	23.6	36.5
Guinea	6.3	7.9	15.7	25.1	24.8	21.4
Zimbabwe	16.9	24.0	22.0	14.0	19.2	20.0
Togo	-	-	-	6.2	10.4	15.6
Ethiopia	0.8	1.2	3.2	3.7	6	9.3
Senegal	-	-	0.6	0.6	5.3	5.6
Madagascar	-	-	-	0	0	3
Niger	-	0.1	0.0	5.0	2.0	1.2
Eritrea	-	0.1	0.3	0.0	0.0	0.8
Liberia	0.6	0.8	0.0	0.0	0.7	0.8
Mozambique	0.7	0.2	0.0	0.1	0.1	0.2
TOTAL	32	45	86.3	159.8	183.9	247.2

Source: Author calculations based on USGS Database.

To summarise, a neoliberal development ideology conjoined with a commodity super-cycle has resulted in significant growth of inward mineral-seeking FDI flows to GALICs. This growth has induced change in the composition of their economies, which over the last decade have become increasingly dependent upon FDI as a source of development financing, and this level of dependence is greater in the current decade relative to other regions. Official gold production has increased, and a qualitative reading of USGS reports attests to the TNC-led nature of this process; while foreign capital is not the only source of GALIC mining investment, it is the dominant one.²⁹

These trends return us once more to the tensions and problems identified by the centre-periphery framework in the previous chapter and that relate to the creation, capture and distribution of value

²⁹ This is supported by mining company ownership data submitted in 2014 by seven GALICs to the Extractive Industries Transparency Initiative. The data is not comprehensive, as mining companies reported on a voluntary basis and many failed to do so. Also, it is plausible to assume more underreporting of foreign-owned companies, given the sensitivity surrounding their ownership structures in comparison to SOEs, and some domestic-owned companies that did report are SOEs holding a minority stake in multiple foreign-owned projects (such as Gécamines in the DRC). Nevertheless, the available data indicates that 149 of the 167 mining companies (or 89 percent) reporting ownership data in 2014 were majority foreign-owned TNC subsidiaries (where the status 'foreign-owned' was assigned if a non-national entity owned more than 50 percent of the company equity).

resulting from the productivity gains induced by FDI-led processes of industrialisation in the periphery. The neoliberal era has been successful in delivering fresh mineral-seeking FDI inflows to GALICs with, as argued by the World Bank (2010: 21), the investment and resultant increase in mineral production helping to drive high GDP growth rates. Yet to what extent this has catalysed the broader structural processes of economic transformation and diversification that proved so elusive during the continent's earlier era of national developmentalism remains an avenue for further exploration.

2.3 Artisanal Marginalisation and Displacement

Concurrent with TNC-led gold sector (re)industrialisation has been the marginalisation and displacement of more locally-anchored artisanal gold mining economies across the country group. The OECD (2016: 65) defines ASM as 'mining operations with predominantly simplified forms of exploration, extraction, processing, and transportation...normally low capital-intensive and uses high labour-intensive technology'. For 1989, the World Bank (1993: 42-43) estimated the annual value of African artisanal gold and diamond production at \$1 billion, from an estimated one million miners. Notably, this included a consideration of artisanal gold production in 15 of the 20 GALICs, which together comprised around 80 percent of the estimated production value and miners. The position of ASM in GALIC economies in the 2010s can be gauged by looking at the estimated number of artisanal miners working in each country, and their percentage composition of the rural population (Table 2.3).

Table 2.3 GALIC ASM labour

Country	Number of Artisanal Miners		Country	Number of Artisanal Miners	
	Total	As a % of the Rural Population		Total	As a % of the Rural Population
Burkina Faso	150,000	1.2	Mali	500,000	4.7
CAR	195,000	5.1	Mozambique	200,000	0.8
Chad	90,000	0.6	Niger	365,000	2.2
DRC	2,000,000	4.5	Senegal	15,000	0.2
Eritrea	400,000	10.0	Sierra Leone	400,000	5.2
Ethiopia	450,000	0.4	South Sudan	No estimate	-
Guinea	250,000	1.9	Tanzania	950,000	2.6
Liberia	100,000	4.4	Togo	17,500	0.3
Madagascar	450,000	3.2	Uganda	200,000	0.6
Malawi	40,000	0.3	Zimbabwe	509,000	4.8
TOTAL/AVERAGE				7,281,500	2.8

Notes: According to the website, numbers 'were estimated from published sources believed reliable.... Sources date from different years, with the first comprehensive inventory published back in 1999. Estimations take this partly into account, adjusting the numbers to recent changes'; Where estimates included a range, the mid-point was taken.

Source: The Artisanal and Small-scale Mining Knowledge Sharing Archive, artisanalmining.org/Inventory/, accessed December 7th 2017.

With an estimated total of around 7.3 million artisanal miners across the country group, representing 2.8 percent of the rural population, the general picture confirms Hilson's (2009: 1) observation that ASM has established itself as 'an economic mainstay in rural sub-Saharan Africa'. Factoring in secondary economies and supply chains and dependents, the number and percentage of rural inhabitants directly and indirectly connected to the sector becomes greater still. The growth in ASM since the 1980s, when the World Bank estimated just one million workers across the continent, has been driven by three factors. First, the rising price of gold and other minerals has pulled people towards the sector. Second, what Bernstein (2007: 20) has referred to as the 'crisis of African agriculture', reflected in low agricultural productivity, declining farm sizes and rising populations, has led to an increasingly important role for off-farm employment (Alobo Loison 2015).³⁰ Third, 'what is often overlooked...is that much of the poverty driving people to [artisanal mining] appears, at least in the case of sub-Saharan Africa, to have been created by reforms' (Banchirigah 2006: 167). The decline of state-led developmentalism and the collapse of provisioning under the weight of structural adjustment during the 1980s exerted significant strain on the reproductive capacity of rural African households.

Yet despite the sector's importance to GALIC livelihoods today, and as argued by a number of scholars (cf. Banchirigah 2006, Fisher 2007, Banchirigah and Hilson 2010, Clausen et al. 2011, Bryceson and Geenen 2015) ASM is generally negatively perceived, primarily for three reasons. First, the sector's association with a range of development problems, including child labour, human rights abuses, the spread of HIV/AIDS and other infectious diseases, and conflict financing (as discussed in the opening chapter). Second, its association with illegality, leading to those who engage in it to be labelled as criminals. Third, its perceived low productivity and inefficiency, limiting its desirability and potential as a poverty-alleviating development strategy.

Due to these perceptions, ASM 'generates negative reactions from governments, mining experts, and civil society groups, and is typically peripheral to economic planning for livelihood improvement and mineral sector development' (Fisher 2007: 736). In the African context, national policies and laws introduced under the tutelage of the World Bank 'often pay lip service to artisanal miners but nonetheless the actual implementation of such policies tends to constrain rather than encourage artisanal mining' (Bryceson and Jønsson 2014: 19). This can be seen most clearly in the procedurally complex, bureaucratically burdensome and financially costly demands made of African artisanal miners to formalise their activity (Banchirigah and Hilson 2010).

The end result for artisanal gold miners, illustrated by Geenen (2014a: 279) in the case of the DRC, is a formalisation process that 'criminalises everyone who does not comply with the regulations' and 'dispossesses artisanal miners who do not and cannot obtain an official title, often to the advantage of actors with more financial capital, such as industrial companies'. Artisanal displacement is often financed by the incoming TNCs, and frequently takes place as government military-led 'sweeps':

³⁰ This dynamic is captured by Bryceson's 'deagrarianisation' (1996) or 'depeasantisation' (1999) thesis, which documents the gravitation made by rural Africans into off-farm employment as a result of multiple economic, social and political pressures from the 1970s onwards (cf. Berry 2002, Ellis 2006).

AngloGold-Ashanti, for example, which has operations in Ghana, Guinea, Tanzania, Mali, Namibia and South Africa, and exploration sites in the Democratic Republic of Congo, has made it no secret that actions taken to forcibly remove illegal miners from company concessions are, in the view of their officers, well justified.... Companies such as Barrick Gold, which operates the Bulyanhulu Mine in Northwest Tanzania, and Anvil Mining, the majority owner of the Kulu Project in the Democratic Republic of Congo, also regularly call upon local security forces to remove illegal artisanal miners from concessions (Banchirigah and Hilson 2010: 166).

A recent large-scale GALIC example of this process involved the forced displacement of 70,000 artisanal gold miners by Ugandan military and police in Mubende in August 2017, to make way for a Canadian-listed mining corporation. Speaking to media after the displacement, Edwards Katto, a Director at the Ministry of Energy and Mineral Development, said:

Those people [artisanal miners] still joking should style up. Now, I'm not only a Director [in the Ministry] but also a commander of the Minerals Protection Unit of the Uganda Police Force. So, those illegal artisanal miners still behaving like those in Mubende [who were evicted], they should pack and vacate the mines, otherwise, my police force will help to pack.³¹

Displacement removes artisanal miners from the best deposits and restricts them to less productive areas, as Luning's (2008) case study of artisanal gold mining in Burkina Faso documents. While not strictly analogous, this dynamic nevertheless recalls Marx's description of primitive accumulation, or Harvey's (2004: 74) reconceptualization of this as a continuous process of accumulation by dispossession, involving 'the commodification and privatization of land and the forceful expulsion of peasant populations, conversion of various forms of property rights into exclusive private property rights, [and] suppression of rights to the commons'. Ethiopia, where the gold-dominated ASM sector contributed \$91 million to state revenue in 2016, provides a partial exception. Yet even in Ethiopia, foreign-led industrial mining appears the dominant model for mineral extraction, and the generalised trend across GALICs is towards government-led marginalisation and displacement of artisanal mining, in favour of capital-intensive, TNC-led industrial projects.

This raises important questions about the nature and outcomes of the interaction between TNCs and artisanal mining. From the perspective of the labour relations associated with the gold sector, Lewis' open economy model of economic growth discussed in the previous chapter theorises that in contexts where there is an unlimited supply of labour, worker wages will be set in the informal economy and general living standards will only improve if the productivity of subsistence producers or the overall availability of employment are simultaneously increased. To what extent, then, are the labour regimes installed by industrial mining projects compensating for those being displaced by TNC arrival? From the perspective of economic development, while the productivity of the artisanal sector is undoubtedly low, is it stagnant? Might it already be contributing to structural transformation and capital accumulation in ways unseen and unmeasured by the formal economy?

³¹ AllAfrica, allafrica.com/stories/201711040012.html, accessed December 15th 2017.

To conclude, a process of TNC-led gold sector (re)industrialisation is well underway across the GALIC group, representing a new and increasingly dominant system of GALIC gold production. Theoretically, the productivity gains generated by this new model provide the basis to raise living standards and foster structural transformation, as hypothesised by AMC proponents. Yet the centre-periphery framework introduced in the previous chapter questions to what extent such processes can take place under the model of TNC-led industrialisation, with the central tensions of this model revolving around the creation, capture, distribution and use of the value generated by the increased productivity.

Following from this, and related to the research questions established in the opening chapter, the present chapter identified three issues requiring further exploration and examination. First, to what extent can the failure of the resource-based strategies pursued during the post-Independence national developmentalist era be attributed to the ownership structures underlying these strategies, or to what extent is this failure related to the strategy itself? Second, while today's neoliberal extractivist era has succeeded in attracting fresh FDI to and driving the GDP growth of GALICs, to what extent has this induced broader processes of economic development? Third, how does the artisanal production system marginalised and displaced by this regional process function? Does it carry any potential to drive the kind of structural processes of economic transformation sought by AMC proponents through foreign-led industrialisation? What is the impact of the shift from one production system to another on mining labour and living standards?

The remainder of the thesis takes up and explores these lines of inquiry through the case study of gold mining in South Kivu, beginning in the next chapter with a consideration of the *longue durée* of formal gold mining in the region. Throughout the twentieth century, formal gold mining in South Kivu was a privately-owned (and predominantly Belgian-led) undertaking that escaped the post-Independence period of nationalisation experienced by the mining sector elsewhere in the DRC, most notably through the nationalisation of the largest colonial mining corporation *Union minière de Haut Katanga* (UMHK) – Haut Katanga Mining Union – in 1966. As such, the history of formal gold mining in South Kivu provides an ideal context to re-examine our understanding of the failure of African developmentalism in the 1960s and 1970s. If it is indeed the case that TNCs provide greater levels of expertise and productive efficiency than SOEs, we might expect TNC-led gold mining in South Kivu during the second half of the twentieth century to have surmounted the problems that beset the SOE-led mineral sector elsewhere in the DRC and across Africa. Yet on the contrary, and as revealed in the next chapter, a review of corporate-led gold mining in South Kivu tells an altogether different story, and one which invites a reassessment of the assumptions underpinning the World Bank-financed process of neoliberal mining reform that has helped to install a TNC-controlled industrial gold sector across the GALIC group during the opening decades of the twenty-first century.

3. The Rise and Fall of Belgian-Led Gold Mining in South Kivu

The present chapter reviews nearly a century of formal gold mining and its relation to labour and economic development in South Kivu, with a focus on Luhwindja, the government collectivity covering 183 square kilometres in Mwenga Territory and in which Banro's Twangiza mine is located. As will be shown, from the 1920s, people from Luhwindja travelled to other areas across South Kivu to work in the mines. Gold production began in Luhwindja itself in 1938, including a small mining workforce at and around the Twangiza deposit, and lasted through to 1975. Drawing on archival and government data, interviews and the secondary literature, the chapter's main purpose is to demonstrate how the arrival of foreign-controlled gold mining in South Kivu at the beginning of the twentieth century unleashed processes of marginalisation, polarisation and conflict, albeit with some degree of domestic integration and, initially at least, a predominantly artisanal productive structure that was less disarticulated from the surrounding economy than the capital-intensive, technologically-advanced nature of production at Banro's Twangiza mine today (as will be shown in Chapter 6).

In doing so, it provides a revisionist reading of the contraction and eventual collapse of the formal Congolese mining sector from the 1970s onwards, interpreted by the IMF and the World Bank as due to state corruption, inefficiency and mismanagement. World Bank reports from the period of the DRC's first raft of SAP reforms, which ran from 1983 to 1986, show how ingrained this view was at the time. In a report on the problems of development in the Kivu region (which incorporated at the time present day South Kivu, North Kivu and Maniema provinces), the Bank (1984: 12) argued:

The large internal and external imbalances of Zaire are due...to a long series of inadequate economic and financial decisions. Nothing in the last decade has had a more lasting and devastating effect on the economy than the Zairianisation and Nationalisation measures of 1973 and 1974 [which have] destroyed the distribution network and infrastructure linking urban areas to rural areas and seriously undermined the confidence of the private sector.³²

The following year, in an economic memorandum, the Bank (1985: 4) noted that 'from a macroeconomic perspective, the largely inefficient parastatal sector has inflicted high opportunity costs on the Zairian economy and exacerbated internal and external imbalances.... unless there is strong commitment to operate the public enterprise sector efficiently, no reform, however well-designed, can succeed'. Based on this understanding, the IMF and the World Bank used SAP reform to implement a raft of economic liberalisation, privatisation and deregulation measures. For mining, and as discussed in more detail in Chapter 6, this included privatising the country's two largest SOEs, the copper and cobalt producer *Société générale Congolaise des minerais* (Gécamines) – Congolese General Company of Minerals – and the diamond producer *Société minière de Bakwanga* – Bakwanga Mining Company – as part of a programme to 'improve the efficiency and financial management of the [Congolese] public enterprise' (Ibid.: 8).

³² Author translation.

This view of Zaire's economic collapse as overwhelmingly due to state inefficiencies has become so commonplace today as to permeate nearly all thinking about development in the DRC. Reports by Western research and advocacy organisations are infused with this logic, such as recent publications from The Enough Project (2016), Global Witness (2017), The Carter Center (2017) and the Congo Research Group (2017).³³ In an opening speech to an international conference on natural resource management in 2012, then finance minister Matata Ponyo asserted that the DRC's failure to benefit from its natural resource wealth 'was largely due to bad governance' (Marysse and Tshimanga 2013: 23). Similarly, the Congolese economist Gaston Lukusa (2016: 56) recently wrote that 'for many years now, bad governance has been at the origin of the crises experienced by the DRC'.³⁴ For Pierre Englebert (2014: 16), a prominent Congo scholar based in the US, two decades of structural adjustment and neoliberal reform have not been enough: '...what is also generally needed is a disengagement of the state from the economy and society.... There can be little hope for more accountable economic governance and genuine development without a general deflation of its role'.

This chapter departs from such a diagnosis and prescription, and is guided instead by an alternative understanding which foregrounds the historical significance of the first decade of President Mobutu's rule, and the importance of external economic shocks in bringing this period to an abrupt end. By closely investigating the history of gold mining in South Kivu, it also challenges the assumptions underpinning neoliberal mining sector reform in the DRC and across the GALIC group from the 1980s onwards. Rather than a story of Congolese mismanagement, the story of the contraction and eventual collapse of formal gold mining in South Kivu is one of a largely Belgian-owned and managed subsidiary, *Société minière et industrielle du Kivu* (SOMINKI) – the Kivu Mining and Industrial Company – that went bankrupt as a result of a failure to control costs when confronted with severe price volatility. While the onset of the Congo Wars in 1996 provided the short-term trigger for SOMINKI entering liquidation in 1997, the corporation's descent had begun more than a decade earlier, as a result of the tin price crash of 1985, from which it never recovered.

The chapter's original contribution is twofold. First, it advances existing histories of formal gold mining in South Kivu (cf. de Faily 2001: 4-8, Mthembu-Salter 2009: 3-5, Geenen 2014a: 129-134) through the presentation and analysis of new archival sources and interview data. Second, it relates this history to a critique of the common understanding, as per the IMF and the World Bank, that the collapse of the formal Congolese mining sector towards the end of the twentieth century is to be largely attributed to inefficient and mismanaged Congolese SOEs. Indeed, and in part a reflection of the dominance of this line of thinking, many researchers writing about SOMINKI in recent years have assumed it was state-owned and managed. For example, Carisch (2014: 2010) calls SOMINKI 'Congo's second largest state-owned gold mining company', and the Congolese civil society organisation *Observatoire gouvernance et paix* (OGP) – Governance and Peace Observatory – (2010: 30) refer to the subsidiary as having been 'a public enterprise'.³⁵ Kamundala

³³ Entitled *A Criminal State: Understanding and Countering Institutionalized Corruption and Violence in the DRC, Regime Cash Machine, A State Affair: Privatizing Congo's Copper Sector*, and *All the President's Wealth: The Kabila Family Business*, respectively.

³⁴ Author translation.

³⁵ Author translation.

et al. (2015: 169) wrote that following nationalisation in Zaire in 1973, ‘all the large foreign mining companies in the four mining provinces became state-owned societies’,³⁶ listing SOMINKI as one of these. Yet the state only ever held a 28 percent stake in SOMINKI, with the remaining 72 percent held by predominantly Belgian mother companies. In light of SOMINKI’s decline, and given the existence of state-owned mining companies elsewhere in the DRC from which the ‘failure of nationalisation’ narrative emerged, acknowledging the foreign composition of SOMINKI’s ownership and management structures provides justification to re-examine common explanations for the near complete collapse of the formal Congolese mining economy by the end of the twentieth century.

The history of formal gold mining in South Kivu also speaks to some of the tensions raised by the classic critiques of peripheral development, reviewed in the opening chapter. The industrial structure of gold mining became increasingly disarticulated from the surrounding economy, following the efforts towards mechanisation from the late 1940s onwards. Meanwhile, worker wages were generally stagnant and a narrow and mostly European managerial class were the main beneficiaries of increased wage inequality.

The chapter is structured in two sections. The first section opens by briefly sketching what is known about the social and political structure of precolonial society in Luhwindja and the origins of gold mining in South Kivu. The colonial period, lasting from 1885 to 1960, is then charted. In the second section, the period from Congolese Independence in 1960 to the onset of the Congo Wars in 1996 is covered.

First, however, some brief explanatory notes are required regarding the use of vocabulary throughout the chapter. First (in this chapter and the next), the terms ‘formal’ and ‘informal’ are generally preferred over ‘artisanal’ and ‘industrial’ to distinguish between the two distinct modes of gold mining practiced in South Kivu from the 1920s. The formal gold sector made use of artisanal techniques, exclusively at first, but still to a significant degree by the 1980s and 1990s, rendering the usage of ‘industrial’ problematic. Yet all gold produced outside of the control of foreign mining corporations during the same period was done so overwhelmingly (albeit not exclusively) in the informal sector, making a formal-informal binary less misleading than its artisanal-industrial counterpart. Second, ‘African’ rather than ‘Congolese’ labour is referred to throughout the colonial period. While around 7,000 Burundian and Rwandan labourers were brought into the DRC to work in the mines during this period (Huggins 2010: 27), archival material and much of the secondary literature and data refers only to ‘African’ labour, without making the distinction. Third, while the DRC wasn’t renamed Zaire until 1971, for the purpose of fluidity, ‘Zaire’, ‘Zairians’ and ‘Zaires’ (the currency) are used throughout Mobutu’s 32-year Presidency, from 1965 to 1997.

3.1 Peripheral Insertion into Industrial Civilisation (1885-1960)

With a monarchical lineage dating back to the beginning of the eighteenth century, Luhwindja formed around this time as a loosely defined territory comprising one of the seven Bushi

³⁶ Author translation.

kingdoms, which together constituted South Kivu's 'most centralised precolonial political structure' (Vlassenroot 2013: 14). Inhabited by the Bashi people and governed by Bami (singular, Mwami), or local kings, the kingdoms stretched across parts of South Kivu and neighbouring Burundi and Rwanda (Chretien 2006: 118).³⁷ Within this structure, Bami derived their power primarily from their control over access to productive land, which they distributed through the practice of *kalinzi* (an indefinite loan in return for tribute and loyalty) and *bwasa* (or *bugwarhire*, a short-term loan), integrating recipients into a dependent relationship (Kamuntu 1995: 8-9).

Social differentiation in precolonial Bushi society mirrored the political hierarchy, and centred around variance in land and livestock ownership. As agro-pastoralists, cows were at the centre of the Bushi social system, and cow ownership was 'the principal manifestation of wealth and power' (Bukumwe 1991: 10). Cows could be loaned in return for a share of the offspring between members of the same social class (*bugabire*), between members of different social classes with no obligation to return future offspring (*bushobole*), or simply to those in difficulty (*kubima*) (Kamuntu 1995: 15). As Colle (1971: 80)³⁸, a Belgian missionary living in the area in the early twentieth century, recalls, 'the owner of several cows, especially if he has two or three wives and a decent number of sons, enters into the *bagula* class...an elevated class, that we might call the aristocracy'.³⁹ Yet the hierarchy allowed for upward mobility, and extremes of inequality were avoided by redistributive and inclusive land management and livestock sharing practices (Van Acker 2005). In the case of Luhwindja, this was facilitated by a low population density at the beginning of the twentieth century, of around 45 people per square kilometre (Ngabo 1983: 24).

Unlike early nineteenth century copper production in the DRC's Katanga region (cf. Owenga Odinga 2014: 179-182), there is no evidence of precolonial mineral exploitation by the Bashi, either in Luhwindja, South Kivu or elsewhere (Colle 1971: 38, Kamuntu 1995: 19). This was to change, however, upon King Leopold II of Belgium's creation and appropriation of the Congo Free State – bearing no resemblance to the former Kongo or any other kingdom (Stengers 1969: 261) – following the Berlin Conference of 1885, which led to a profound and at times violent disruption of and departure from the pre-existing Bushi social order. Two defining outcomes of Leopold's Congo Free State, which was to last until 1908, were its integration of rural regions into production for the international market on highly exploitative terms, and the disruption and suppression of precolonial trading networks (both foreign and indigenous) in favour of Belgian financial capital, solicited primarily to develop the mining and transport sectors (Peemans 1975: 151, Bezy et al. 1981: 15).

In South Kivu, this suppression was initially achieved by the colonial army's defeat of the Zanzibari traders in 1895, which allowed for Europeans to settle in the area (Hoffmann et al. 2016: 1439). Belgian financial capital made its entry shortly after, when in 1902 and upon King Leopold II's solicitation, the Belgian industrialist Baron Empain founded (with an initial capital of 25 million gold francs) *Chemins de fer du Congo Supérieur aux Grands Lacs* (CFL) – Upper Congo Railways of the

³⁷ A hand-written history given to the author by a Luhwindjan elder dated its monarchy to 1704.

³⁸ The original publication date was 1920.

³⁹ Author translation.

Great Lakes – to construct a railway connecting the eastern parts of the Congo Free State.⁴⁰ In return, the Baron's company the Empain Group was given four million hectares of land and mineral rights (stretching from the Congo River eastward to Lake Kivu), a guarantee of capital amortisation, and an additional four million hectares for each further investment of 25 million gold francs (Young and Turner 1985: 33). Between 1903 and 1910, CFL conducted ten mineral exploration missions, discovering significant deposits of gold, tin and other minerals, including in South Kivu (OGP 2010: 27).

Yet early attempts by Belgian state agents to subjugate the Bushi kingdoms of South Kivu to the political and economic logic of the colonial system were met with resistance and, in Luhwindja, evasion (Bisharhwa 1982: 51, Vlassenroot 2013: 20). In 1908, the Congo Free State passed from the control of King Leopold II to the Belgian government, becoming the Belgian Congo, and in 1910, Luhwindja was officially incorporated into the Belgian colonial state apparatus as a Chiefdom (Justice Pour Tous 2015: 17). Yet it wasn't until 1920 that Mwami Chibwire IV of Luhwindja finally agreed to meet with state authorities (Bisharhwa 1982: 51). Following this meeting, and with the support and cooperation of the Mwami, the state administration imposed the colonial tax system upon Luhwindja's inhabitants and mobilised labour for the expanding mining sector (Ibid.: 51-59). Private land titling and the sale of livestock for money were also introduced, becoming known by Bashi in both cases as the practice of *bugule* (Kamuntu 1995: 8-15). Under coercion from the often brutal colonial militia, the *Force Publique* – Police Force – many Congolese were forced to sell their assets through *bugule* or find wage labour in mining or elsewhere as a means to pay taxes (MacGaffey 1991a: 34).

In its early decades, as under the Congo Free State, the emergence of an independent African petty bourgeoisie continued to be seen by the Belgian colonial state as a threat to its authority and by Belgian capital as a threat to profits (by creating upwards pressure on wages). Local, regional, African and foreign initiatives and trading networks – which, 'left to their own dynamic, would have obviously led to a larger, more diversified and certainly less concentrated accumulation profile' (Bezy et al. 1981: 35)⁴¹ – were disrupted and restricted throughout the colonial period by state suppression (MacGaffey 1991a: 39). Generally, there were few opportunities under Belgian colonial rule for indigenous capital accumulation outside of state control (Hesselbein 2007: 21, Putzel et al. 2008: iv).

The focus, again as under the Congo Free State, was instead on developing the mining sector through predominantly Belgian mining capital. Between 1920 and 1932, the Empain Group was one of four financial groups that controlled 75 percent of all investment in the Congo, three quarters of which was in mining and related infrastructure, with mineral exports increasing six-fold between 1920 and 1930 (Bezy et al. 1981: 20-21). In 1923, the Empain Group created *Société minière des Grands Lacs* (MGL) – Great Lakes Mining Company – as a CFL subsidiary, responsible for all mineral exploration and exploitation in the eastern region. Production began the following

⁴⁰ Group Empain Archives Summary, Tervuren Museum, www.africamuseum.be/museum/research/human-sciences/histpol/doc/presentationEMPAINBCK, accessed January 28th 2018.

⁴¹ Author translation.

year, in 1924, as MGL – employing 600 Africans and 27 Europeans – exported 42 kilograms of gold to Belgium.⁴²

Three years later, in 1927, shareholders increased MGL’s social capital to 20 million francs, and the subsidiary discovered gold in Luhwindja, with prospection work in the early 1930s revealing the area to hold an estimated 383 kilograms of gold reserves.⁴³ In 1938, MGL began alluvial artisanal exploitation at Twangiza, establishing a small worker camp of around 100 people at Chiramu – on the same site as one of Banro’s worker camps today – including a dispensary and a canteen.⁴⁴ Yet most of MGL’s gold exploitation during the colonial period took place at Kamituga, further south in Mwenga Territory, where the subsidiary had begun production in 1932 and was later to establish Mobale, its most mechanised gold mine (Athanasé 2013: 3).

Throughout the 1930s, the Empain Group – either acting on its own or through its subsidiary MGL – founded several other, smaller mining companies. By the end of the decade, all mining operations in the Kivu region were run by the subsidiaries of private Belgian corporations, many of which (and certainly the most capitalised) were connected to the Empain family (Mthembu-Salter 2009: 2). By the end of the 1930s, MGL had 573 mining concessions covering 49,440 square kilometres, employed 15,905 African workers and 149 Europeans, and had exported a total of 21,444 kilograms of gold to Belgium since production began in 1924 (alongside tin and, in smaller quantities, wolframite and monazite).⁴⁵ This period marked the beginning of a golden era of profitability for MGL. By the end of the 1940s, MGL shareholders had received an eighteen-fold return on their original investment, totalling 377.4 million Belgian francs, and the subsidiary had recorded gross annual profits between 35 and 82 million Belgian francs since 1935.⁴⁶

Table 3.1 MGL wages to local workers, selected years (in francs, unadjusted)

Year	Units of Workers (a)	Wages (b)	Average Annual Wage per Worker (b / a)	Average Daily Wage per Worker
1930	7,200	6,000,000	833	3.1
1937	13,995	11,650,000	832	3.1

Note: The average daily wage per worker was calculated based on MGL payment records from the 1940s, which indicated a six-day working week with one month of annual leave (or, approximately 272 working days per year).

Source: MGL Annual Reports, 1930 and 1937.

Yet throughout the 1930s and early 1940s, MGL wages were low and stagnant. According to MGL’s annual reports, in both 1930 and 1937, the average wage paid to African labour was 3.1 francs per day (Table 3.1). Between 1937 and 1944, two MGL workers, one stationed at Kamituga

⁴² MGL General Assembly Meeting Notes, June 17th 1925.

⁴³ Group Empain Archives Summary, Tervuren Museum, www.africamuseum.be/museum/research/human-sciences/histpol/doc/presentationEMPAINBCK, accessed January 28th 2018; Internal Report on Concession Number 90, SAKIMA, 1995.

⁴⁴ Letter from Marrio Fiocchi, SOMINKI director, to the Zairian Government, January 13th 1989; Interview with former MGL worker, September 18th 2016, Luhwindja.

⁴⁵ MGL General Assembly Meeting Notes, October 6th 1937; MGL Annual Report, 1937.

⁴⁶ MGL Annual Reports, 1924 to 1950.

and one at Luhwindja, earned between one and two francs per day.⁴⁷ Yet between 1944 and 1946 alone, the cost of basic foodstuffs and clothes in Mwenga Territory more than doubled (Witangila bin-Mubya 1982: 26), suggesting the stagnant wages paid by MGL to African labour to have declined in real terms during this period. Indeed, both Bezy (1957: 166) and Peemans (1975: 151) note real wages to local labour in the Belgian Congo in 1945 to have been less than those earned in 1914.

In addition, workers attempting to steal gold or flout company policy were beaten, whipped and imprisoned.⁴⁸ Across South Kivu, Bami continued to be relied upon to mobilise local labour, in part due to the general indifference of the peasantry to wage labour, given their on-farm capacity to meet their subsistence needs and ensure their social reproduction (Bezy 1957: 159-161). As many people in Luhwindja saw the work as undesirable, the Mwami resorted to sending those in conflict with him to work in the mines as punishment (Bisharhwa 1982: 88).

Despite low and declining returns to labour, by the end of the 1940s, South Kivu's mining sector had initiated a new process of social stratification. This was due, from the 1930s onwards, and in part as a response to high desertion rates among workers (MacGaffey 1991a: 35), to a move towards the production of 'a quality and disciplined workforce...controlled and supervised from the cradle to the grave' (Bezy et al. 1981: 27).⁴⁹ MGL's Mobale gold mine at Kamituga was the prototypical example of this in South Kivu, where from the 1930s the subsidiary established a gold mining town – hierarchically segregated by labour category (Athanasé 2013: 5-7) – where two to three thousand workers lived with their families in modest houses and had access to basic health services, shops and canteens (Geenen 2014a: 102).

With the indirect costs of reproduction assured, wages – while meagre – could be used to purchase clothes, consumer goods and other items. By the 1940s, many mine workers had bicycles and sewing machines, and some owned vehicles (Ntampaka 1978: 44). A former MGL worker in Luhwindja, still alive in 2017, recalled using his wages in the 1940s to pay his dowry and buy several cows.⁵⁰ MGL also opened 'native schools' in 1939, and by 1947 was supporting the education of 2,000 pupils – primarily, the children of company workers – across 48 schools.⁵¹ With education the prime vehicle for entry into the emerging Congolese *évolué* (evolved) class – 'a petty bourgeoisie in embryo, employed in the clerical ranks of public and private hierarchies' (Young and Turner 1985: 111) – some of these children would go on following the colonial period to join the bureaucratic elite, or work in senior positions for postcolonial mining companies.⁵²

Yet the late 1940s was marked by a series of peasant and worker revolts across the country (Bezy et al. 1981: 36). In the Kivu region, local wages in 1946 ranged between 26 and 216 francs per month, while European wages were as high as three thousand francs per month, or 115 times

⁴⁷ MGL worker payment books, 1937 to 1944.

⁴⁸ Interviews with several former MGL and SOMINKI workers, South Kivu, September 2017 to March 2018.

⁴⁹ Author translation.

⁵⁰ Interviews with former MGL workers, Luhwindja, September 18th 2016 and April 9th 2017.

⁵¹ MGL General Assembly Meeting Notes, October 4th 1939 and December 24th 1947.

⁵² Interviews with several former SOMINKI and Banro workers, South Kivu and Kinshasa, September 2017 to May 2018.

greater than the lowest paid workers, giving rise to mass protests and the slogan ‘equal work, equal pay’ (Witangila bin-Mubya 1982: 37). The following year, 1947, the *Association du personnel indigène de la Colonie* – Association of Indigenous Personnel of the Colony – was founded, the first workers’ union ‘formed by and for the Congolese’ (Ntampaka 1978: 30). Desirous to maintain a minimum of social order, ‘a different ideological tendency began to impose itself in the Administration’ (Bezy et al. 1981: 36).⁵³ This new tendency was to manifest itself in changes to the state’s relationship with both labour and foreign capital, directed by the Ten Year Plan for the Economic and Social Development of the Belgian Congo, drawn up in the late 1940s (International Bank for Reconstruction and Development 1957: 7).

First, the state moved to increase its share in the surplus. In 1946, the state instituted a foreign exchange control system to ensure greater repatriation of export earnings to the colony, and introduced a 15 percent tax on shareholder profits and a 60 percent tax on invested capital.⁵⁴ The following year, MGL recorded its first tax payments, and during the 1950s paid a total of 106.9 million francs to the colonial state, amounting to 52 percent of declared profits.⁵⁵ State expenditure during the 1950s rose from 15 percent to 30 percent of GDP (Hesselbein 2009: 32). An increasing portion of state revenue was used to finance an expansion of productive activity and invest in public works, health and education (International Bank for Reconstruction and Development 1957). Yet much of the increased state spending was financed through foreign borrowing, as public debt increased by a factor of five between 1950 and 1958 (Peemans 1975: 153).

The state also moved to integrate itself more fully within the production network of the colony’s growing gold sector:

A legislative ordinance of April 10th 1946 decreed that gold produced in the Belgian Congo be, from May 1st 1946, refined in Belgium – and no longer Germiston, in South Africa, where it has been refined since the beginning of 1940 – and sold to the Bank of the Belgian Congo for the account of the Colony.⁵⁶

This move was resisted by MGL, which wanted to sell its gold on the Belgian market, and in 1951 the subsidiary was authorised by the colonial government to sell part of its gold production to the Congor Cooperative, a Belgian metals trader.⁵⁷ Yet the state reserved the right to purchase a minimum of forty percent of all gold production in the colony, depending upon the needs of the Central Bank (Chirishungu Chiza 2008: 335).

Across the same period, state policy helped double real wages to workers in the 1950s, considered ‘the “golden age” of the Congolese working class’ (Peemans 1975: 152). In 1948, the state introduced a regionally adjusted minimum wage (Bezy 1957: 65), rising in the Kivu region from one franc per day in 1948 to 5.5 francs per day in 1955 (Ntampaka 1978: 44). In response, from 1949 to 1959, wages for the lowest category MGL worker at Kamituga increased more than five-fold (from 1.5 to 8.1 francs per day), and wages for the highest categories of African employment at MGL more than doubled (Witangila bin-Mubya 1982: 98). Towards the end of the colonial

⁵³ Author translation.

⁵⁴ MGL General Assembly Meeting Notes, October 2nd 1946.

⁵⁵ MGL Annual Reports, 1924 to 1960.

⁵⁶ MGL General Assembly Meeting Notes, December 24th 1947. Author translation.

⁵⁷ MGL General Assembly Meeting Notes, October 3rd 1951.

period, in 1957, the colonial state granted workers the right to association (Ntampaka 1978: 39), and in 1959, MGL began a process of ‘Africanisation’, promoting Congolese workers into senior and managerial positions that had previously been the exclusive reserve of Europeans.⁵⁸

Yet while wages to mining labour improved during the 1950s, the total units of labour decreased, as mining companies began to reinvest profits to move towards a more mechanised form of production (Bezy et al. 1981: 38-39, MacGaffey 1991a: 33). In the late 1940s and early 1950s, MGL invested in the construction of industrial plants and hydroelectric power stations (Mthembu-Salter 2009: 2); although at Luhwindja, while the discovery of a major underground deposit at Twangiza in 1957 led to a transition to shaft mining at the site, production remained predominantly artisanal.⁵⁹

Following investment, while production remained constant, the units of African labour employed by MGL fell year on year from 16,692 in 1948 to 5,845 in 1960, greatly narrowing the size of the region’s emerging class of African mining labour.⁶⁰ Nevertheless, near the end of the colonial period, in 1956, 105,000 Congolese out of an estimated total population of 12.8 million were in formal mining sector employment, representing around one in 45 of the adult population (International Bank for Reconstruction and Development 1957). Yet the general population was growing rapidly – in the Kivu region by more than 60 percent between 1938 and 1956 alone, from 1.3 million to 2.1 million (Ibid.) – and the relationship between the state and foreign mining capital was to shift once again under the Mobutu Presidency, first by design, and later under duress.

3.2 Corporate Expansion, Contraction, and Collapse (1960-1997)

The First Republic of the DRC – which lasted from the election of the nationalist Patrice Lumumba as the country’s first Prime Minister in 1960 to the coming to power by coup d’état of President Mobutu in 1965 – was defined by secessionist conflict and rebellion between nationalist and federalist political factions, in a hardening of the ethno-regional identities essentialised by the colonial state (Hesselbein 2007: 20, Putzel et al. 2008: 21). South Kivu was among one of the worst-affected regions (Bezy et al. 1981: 169). MGL’s artisanal operations at Twangiza – which during this time involved the labour of around 250 African workers, managed by a Belgian⁶¹ – experienced armed attacks in 1961,⁶² and between 1963 and 1965, most of MGL’s southern mines were occupied by Simba rebels (eastern adherents to a nationalist, anti-imperialist insurgency, launched by Pierre Mulele in western Congo).⁶³ This led to the killing of MGL’s Secretary General, Mr. Malengreaux, damage to machinery in Maniema, and mineral and vehicle theft totalling 23.4 million Congolese Francs in 1964 alone.⁶⁴

⁵⁸ MGL General Assembly Meeting Notes, October 4th 1961.

⁵⁹ Letter from Marrio Fiocchi, SOMINKI director, to the Zairian Government, January 13th 1989.

⁶⁰ MGL Annual Reports, 1948 to 1960.

⁶¹ Interview with former MGL worker stationed at Twangiza, Bukavu, March 3rd 2017.

⁶² Internal MGL memo, April 1961.

⁶³ Personal memoirs of Serge Lammens, former SOMINKI director.

⁶⁴ MGL letter to the Congolese Business Federation, December 12th 1964.

The ethno-regional nature of conflict during this period was mirrored in conflict among MGL workers, as increased differentiation via Africanisation fed growing ethnic tensions. In 1961, MGL's Administrative Director, the European Mr. Feruzi, was replaced by his Congolese assistant, Martin Musombwa, by order of Ministerial Decree.⁶⁵ That same year, two Congolese were placed in charge of office accounting in Bukavu, and at Kamituga, two European accountants, one European store manager and one European procurement officer were all replaced by Congolese.⁶⁶ Yet the process gave rise to new ethnically-grounded tensions among workers.⁶⁷ At Kamituga, local Warega workers protested against the appointment of a 'non-native' Bembe as their Administrative Director.⁶⁸ At Lugushwa (MGL's other mechanised gold mine in South Kivu, alongside Mobale at Kamituga), workers were 'divided by tribalism, as all Warega ask for the elimination of all non-Warega in important positions; however, all non-Warega task themselves with making influential Warega leave'.⁶⁹ Internal ethno-regional divisions and conflict would continue to plague MGL over the next thirty years.⁷⁰ As Young and Turner (1985: 131) reflected at the national level, this likely hampered the emergence of proletarian consciousness and solidarity.

While Congolese promoted into the managerial classes saw their wages rise, the First Republic was marked by a general and rapid decline in the purchasing power of the masses (Bezy et al. 1981: 58-60). Struggling to recruit from the peasantry in this context,⁷¹ rather than raise wages, MGL continued its precolonial practice of using Bami to mobilise cheap local labour; in Luhwindja at the time, MGL made monetary payments to the Mwami and village leaders, who in return were expected to provide the subsidiary with labour and agricultural produce.⁷²

Yet the end of the First Republic heralded a new period of change in relations between the state, foreign capital and African labour. The ethno-regional and secessionist conflicts of the early 1960s were brought under control when, following the US- and Belgian-assisted assassination of Lumumba in 1961 (de Witte 2001), the moderate nationalist Binza Group – again, with the support of Belgium and the US – installed Mobutu in power in 1965 (Putzel et al. 2008: 21). During his first decade as President, through a fusion of Leopoldian bureaucratic autocracy with a unitary, nationalist one-party state, Mobutu embarked on a nation state-building project to enlarge state autonomy, erode the dominant position of colonial capital, and expand accumulation opportunities for the national bourgeoisie (Bezy et al. 1981: 64-65; Young and Turner 1985: 391-396).

⁶⁵ Decree Number 40221/123 of December 11th 1961; MGL letter to the President of the Kivu-Maniema Provincial Government, December 15th 1961.

⁶⁶ Internal MGL correspondence, Bukavu, September 5th 1961.

⁶⁷ Internal MGL correspondence, Kamituga, October 4th 1961.

⁶⁸ Letter from MGL union delegates to MGL General Director, Kamituga, April 19th 1961; Internal MGL memo, Bukavu, December 1st 1961. Author translation.

⁶⁹ Internal MGL correspondence, Lugushwa, February 21st 1962. Author translation.

⁷⁰ Internal MGL correspondence, August 23rd 1967 and February 6th 1968; Interviews with former SOMINKI supervisors, Bukavu, September 6th 2016, February 18th 2017 and March 3rd 2017.

⁷¹ Internal MGL correspondence, Brussels, March 6th and 9th 1961.

⁷² Interview with former MGL worker stationed at Twangiza, Bukavu, March 3rd 2017.

The first step was taken with the Bakajika Law of June 1966 which – in an attack on the contentious 1960 Belgian law giving colonial Congolese corporations Belgian nationality (Mutamba Lukusa 2016: 93) – required all foreign-based companies whose main activities were in Zaire to establish their headquarters in Zaire by the end of the year (Hull 1979: 265). The law also stipulated ‘that all public land was a domain of the Zairian nation-state, and formally extinguished all land grants and concessionary powers delegated by the colonial state’, effectively liquidating land concessions held in reserve by colonial corporations (Young and Turner 1985: 288). After failing to reach an agreement on the nationality of the largest and Belgian-owned colonial mining subsidiary, UMHK, on December 31st 1966, the Zairian government announced its decision to expropriate UMHK and transfer its assets to a new company, Gécamines, which was to eventually become 100 percent state-owned (Peemans 1975: 160).

The policy of increasing state participation in the productive economy continued in other sectors. By 1970, the Zairian public sector controlled 40 percent of national value added (Young and Turner 1985: 68-69). State revenue more than tripled from \$190 million in 1967 to \$630 million in 1970 (International Bank for Reconstruction and Development 1970: ii). The education system was nationalised, achieving 92 percent primary school enrolment and increased access to the secondary and tertiary sectors (Putzel et al. 2008: v). A national health system numbering 500,000 employees was established that ‘was generally regarded as a model for primary and community health care in the developing world’ (Ibid.: 31). The economy was growing, and ‘Congo rivalled Nigeria and South Africa for the economic leadership of Africa’ (Trefon et al. 2002: 380). In an effort to transcend regional and ethnic divides, state representatives were moved around the country every three years and ‘normally could not serve in their home area’ (Hesselbein 2007: 25), and citizenship was extended to include marginalised and discriminated groups in the east of the country.

The increase in state surplus during this period gave rise to an emerging politico-commercial class of senior state bureaucrats – the only private or public sector group to experience real wage growth in the 1970s (Bezy et al. 1981: 76) – who used their increased wages to enter commercial trade (Young and Turner 1985: 71 and 116). In November 1973, Zairianisation measures moved to provide this class with access to productive capital, as the state transferred ownership and control of nearly all foreign companies in the agricultural, commercial and service sectors to Zairians (Bezy et al. 1981: 65). The most lucrative businesses were allocated to politico-commercial elites, who became known in Zairian social vocabulary as *acquéreurs* (acquirers), and who saw their economic base expand significantly almost overnight (Young and Turner 1985: 116).

A few months later, in early 1974, the Zairian government convened mining companies operating across the country to negotiate increased state participation in the sector. For South Kivu, the eventual outcome of these negotiations was the continuation of a merger process already underway prior to Zairianisation, leading to the final merger in 1976 of MGL, Cobelmin and Symetain (along with six associated subsidiaries) into SOMINKI. Avoiding the nationalisation experienced by UMHK and others (and contrary to the several accounts of SOMINKI as an SOE, foregrounded in the chapter introduction), SOMINKI became the largest privately-owned mining company in

Zaire and the only one operating in the Kivu region.⁷³ The state had negotiated a 28 percent stake in the subsidiary, with the remaining 72 percent held by COGEMIN, a Belgium-based subsidiary of the Empain Group (World Bank 1984: 45).

Yet a series of external shocks brought to an end and eventually reversed a decade of state ascendancy and expansion. First, a break in world copper prices, falling from \$1.40 per pound in April 1974 to \$0.53 per pound in early 1975 and stagnating thereafter. Coupled with rising inflation globally during this period, the effect of this reduction would have been even greater in real terms. Second, the closure of Zaire's copper export railway in August 1975 due to the Angolan civil war. Third, a rise in petroleum costs, as the cost of Zairian oil imports quadrupled from 1973 to 1977 (Young and Turner 1985: 307).

The shocks proved too great for the Zairian state to absorb, and unmasked the tensions and contradictions inherent in Mobutu's nation state-building project. The manufacturing sector was in decline (International Bank for Reconstruction and Development 1973: 4), agriculture had been neglected, receiving less than one percent of state expenditure from 1968 to 1972 (International Bank for Reconstruction and Development 1975: Table 5.8), and the economy had increased its dependence on the mining sector (Kabwit 1979: 401). While the dominant position of colonial (predominantly Belgian) capital had been eroded, dependence on foreign capital increased. The 1969 Investment Code provided transnationals with fiscal exonerations and permitted the overseas transfer of profits (Bezy et al. 1981: 94-97), leading to the entry of US, Chinese, Arab state and Japanese capital (Ibid.: 99-101).

Faced with the general decline of the economy, in 1976, the government issued the Retrocession Decree, 'returning businesses to their former foreign owners with mandatory Zairian partners' (MacGaffey 1991b: 28). That same year, to confront the growing external debt, the IMF provided \$47 million of credit to the Zairian government (Young and Turner 1985: 381). The IMF's first major SAP was introduced in 1983, with future IMF and World Bank loans conditional on the Zairian government adopting draconian austerity measures as part of its stabilisation programme (MacGaffey and Bazenguissa-Ganga 2000: 29).

The first decade of Mobutu's rule had also done little to promote those employed in the formal sector. The period 1960 to 1975 saw a general decrease in real wages, with the exception of senior state officials (Bezy et al. 1981: 76). At MGL in the late 1960s, both workers and the government derided what they perceived as unacceptably low wages,⁷⁴ and criticised the disproportionate remuneration of European managers.⁷⁵ In 1968, the average European MGL wage was eight times higher than that of Zairian administrative middle management and 42 times higher than worker wages.⁷⁶ That same year, in the formal sector foreign workers constituted two percent of wage

⁷³ Personal memoirs of Serge Lammens, former SOMINKI director; Interview with former SOMINKI supervisor, Bukavu, September 6th 2016; Ministry of Mines SOMINKI Meeting Minutes, Kinshasa, 1991.

⁷⁴ Internal MGL correspondence, Kamituga, February 6th 1968; MGL workers' letter to management, Kamituga, July 12th 1968.

⁷⁵ Internal MGL correspondence, Kamituga, February 6th 1968; MGL workers' letter to management, Kamituga, July 12th 1968.

⁷⁶ MGL workers' letter to management, Kamituga, July 12th 1968.

earners in Zaire, but captured 50 percent of total wages (Peemans 1975: 168). In addition, and in a reverse of colonial practice, half of MGL's European wages were now being paid in Belgium, representing a loss to the national economy.⁷⁷

Table 3.2 SOMINKI gold productivity and value capture by workers and managers, 1984 (in USD)

Year	Total Value Created (a)	Units of Workers & Managers (b)	Labour Productivity (a / b)	Total Value Accrued by Workers & Managers	Share of Total Value Accrued by Workers & Managers (%)
1984	4,824,894	2,100	2,298	2,455,871	50.9

Notes: A letter from Marrio Fiocchi, SOMINKI director, to the Zairian Minister of Labour, on February 21st 1997 noted gold production in 1984 of 435.5 kilograms at a value of \$4,824,894, which corresponds approximately to the 1984 average gold price, and so appears reliable. Email correspondence with a former SOMINKI director (November 17th 2017) estimated 2,100 workers in the gold sector in the 1980s, 1,300 at Kamituga and 800 at Lugushwa. The value accruing to workers and managers is calculated from SOMINKI's 1984 financial and annual reports, which note (as recorded in the table below) total mineral sales of 515 million zaires, and total wages paid to workers and managers of 262.5 million zaires.

Sources: SOMINKI Financial and Annual Reports, 1984.

Table 3.3 SOMINKI annual wage distribution, 1984 (in zaires)

Labour Category	Units (a)	Total Wages (b)	Wage per Unit (b / a)	Share of Total Wages (%)	Share of Total Value (%)	Ratio to Average Worker Wage
Workers	11,793	147,441,758	12,502	56.2	28.6	1
SUBTOTAL WORKERS			-	56.2	28.6	-
Supervisors	199	12,774,283	64,192	4.9	2.5	5
Directors	76	20,288,979	266,960	7.7	3.9	21
SUBTOTAL ZAIRIAN MANAGERS			-	12.6	6.4	-
Foreigners	89	81,993,636	921,277	31.2	15.9	74
SUBTOTAL FOREIGN MANAGERS			-	31.2	15.9	-
TOTAL	12,157	262,498,656	-	100.0	50.9	-

Sources: SOMINKI Annual Report, 1984; World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed February 23rd 2018.

Data taken from SOMINKI's financial and annual reports and archival material allow for a closer interrogation of the share of end value accruing to industrial gold mining labour by the 1980s. SOMINKI's gold production in 1984 created a total end value of \$4.8 million at an estimated labour productivity of \$2,298,⁷⁸ of which \$2.5 million (or a 51 percent share) accrued to workers and managers (Table 3.2). While it was not possible to find wage data disaggregated by mineral, of the total wages accruing to workers and managers across gold and tin production at SOMINKI that same year, 56.2 percent accrued to workers, 4.9 percent to Zairian supervisors, 7.7 percent to Zairian directors, and 31.2 percent to foreigners (Table 3.3). Equating these figures to the 51 percent share of end value presented in Table 3.2 as accruing to workers and managers involved in gold production, it can be estimated that 29 percent of the end value created by SOMINKI's

⁷⁷ Cobelmin and MGL Director Meeting Minutes, Bukavu, April 7th 1961.

⁷⁸ World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed February 23rd 2018.

gold production in 1984 accrued to workers, six percent to Zairian managers and 16 percent to foreign managers. The ratio of average Zairian supervisor, Zairian director and foreign wages to the average Zairian worker wage was 5:1, 21:1 and 74:1 respectively. This represents in the latter case a significant increase from the ratio of 42:1 for the average foreigner to worker wage noted above for MGL in 1968,⁷⁹ but also demonstrates the increasing stratification between an emerging Zairian managerial class and the mass of Zairian workers.

This emerging Zairian managerial class also had access to credit, with which they bought cars, land and property in Bukavu and Kinshasa, where many of them and their families were from or moved to.⁸⁰ In addition, in an extension of colonial practice, this class was spatially segregated from the rest of the workers. At SOMINKI's gold mining town in Kamituga, Zairian managers lived in superior housing in a different neighbourhood, ate imported European food in a separate canteen, and had exclusive access to a social club.⁸¹ They received the best medical care, including overseas treatment if required, and the subsidiary established schools for their children to attend.⁸²

Yet European senior management resolved to manage the process of Africanisation within a strategy that allowed 'for Europeans to carry out their work in the shadows, while leaving a representative function to Congolese'.⁸³ In 1978, Alexis Thambwe – who went on to hold important ministerial positions under Presidents Mobutu and Joseph Kabila – was promoted to the head of SOMINKI's Kinshasa office, replacing the Belgian Jacques Abel. At a private reception held shortly after his promotion, Joseph Meuret, a future President of SOMINKI, responded to concerns raised about departing European managers by stating that 'Thambwe will be our paid negro'.⁸⁴ For one former member of SOMINKI's Zairian managerial class, 'while SOMINKI succeeded politically in creating the impression of Africanisation, in reality the company never Africanised. They had Mr. Thambwe who symbolised and was the face of Africanisation, but in reality SOMINKI was highly colonial in that all the decisions remained in the hands of Europeans.'⁸⁵

The data appears to support this view, while also showing the narrowness of the managerial class (whether Zairian or foreign), indicating that while the number of Zairian managers at the subsidiary doubled from 38 to 76 between 1976 and 1984, during the same period, the number of European managers remained relatively constant, at 94 in 1976 and 90 in 1984, peaking at 110 in 1978.⁸⁶ As observed by Bezy et al. (1981:89-90) at the state-owned Gécamines in the 1970s, this suggests that Zairians were being promoted into new managerial positions that duplicated – rather than replaced – those of European managers.

⁷⁹ MGL workers' letter to management, Kamituga, July 12th 1968.

⁸⁰ Interview with former SOMINKI workers, Bukavu, September 12th 2016.

⁸¹ Interviews with former SOMINKI workers, Luhwindja and Bukavu, September 12th and 16th 2016.

⁸² Interview with former SOMINKI workers, Bukavu, September 12th 2016.

⁸³ Internal MGL correspondence (marked confidential), Goma, January 26th 1961. Author translation.

⁸⁴ Personal memoirs of Serge Lammens, former SOMINKI director. Author translation.

⁸⁵ Interview with former SOMINKI director, Kinshasa, August 20th 2016.

⁸⁶ Personal archives of Serge Lammens, former SOMINKI director.

Meanwhile, real wages to workers appeared to have fallen below revenue earned in the informal mining sector. SOMINKI's 1979 annual report notes 'the purchasing power of manual labour has reduced catastrophically over the course of the preceding years. This situation led to violent strikes in April'.⁸⁷ Reflecting on the 1980s, a former SOMINKI geologist recalled that 'we were looking for workers, but we couldn't find them because they were all going to dig for gold'.⁸⁸ Noting increasing worker desertion, SOMINKI's 1980 annual report argued the problem 'finds its origin in the growing attraction of artisanal gold exploitation, which procures for those interested revenue and savings and the means to acquire...consumer goods available on the market'.⁸⁹ The implication, supported by former SOMINKI worker interviews, is that workers' wages were now too low to save or purchase consumer goods.⁹⁰ Frequent strikes throughout the 1980s failed to redress the situation.⁹¹

Table 3.4 SOMINKI production output, 1976 to 1985

Year	Cassiterite (tons)	Gold (kilograms)
1976	4,638	654
1977	4,052	553
1978	3,490	472
1979	2,857	476
1980	2,593	548
1981	2,635	586
1982	2,587	473
1983	2,582	432
1984	3,340	478
1985	3,806	475

Sources: SOMINKI Technical Audit, 1995; Personal archives of Serge Lammens, former SOMINKI manager; Letter from Marrio Fiocchi, SOMINKI director, to the Zairian Minister of Labour, February 21st 1997.

As the Zairian managerial class grew and real wages declined, SOMINKI's shareholders – encouraged by a rising tin price since 1975 – made investments in the early 1980s to modernise tin production, as easily exploitable tin and gold deposits had become increasingly scarce. Share capital in the subsidiary increased from six million zaires in 1978 to 125 million zaires by 1985.⁹² A fresh investment plan from 1984 to 1987 was developed, totalling 560 million Belgian francs (equivalent to around \$10 million at the time, or \$24 million at today's prices), of which 303 million had been invested by the end of the first quarter of 1985.⁹³ The total investments made in the first half of the 1980s stabilised and then increased previously declining tin output, which grew from 2,593 tons in 1980 to 3,806 tons in 1985 (Table 3.4). From 1980 to 1984, SOMINKI made year-on-year

⁸⁷ SOMINKI Annual Report, 1979. Author translation.

⁸⁸ Interview with former SOMINKI geologist, September 6th 2016.

⁸⁹ SOMINKI Annual Report, 1980. Author translation.

⁹⁰ Interviews with former SOMINKI workers, February 18th 2017, Bukavu and April 22nd 2017, Kamituga.

⁹¹ Interviews with former SOMINKI workers, Kamituga, April 22nd 2017.

⁹² Personal memoirs of Serge Lammens, former SOMINKI director; SOMINKI Annual Reports, 1981 and 1984; Extraordinary General Assembly Meeting Notes, March 30th 1985.

⁹³ SOMINKI Annual Report, 1984.

profits, with 46.8 million zaires paid out to shareholders and a total of 267 million zaires paid to the Zairian state in taxes, most of which derived from a 50 percent profit tax.⁹⁴ While gold was still refined in Europe, moving from a Belgian to a Swiss refinery in 1981, it continued to be sold to the Bank of Zaire, as had been the case since the 1940s.⁹⁵

Yet, as with the end of the period of state expansion in 1974, an external price shock was to bring an equally abrupt end to SOMINKI's even briefer expansionary period. In late 1985, the international tin price more than halved, from \$5.40 per pound to \$2.50 per pound, as the International Tin Council – formed in 1931 – fell apart (Mthembu-Salter 2009: 3). Before the tin price crash, in 1984, tin contributed 74 percent of SOMINKI's turnover. With gold production failing to cover the lost revenue, investment was halted, a number of mine sites were closed down, foreign staff were reduced from around 100 to 40, and 2,400 Zairian workers were let go.⁹⁶ The Empain Group, in financial difficulties of its own, sold its shares in SOMINKI's Belgian mother company COFIMINES the following year (Groupe de recherche sur les activités minières en Afrique 2001: 5).⁹⁷ Ownership of COFIMINES, held at this point through numerous offshore subsidiaries in Panama, the Grenadines and elsewhere, was passed to the Belgian Jeumont-Schneider Group (de Faily 2001: 4).

Over the course of the next decade, the developmental capacity of the Zairian state and the functioning of the formal economy would decline into near total collapse. Already by 1990, the state's reach into and control over society barely extended beyond Kinshasa (Larmer et al. 2013: 2). The reintroduction of multiparty politics had reactivated the ethno-regional conflicts of the early 1960s, as hundreds of the newly formed political parties had an exclusively ethnic or regional basis (Putzel et al. 2008: vi and 25). State revenue had decreased from \$1.3 billion in 1980 to \$147 million by 1994.⁹⁸ The Mobutu administration was by now largely sustained by the illicit control of informal markets, the most important of which was the diamond industry in Kasai (MacGaffey and Bazenguissa-Ganga 2000: 30). State expenditure on health and education decreased from 17.5 percent of total expenditure in 1972 to 2.1 percent in 1992 (Hoffmann et al. 2016: 1444), with the extent of the decline much greater in nominal terms.

These trends were accelerated by the collapse of copper and cobalt exports in the early 1990s, due to low prices and the dysfunctionality of Gécamines. Mobutu responded by printing money, leading to hyperinflation (Larmer et al. 2013: 2). By 1993, 'Zaire's political system had all but disintegrated', including any semblance of control over monetary and fiscal policy (Beuagrand 1997: iii). Annual GDP growth rates were negative throughout the 1990s, as per capita income fell from an already low \$168 in 1990 to an even lower \$80 by 1999 (Marysse 2005: 163). An external debt of roughly \$14 billion had been accumulated (Ndikumana and Boyce 1998: 195). The long-term neglect of agriculture deepened, with food imports during this period having quadrupled

⁹⁴ SOMINKI Annual Reports, 1980 to 1984; Interview with former SOMINKI director, Brussels, August 10th 2016.

⁹⁵ SOMINKI Annual Reports, 1980 and 1982.

⁹⁶ Personal memoirs of Serge Lammens, former SOMINKI director; SOMINKI 1987 Planning Report, 1986; Ministry of Mines SOMINKI Meeting Minutes, Kinshasa, 1991.

⁹⁷ Interview with former SOMINKI manager by phone, January 4th 2017; Personal memoirs of Serge Lammens, former SOMINKI director.

⁹⁸ Congolese Central Bank data series on public finances, 1980 to 2011.

since 1970 (MacGaffey and Bazenguissa-Ganga 2000: 29). Yet through an analysis of five household datasets covering the period 1975 to 2010, Marivoet and de Herdt (2018: 16) found that ‘no generalised decrease in asset ownership seems to have occurred in the urban sector of the DRC’, and that on the contrary ‘we actually observe genuine asset growth in various patterns and in many urban areas of the country’. This suggests that the dramatic collapses related mostly to the formal economy, from which Congolese households appear to have been fairly well insulated.

Mirroring events in the national economy, SOMINKI ran at a loss from 1986 onwards (Kibwe-Kasongo 1994: 33). Real wages continued to decline, falling far behind inflation, despite their negotiation every two years with the unions.⁹⁹ The severity of the situation led to a 58-day strike at the Kamituga and Lugushwa gold mines in 1992 – locally infamous, and a point of reference for many local trade unionists today – eventually put down by the Zairian national army, and following which union leaders were imprisoned and tortured, and 255 workers were fired (Athanasé 2013: 16).¹⁰⁰ In 1993, SOMINKI’s mother company in Brussels, COFIMINES, was liquidated, and the 72 percent private ownership of the subsidiary passed from the Jeumont-Schneider Group to Darnay Limited (64 percent) and Cluff Mining (eight percent), the latter a company listed on the Alternative Investment Market in London (de Faily 2001: 4).

From 1986 to 1996, SOMINKI’s annual tin production decreased from 3,805 tons to less than 1,000 tons, annual gold production dropped from 530 kilograms to less than 300 kilograms, and the total number of SOMINKI workers and managers fell from 10,128 to 5,489.¹⁰¹ The onset of the First Congo War in August 1996 signalled the final collapse of both state and SOMINKI. By this time, gold production represented 80 percent of the subsidiary’s revenue, but the heightened insecurity brought on by the war led to the pillage of gold mines and destruction of machinery at Kamituga and Lugushwa by the departing Zairian national army and the local population.¹⁰² On March 29th 1997, SOMINKI went into liquidation, bringing to an end nearly 100 years of Belgian-controlled mineral exploration and exploitation in South Kivu.¹⁰³

Yet little was left behind in terms of a developed domestic private sector. While a number of mining subsidiaries controlled by the same Belgian mother company, COFIMINES, operated in South Kivu in the decades following independence, productive activities and the provision of services were vertically integrated within and under COFIMINES’ direct control.¹⁰⁴ In addition, procurement was channelled almost exclusively through overseas suppliers. During its period of high reinvestment from 1980 to 1984, SOMINKI spent a total of one billion Belgian francs on procurement, of which none accrued to Zaire’s national economy, and only 0.1 percent accrued

⁹⁹ SOMINKI Technical Audit, 1995; Personal memoirs of Serge Lammens, former SOMINKI director.

¹⁰⁰ Interviews with former SOMINKI workers and union leaders, Kamituga, April 22nd 2017; SOMINKI correspondence to Ministry of Labour, October 30th 1992.

¹⁰¹ SOMINKI Annual Report, 1987; Ministry of Mines SOMINKI Evaluation Report, 1993; SOMINKI Technical Audit, 1995; 51st Board of Directors Meeting Notes, Kinshasa, March 29th 1997; Personal archives of Serge Lammens, former SOMINKI director.

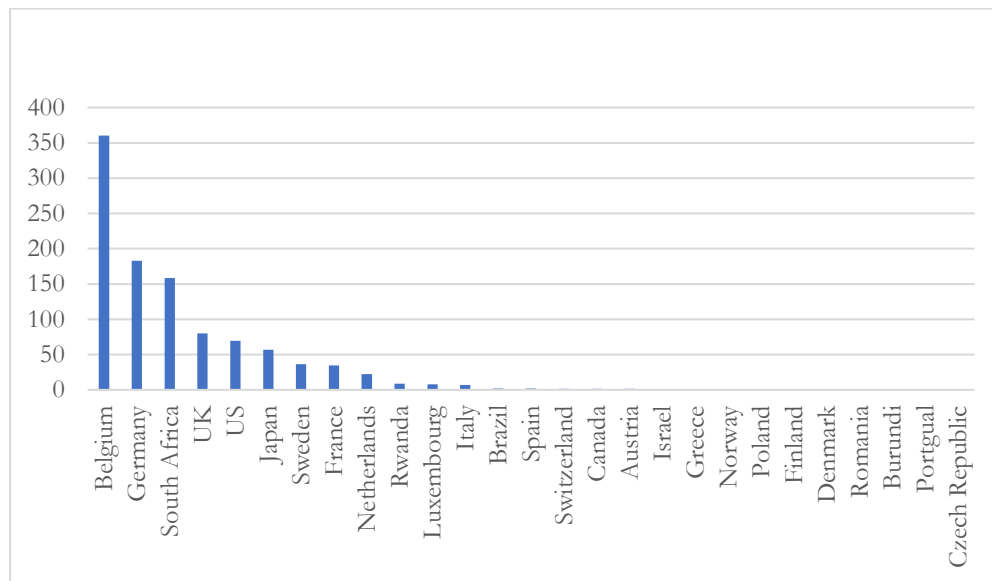
¹⁰² Personal memoirs of Serge Lammens, former SOMINKI director; 51st Board of Directors Meeting Notes, Kinshasa, March 29th 1997.

¹⁰³ 51st Board of Directors Meeting Notes, Kinshasa, March 29th 1997.

¹⁰⁴ Interview with former SOMINKI director, Brussels, August 10th 2016.

to neighbouring countries (0.1 million to Burundi and 8.7 million to Rwanda). By contrast, more than two-thirds accrued to Belgian, German and South African firms, and 99 percent to firms from the Triad states¹⁰⁵ and South Africa (Figure 3.1). Even food produce came to be increasingly sourced overseas by the 1980s, with the neglect and decline of agriculture rendering basic foodstuffs such as rice cheaper to import from Thailand than to source locally.¹⁰⁶ By the decades preceding its collapse, then, the industrial structure of formal gold mining in South Kivu had come to be highly enclaved and disconnected from the domestic economy.

Figure 3.1 SOMINKI procurement by country, 1980 to 1984 (in millions of Belgian francs)



Source: SOMINKI Annual Reports, 1980 to 1984.

Further, while foreign managers and (eventually) most Zairian senior managers were provided full or partial compensation packages upon contract termination following SOMINKI's liquidation, Congolese and other African workers were not, and nor have they been as of 2018, despite multiple and ongoing advocacy efforts.¹⁰⁷ Those who could sought refuge in the lower rungs of the state bureaucracy, while others turned to a newly-emboldened informal artisanal mining sector.¹⁰⁸ With the state and foreign mining capital both in retreat, the informal sector came to the fore, providing an alternative form of production to the model provided by Belgian mining capital. Yet as the next chapter will show, its origins lay much deeper, dating back to the colonial period.

Reviewing the history of formal gold mining in South Kivu bears out many of the concerns raised by the critiques of peripheral development discussed in the opening chapter. The arrival of vertically integrated Belgian-owned mining subsidiaries in the early twentieth century increased inequality through wage polarisation, the benefits of which were largely captured by a narrow and predominantly European managerial class. With the exception of the 1950s, returns to workers

¹⁰⁵ North America, the European Union and Japan.

¹⁰⁶ Interview with former SOMINKI director, Brussels, August 10th 2016.

¹⁰⁷ Interviews with former SOMINKI workers and managers, Kamituga, Bukavu and Kinshasa, September 2016 to April 2017; Former SOMINKI Directors' Memorandum on Compensation Payments, Kinshasa, January 8th 2004.

¹⁰⁸ Interviews with former SOMINKI workers, Bukavu and Kamituga, September 2016 to April 2017.

stagnated or declined in real terms, falling by at least the 1980s (if not earlier) below those earned in the informal artisanal mining sector. By the end of the twentieth century, SOMINKI's industrial structure was poorly articulated with the surrounding economy, with procurement data following fresh shareholder investment in the 1980s showing the total dependence of the subsidiary upon the foreign supply of goods, capital equipment and inputs. The sector also fed into broader local and national conflict dynamics, both during the First Republic of 1960 to 1965 and at the onset of the First Congo War in 1996.

Yet while mechanised gold mines were located at Kamituga and Lugushwa from around the 1940s onwards, many areas continued to use predominantly artisanal extraction methods up until the end of the century, such as in Luhwindja until production in the area was suspended in 1975. As will be shown in the next chapter, the initial absence of mechanisation facilitated the assimilation of the extractive methods and techniques by Congolese, who used them to develop a parallel and more locally-embedded informal network of gold production and trade.

There was also evidence of foreign-owned subsidiaries' domestic financial integration, as advocated for by the early structuralist Hans Singer (1950), for whom one of the most important measures to ensure gains from FDI in peripheral countries was the fiscal absorption of profits to finance social and economic development. Financial summaries provided in archived annual reports indicate that both MGL and SOMINKI consistently paid high profit tax rates to the Congolese state, which in turn supported expansionary periods of state investment and social service provisioning at the national level, first in the 1950s and then again during the first decade of Mobutu's presidency. From the late 1940s onwards, the colonial Belgian government and the postcolonial Congolese government also bought a percentage of the gold produced in the country at a fixed price, providing the state with reserves to help withstand external economic shocks. As will be shown in Chapter 7, Banro's domestic financial integration and articulation with the Congolese economy is significantly weaker, by comparison.

More broadly, the collapse of formal gold mining in South Kivu at the end of the twentieth century challenges many of the assumptions that drove neoliberal mining reform from the 1980s onwards in the DRC and across African LICs. The DRC itself has become an almost iconic case for the failure of postcolonial African state developmentalism, understood through the lens of government and state corruption, inefficiency and mismanagement. Yet, from the 1920s through to the 1990s, both MGL and SOMINKI were foreign-owned. In addition, while from the 1960s onwards a select number of Congolese were promoted to the senior ranks of MGL and then SOMINKI, this duplicated rather than replaced the positions held by a European (and predominantly Belgian) managerial class.

Yet despite its foreign-owned and managed corporate structure, SOMINKI was nevertheless subject to the same difficulties faced by the state-owned Gécamines following the copper price crash of 1975. Responding to a rising tin price from 1975 onwards, SOMINKI's shareholders made significant fresh investments to modernise production. After the tin price crash of 1985, when the price of tin more than halved in a matter of months, SOMINKI had to halt investment, close down a number of mine sites and let workers go. It then ran at a loss from 1986 onwards, having made year-on-year profits from 1980 to 1984, and production dropped dramatically from

1986 to 1996. While the beginning of the Congo Wars in 1996 triggered the subsidiary entering liquidation the following year, this history highlights the severity of the decline into which SOMINKI had fallen before this trigger occurred.

The story of SOMINKI questions, then, the wisdom of moving away from a state-led model of African mining industrialisation and towards a TNC-led model, based on a belief in the inefficiency of the former and the superior efficiency of the latter. Rather, it suggests that the sector itself, through its continued exposure to severe price volatility, undermines and constrains its potential to drive broader processes of peripheral structural transformation and capital accumulation, regardless of ownership and management structures. Indeed, the investigation of Banro's industrial and financial structure in Chapters 6 and 7 would appear to support this revised interpretation. Not only has the trajectory of the Canadian TNC been remarkably similar to that of SOMINKI, responding to rising mineral prices by investing in the expansion of productive activity and getting into difficulties when prices crash. In addition, the expanded technological frontier of gold mining in the twenty-first century imposes a further structural constraint on the transformative potential of mining industrialisation in the current era.

Moreover, within the confines of these structural constraints, South Kivu's locally-led informal artisanal gold economy has played an important developmental role in the province, including raising local wages, contributing to domestic capital accumulation and stimulating structural transformation through sectoral shifts in the local economy. Chapter 4 provides the foundation for this argument, further developed in Chapter 5, by presenting a schematic mapping of value creation and distribution at the artisanal mine site of Kadumwa in Luhwindja, which demonstrates that nearly all of the end value created by the mine is retained and distributed domestically. This finding presents another challenge to the set of assumptions underlying neoliberal mining reform across Africa, regarding the supposed undesirability of artisanal mining as the basis for mineral sector development.

4. Locally-Led Informal Mining: An Emergent Form of Rural Capitalism?

This chapter describes the emergence and functioning of a parallel informal and more locally-anchored artisanal network of gold production and trade in South Kivu. The purpose of the chapter is to draw attention to a key oversight of AMC proponents in promoting the supposed benefits of TNC-led mining (re)industrialisation, namely their failure to consider from whom value is being diverted by this process, and with what consequences? In doing so, it also challenges the assumptions and biases underlying neoliberal mining reform across Africa. As described in Chapter 2, the illegality of much of artisanal mining, its association with social problems and conflict financing, and its perceived low productivity and inefficiency, led to the sector's marginalisation by an emergent FDI-led industrial sector, including the displacement of artisanal miners to make way for incoming TNCs and industrial mine construction.

It is argued that, contrary to the assumed undesirability of ASM as a viable mineral development strategy for African LICs, South Kivu's sector has the distinct advantage of creating value that is mostly captured by and distributed among different Congolese groups of workers, managers and traders. As will later be shown in Chapters 6 to 8, the same cannot be said for Banro's Twangiza mine. In addition, only a very low percentage of this end value (less than one percent) goes to conflict financing (the perceived obstacle of low sectoral productivity is taken up for inspection in the next chapter). This argument is built on data collected at the artisanal mine site of Kadumwa. Located a few kilometres downhill from Banro's Twangiza mine, Kadumwa is the largest artisanal mine in Luhwindja today, and its existence pre-dates the arrival of Banro, going back to the 1980s, according to some local miners.

The chapter is structured in three sections. Drawing primarily on archival and government data and the secondary literature, the first section charts the historical trajectory of informal gold mining in South Kivu from the 1950s through to the present day. While the state and foreign mining corporations initially attempted to suppress and control its growth, the ASM production network gained autonomy following the dual collapse of the Congolese state and SOMINKI in the late 1990s. While production is overseen by local managers, foreign traders with access to international markets established themselves early on and have maintained an oligopsony position at the top of the chain, often in alliances with state and non-state armed groups, and nearly all informal gold production continues to be smuggled out of the country, evading formal state capture.

The second and third sections hone in on the artisanal mining economy of Luhwindja, into which Banro has recently entered. Drawing primarily on direct observation, the second section describes the labour, production and treatment process from the Kadumwa mine to the point of export through the nearby provincial capital city of Bukavu. An emphasis is placed upon the role of shaft managers, as the group who invest the required finances and organise labour in production. The third section then estimates the productivity of gold mining at Kadumwa, and presents a schematic overview of the distribution of the end value created at the site between and within different groups involved in Kadumwa's gold value chain. Original data collected through shaft manager and trader logbooks, a labour survey, interviews and conversations, and direct observation from time spent in Luhwindja and Bukavu are drawn upon for the analysis. It is estimated from these data that around 49 percent of the value created at Kadumwa accrues to workers (as wages) and

31 percent accrues to managers (as profits), while together an estimated 95 percent accrues to Congolese workers, managers and traders. The findings also show the relatively low share accruing to rent and taxation at the level of the mine, including (as mentioned above) to conflict financing (in this case, via informal payments to a battalion of the national army stationed in Luhwindja).

The chapter's original contribution is twofold. First, methodologically, it is the only attempt known to the author to estimate productivity and value distribution at an artisanal gold mine through the primary use of shaft production and financial logbooks. While (and as referenced in the first section below) prior estimates have been made for wages and profits in the DRC's artisanal gold sector, these have been based on interview or survey data, and have not been calculated as a share of end value. Given that artisanal miners are usually paid at least partly in-kind through a share of production, and considering the wide variability of in-kind payment from one day to the next, trying to ascribe a monetary value to these in-kind payments through interviews or surveys is, in the words of Geenen (2014a: 174), 'a highly uncertain exercise'. While by no means overcoming all of this uncertainty, by recording daily shaft production, the distribution of this production to different groups (both in-kind and monetary remuneration) and the gold extracted from production – and by triangulating this data with conversations, interviews and direct observation – the logbooks drawn upon in the third section form an original attempt to estimate productivity and value distribution in artisanal gold mining.

Second, and conceptually, the chapter draws out a profit-wage relation that has so far been largely concealed by the ASM literature. Much of the recent scholarship on ASM in Africa has been grounded in a livelihoods perspective (cf. Banchirigah and Hilson 2010, Bryceson and Jønsson 2010, Hilson 2011, Kamlongera 2011, Okoh and Hilson 2011, Hilson 2016) and, while generating rich insights into a generally understudied sector, has not spoken to this social relation. In the rarer instances of structuralist or political economy studies on the sector, there is a tendency to obfuscate the profit-wage relation, either by referring only to 'revenues' and 'income' (cf. Verbrugge 2015) or by conflating profits and income. Geenen (2014a: 171-175), for example, in her doctoral study on the political economy of artisanal mining in South Kivu, sidesteps discussion of the profit-wage relation by referring to 'the net profits of shaft managers and miners'. This has some justification, given that artisanal workers are paid (in part) in relation to how much they produce and not how long they work, and the division between wages and profits are rarely clear-cut in rural, informal settings. Nevertheless, while not representing a fully capitalist profit-wage relation, it is argued (in this chapter and the next) that shaft managers accrue profits from their role in the labour and production process, while the earnings of artisanal workers effectively function as wages.¹⁰⁹ Returning to the questions guiding the thesis, unmasking this proto-capitalist social relation is central to understanding labour relations and processes of capital accumulation associated with South Kivu's gold sector, as well as allowing, more broadly, for reflection on the nature of peripheral capitalism today.

¹⁰⁹ This has the added advantage of avoiding the conceptual confusion that might arise from the use of income to denote worker earnings, given that profits are part of income.

4.1 A Stifled Emergence

While MGL was reducing the size of its workforce throughout the 1950s, a growing number of Congolese and foreigners were beginning to engage in informal mining, outside of the subsidiary's control and supervision. For Congolese, this was no doubt aided by the relative ease with which the predominantly artisanal methods of gold extraction used by MGL could be assimilated and replicated independently. Internal MGL correspondence shortly after independence in 1960 details an established network of illegal gold production and trade in South Kivu, from Luhwindja and Kamituga to Bukavu and onwards to Uganda, in which 'a fistful of audacious men, without scruples and of undefined nationality, are making fortunes', using their profits to buy property, stores and even yachts from departing Belgians in Bukavu.¹¹⁰ The Indian Bhimji family were possible final buyers in Uganda, having established the first regional gold trading business in Kampala in the 1950s (Carisch 2014: 36).

By 1963, MGL felt compelled to write to the Provincial State Procurer:

It is of public notoriety that gold theft, clandestine exploitation and illegal exploitation have extended considerably since 1960...at MGL, we think the thefts amount to several dozen kilos per month, or 30 to 40 percent of our production. To this must obviously be added important clandestine exploitations located in Maniema and notably in the region of Shabunda [in South Kivu], about which we possess no direct information.¹¹¹

The same memorandum notes the arrival of foreigners to set up illegal gold trading houses, and deplores the complicity of state authorities in facilitating the process.¹¹² Yet the eviction of foreign (Greek) traders following the Zairianisation measures, and the process of state contraction beginning in 1975 discussed in the previous chapter, encouraged the rise of a domestic commercial class outside of the state-dependent *acquéreurs* (Schatzberg 1980, MacGaffey 1987, Rubbers 2009). The concurrent rising gold price – from \$30 to \$40 per troy ounce throughout the twentieth century up until 1970, to \$615 per troy ounce by 1980 (Carisch 2014: 15) – provided impetus to the growth of this class in the gold sector.

In Luhwindja, MGL correspondence to the Zairian government in 1974 noted the infiltration of informal miners at the subsidiary's Mwana site, forcing the guards to flee, and denounced the lack of local government response to the problem.¹¹³ The following year, and citing insecurity as the determining factor, MGL suspended production at Twangiza following 37 years of continuous exploitation in Luhwindja.¹¹⁴ This led to a further expansion of informal artisanal mining in the area. (Geenen 2014a: 128).

¹¹⁰ Internal MGL correspondence, Bukavu, August 7th 1960; MGL letter to State Procurer, Bukavu, August 30th 1960. Author translation.

¹¹¹ MGL memorandum to the Provincial State Procurer, September 4th 1963. Author translation.

¹¹² Ibid.

¹¹³ MGL letter to local government authorities, July 2nd 1974.

¹¹⁴ Internal Report on Concession Number 90, SAKIMA, 1995.

The failure of local government authorities to control the spread of informal mining in Luhwindja is at least partly explained by the fact that they were direct beneficiaries of its growth. In the 1970s, while Mwami Mukubwa was a civil servant as the government head of Luhwindja, he had retained his independence from central government following a series of failed reforms to undermine the power base of Bushi customary authority (Young and Turner 1985: 239). Thus, in an extension of the precolonial land tenure practice of *kalinzi*, Mwami Mukubwa continued to control access to informal mine sites by distributing mineral-bearing land in return for around 10 percent of production (Geenen and Claessens 2013: 96-98).

Providing further impetus to the growth of informal mining in Luhwindja and across South Kivu, in November 1982, the gold sector was liberalised to allow all Zairians to engage in production, with the sale of gold legalised at authorised locations in major towns (World Bank 1984: 46, MacGaffey 1986: 147).¹¹⁵ SOMINKI's response was two-fold. First, Mining Brigades from the Zairian national army were deployed to secure mines from illegal artisanal encroachment on its concessions (Athanasie 2013: 13). Second, the Belgian corporation established seven gold trading houses, from which it bought artisanal gold produced outside of its control for sale at a fixed price to the *Société Zairoise de commercialisation des minerais* – Zairian Mineral Commercialisation Company – a subsidiary of the state-owned Gécamines (World Bank 1984: 46).

However, this system didn't last long.¹¹⁶ While official gold exports initially increased, by 1986 they had fallen below the 1982 level, as Kivu gold traders preferred smuggling to the lower prices offered by official trading houses (MacGaffey 1992: 251). While in the early 1990s official gold trading houses were still purchasing significant quantities of artisanal gold, by 1995, around 200 Zairian gold traders were trading an estimated four tons of annual production from Bukavu, of which an estimated 98 percent was being smuggled out of the country (Bishakabalya 1995: 18-38, OGP 2010: 116). Burundi and Uganda were the primary destinations, with both countries having lower gold import and export taxes than Zaire (Carisch 2014: 40-47). The foreign exchange earned from this activity was used to import vehicles, fuel, consumer goods, medical products and construction materials into eastern Zaire; in Butembo in North Kivu, for example, four to five truckloads of consumer goods, entirely paid for in gold, were being imported monthly (MacGaffey 1992: 252). The trade also gave rise to a gold jewellery industry, both in Bukavu and neighbouring Burundi (Geenen 2014a: 236).

Research published in 1987 by Dupriez (cited in Geenen 2014a: 128) found that in the Bushi area of South Kivu, profits from the sector were mostly captured by local elites and syphoned to Bukavu or overseas, rather than being reinvested in agriculture or the local economy. Yet Dupriez also argued that the general effect of liberalisation had been positive, in providing the peasantry with a much-needed source of off-farm income. The Kivu population had by now nearly quadrupled from 1.3 million in 1938 to 4.8 million in 1982 (World Bank 1984: 145). The rate of population growth, combined with the increasing commodification and expropriation of land begun during the colonial period, exerted increasing pressure on the availability of productive land.

¹¹⁵ Prior to this liberalisation, the 1967 Mining Code required Zairians engaging in artisanal exploitation to own an exploitation permit (Owenga Odinga 2014: 200).

¹¹⁶ Secondary interview with former SOMINKI supervisor, Kalima, June 18th 2007.

This eventually led, in 1993, to violent ethnic land conflict between ‘native’ and ‘non-native’ farmers (Putzel et al. 2008: 38). In this context, as Dupriez recognised, sources of off-farm income were becoming increasingly important, and informal artisanal mining provided a partial response to this need.

The 200 or so Zairian gold traders in Bukavu operated beyond the control of central government in Kinshasa and were not – like the *acquéreur* class – dependent upon state patronage or proximity to Mobutu. Yet they were dependent upon the complicity of provincial and local state authorities and foreign mercantile financiers who controlled gold export out of Africa, at times in alliance with armed opponents to the Mobutu regime, in a reactivation of trends during the First Republic (Carisch 2014: 15). In 1996, the rebel militia *Alliance des forces démocratiques pour la libération du Congo-Zaire* (AFDL) – Alliance of Democratic Forces for the Liberation of Congo-Zaire – led by the soon-to-be President Laurent Kabila, gave the established Belgian gold trader Alan Goetz a gold export license in return for a 1.5 percent export tax; Goetz was the largest gold trader in the region at the time, exporting seven tons of gold annually from his Burundian refinery by 1994, far exceeding his competitors’ combined total of 2.6 tons (Ibid.: 40). The rest of the trade was primarily controlled by the Indian Bhimji, Pattni and Lodhia families, with the former two having been established in the region for decades.

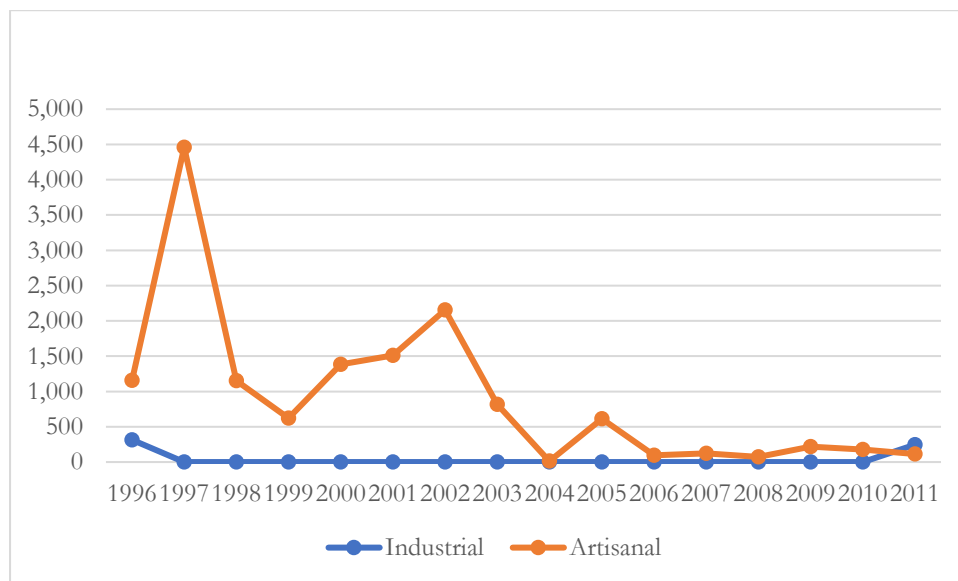
By the end of the two Congo Wars, lasting from 1996 to 2002, the mutually beneficial alliance between Congolese and foreign gold traders and non-state armed groups had become entrenched, the latter providing security in return for a share in profits. In Kamituga, for example, the Rwandan-backed militia *Rassemblement Congolais pour la démocratie* – Congolese Rally for Democracy – levied taxes on informal miners (Vlassenroot and Raeymaekers 2004). The wars had also further hardened ethnic and kinship ties, as ‘what was left of rural markets, trading networks and mineral extraction was all shaped by patterns of ethnic power brokerage and transactions between Congolese actors and interests from the belligerent external powers involved in the war’ (Putzel et al. 2008: viii). Ethnicity had become the fundamental organising principle of politics, production and trade.

In addition, ‘almost 100 percent of [economic] activity had become informal’ (Hesselbein 2009: 218). Official gold production in Zaire collapsed following SOMINKI’s liquidation in 1997 and was not to recover until Banro began pre-commercial production at Twangiza in the last quarter of 2011 (Figure 4.1). During the interim, informal mining continued to grow, stimulated by a rising gold price – from \$279 per troy ounce in 2000 to \$1,669 per troy ounce in 2012 – and a peasantry for whom the cumulative result of institutional change in land tenure, continually rising population density and the Congo Wars had been the exhaustion of the soil and the demise of agriculture as a viable livelihood (Van Acker 2005, Cox 2012, Kelly 2014).

Estimates from 2007 and 2010 for the total number of artisanal miners working in North Kivu and South Kivu put the figure at between 200,000 and 350,000, with between nine and 17 percent of the total population directly (as workers) or indirectly (as family members) dependent on the sector (Geenen and Radley 2014: 59), and with four out of five of these workers estimated to be mining gold (Weyns et al. 2016: 4). Artisanal gold miners working in South Kivu have been observed to capture 91 percent (Pact 2010: 71) and 87 percent (Geenen 2014a: 232) of the value

generated by their production. Based on ethnographic observation, Geenen (Ibid.) estimates that one-third of production is reinvested or captured by local taxes, one-third goes to artisanal shaft managers and one-third to the workers. For workers, wage estimates range from \$25 per month to \$150 per month (Perks 2011: 1122, Geenen et al. 2013: 23, Spittaels et al. 2014: 12, Stoop et al. 2016: 25). For shaft managers, monthly profit estimates range from \$900 to \$1,440 (Geenen et al. 2013: 22, Geenen 2014a: 174, Stoop et al. 2016: 25). Investments from these incomes and profits are observed in agriculture, livestock, education, dowry, property, vehicles, motorcycles, commerce and transport (Geenen et al. 2013: 24, Geenen 2014a: 179, Rothenberg 2014: 14), initiating a process of rural social stratification. In Kamituga, for example, informal artisanal gold miners used their wages to acquire expensive clothes, consumer goods, property and land, becoming socially differentiated from the surrounding peasantry (Bulambo 2002).

Figure 4.1 Official gold production in the DRC, 1996 to 2011 (in kilograms)



Source: L'industrie minérale Congolaise (Mupepele 2012).

Some efforts have been made to formalise the sector, supported by the 2002 Mining Code, which accords ASM a legal status, requiring artisanal miners to work in officially recognised *Zones d'exploitation artisanale* (ZEA) – Artisanal Exploitation Zones. Within these zones, artisanal miners must self-organise into cooperatives, apply for individual exploitation cards, and comply with security and environmental regulations (Geenen and Radley 2014: 59). Yet progress has been slow, with only seven ZEAs covering an area of 250 square kilometres established in South Kivu as of 2017. As noted in the opening chapter, this contrasts with the 16,000 square kilometres covered by foreign-owned mineral research and exploitation permits.¹¹⁷

Events from 2010, however, gave fresh impetus to the formalisation process. Building on Western advocacy reports highlighting the link between artisanal mining in eastern DRC and conflict financing (cf. Global Witness 2009), research conducted across hundreds of South Kivu's artisanal gold sites between 2013 and 2015 recorded the presence of the national army or non-state armed

¹¹⁷ South Kivu Provincial Ministry of Mines mining permit dataset, 2017.

groups at 77 percent of the mines, levying illegal taxes at most of them (Weyns et al. 2016: 4). Designed to sever the financial links between artisanal mining and armed groups, Section 1502 of the Dodd-Frank Act was passed into law in the US in July 2010. The law required companies registered on the US stock market to report annually whether they sourced minerals from the eastern DRC or neighbouring countries, and if they did, whether or not the minerals financed conflict (Radley and Vogel 2015: 407). This was followed by the prohibition, by Presidential decree, of all artisanal mining activities in the provinces of North Kivu, South Kivu, and Maniema between September 2010 and March 2011, to decrease militarisation and proceed with formalisation (Geenen and Radley 2014: 60). In February 2012, the Congolese Government ratified OECD due diligence guidelines on sourcing natural resources in high-risk areas into national law, and in March 2014, the EU introduced a voluntary conflict minerals regulation scheme for all member states (Radley and Vogel 2015: 407).

Due diligence here is the requirement that transnationals who use minerals in their products trace and document their global supply chains, to ensure and prove that the minerals they source don't fund conflict in the DRC (or, increasingly, elsewhere in the world). Yet formalisation via due diligence in the eastern DRC has focused almost exclusively on tin, tantalum and tungsten. As of late 2018, no gold ZEAs had been assigned in South Kivu, meaning – in light of the above legislative measures – artisanal gold produced in the province could not be legally exported to Western markets.¹¹⁸ Consequently, 'conflict mineral' legislation had served to strengthen smuggling and politico-military commercial networks, rather than undermine them (Ibid.).

The overwhelming majority of South Kivu's informal gold production continues to be smuggled out of the country. A 2007 report by the Congolese research institute Pole Institute (2007) estimated South Kivu's artisanal gold mining workforce to produce 4,800 kilograms annually, and a 2015 study by Kamundala et al. (2015) produced the same estimate (using a different methodology).¹¹⁹ Yet across this same period, with the exception of 2014, officially recorded annual artisanal gold exports from the province have hovered between 0.5 and 2.2 percent of this figure, or between 25 and 100 kilograms (Figure 4.2).

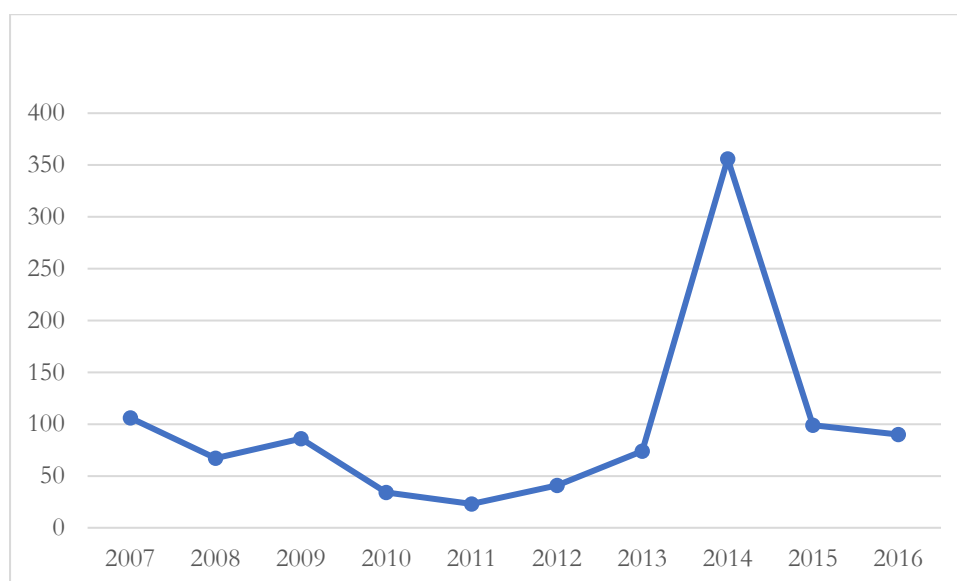
While due in part to the recent criminalisation of South Kivu's gold sector by Western legislation, 'the small volume of official exports can [also] be attributed to the fact that a handful of fraudulent traders in Kampala (in neighbouring Uganda) and Bujumbura (in neighbouring Burundi) have for many years monopolised the Congolese gold trade. Not paying any income or export taxes, these traders are able to offer better prices than official Congolese exporters' (UN Group of Experts on the DRC 2012b: 41).¹²⁰ Throughout the 2000s, the Indian Bhimji, Pattni and Lodhia families, and the Belgian trader Alan Goetz (who recently opened a gold refinery in Uganda) – all established prior to the Congo Wars – continued to hold an oligopsony position over the majority of the DRC's informal gold trade, financing a network of Congolese traders.

¹¹⁸ South Kivu Provincial Ministry of Mines mining permit dataset, 2017.

¹¹⁹ World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed November 24th 2017.

¹²⁰ Although some of the gold smuggled out of South Kivu also transits through Rwanda, Kenya and Tanzania (Mthembu-Salter 2014: 17).

Figure 4.2 Official artisanal gold exports from South Kivu, 2007 to 2016 (in kilograms)



Source: *Centre d'expertise, d'évaluation et de certification*, Congolese Ministry of Mines.

Independent Congolese traders with direct connections to the international market had begun to emerge, however, the most important of whom in South Kivu were Evariste Nshamamba and Mutoka Sefu Ruganyira (the latter based out of Bujumbura), both former employees of and suppliers to Goetz (Carisch 2014: 36). As the gold price continued to soar, these traders were able to make significant profits, and used part of the foreign exchange acquired through the sale of gold to increase these profits by bringing consumer goods, construction material and food produce back into the DRC (Geenen 2014a: 255-260). Nshamamba also reinvested in founding Congolese air and bus companies, although ostensibly to support and provide cover for his gold trade (Carisch 2014: 63).

In 2016, the major trading houses in Bukavu were *Mines Propres* – Clean Mines – Namukaya and Kasereka, of which *Mines Propres* accounted for two-thirds of all officially recorded exports.¹²¹ All official exports went to Dubai in the United Arab Emirates (UAE), the destination for around 70 percent of the DRC's artisanal gold and home to a largely unregulated gold industry worth around \$75 billion, where Congolese gold traders have been doing business since the 1960s (Carisch 2014: 56). From here, the gold is exported primarily to Indian- and Swiss-based refiners, which comprise the majority of the world's refineries selling to TNCs.¹²²

Most production is, however, smuggled to intermediary trading houses and refineries before reaching Dubai. The Namukaya trading house, for example, has been documented as selling its smuggled gold to Machanga Ltd., run by the Indian Kumar brothers in Kampala (UN Group of Experts on the DRC 2011: 129, 2012b: 41). *Mines Propres* – which as the next section notes, is the trading house and refinery through which nearly all the artisanal gold trade from Luhwindja passes – smuggles production to its own refineries in Kamembe in Rwanda (just across the border from

¹²¹ South Kivu Ministry of Mines export data, 2016.

¹²² 'Panama Papers Reveal Dubious Behaviour by DRC's Gold Traders', Khadija Sharife, April 4th 2016, panamapapers.investigativecenters.org/drc/#, accessed February 21st 2018.

Bukavu) and Bujumbura before exporting to Dubai.¹²³ Before considering in more detail the productivity of and distributional dynamics associated with artisanal gold mining in South Kivu, the next section provides some context to this exercise, describing the journey made by artisanal gold from its point of extraction at the artisanal Kadumwa mine in Luhwindja through to its export by *Mines Propres* in Bukavu.

4.2 From Extraction to Export

Most artisanal miners arrived at Kadumwa in 2010 and 2011, following the forced closure of Luhwindja's largest artisanal mine, Mbwega, to make way for the construction of Banro's Twangiza mine (discussed in more detail in Chapter 9). Based on direct observation of the labour hierarchy at Kadumwa, artisanal miners can be placed into three categories: site workers, shaft workers, and shaft managers. As will be explained in more detail in the next chapter, shaft managers (known as *Présidents-directeurs généraux* – Chief Executive Officers – or PDGs) provided the initial financial investment required to purchase land and construct and maintain shafts, and they mobilised and organised labour within the production process. Once land had been bought, labour mobilised and a shaft constructed, production can begin.¹²⁴

Site and shaft workers comprised around 95 percent of all employment at the mine. *Mamans bidons* (water carriers), *motards* (ore carriers) and *loutriers* (ore washers) composed Kadumwa's site workers, while most shaft workers were generalists known as *fundis* (artisans), but other more specific roles were fulfilled. *Boiseurs* (timber specialists) constructed, secured and extended the shaft while *motards* (carriers) carried material into the shaft and the ore out. Each shaft had two team leaders, a *sous-PDG* (Vice President) and a *secrétaire* (secretary), who had additional responsibilities including recording production and managing the workers. Site and shaft workers participated in a six-day working week; there was some activity on a Sunday, but noticeably less than on other days. Workers tended to start shortly after sunrise and finish around mid-afternoon, but there were no fixed hours and the site was operational, albeit to a far lesser extent, throughout the night.

Shaft work involved long shifts of up to eight to ten hours, equipped with iron hammers, chisels and headlamps. The shafts were narrow with little room to manoeuvre, and once they surpassed 20 to 30 metres in depth, the air thins and the labour became demanding and dangerous. In April 2017, a 19-year old worker died from asphyxiation, after the machine used to circulate oxygen through the shaft broke down.¹²⁵ Such deaths are frequently reported in the Congolese media, although more commonly caused by shaft collapses.

¹²³ Conversations with Bukavu traders and Ministry of Mines civil servant based at *Mines Propres*, Bukavu, January to March 2017.

¹²⁴ Although not everyone reaches this stage. A few miners were encountered who had invested between one and three thousand dollars without finding any ore, and had joined other shaft manager teams instead, or simply left the sector.

¹²⁵ Shaft collapses are also commonly reported across the province, resulting in miner deaths, although none occurred at Kadumwa during the course of the fieldwork.

Once the gold ore had been extracted from the shafts by workers, it was given to ore carriers, who were paid by shaft managers to balance 25-kilogram bags of ore on their shoulders and transport them to the treatment sites, either on-site or at the nearby Mwana river. Meanwhile, water carriers – who occupied the bottom of the mine’s labour hierarchy, and were also paid by shaft managers – transported water from the Mwana river to the treatment stations located on-site. Their work was arduous, involving a steep climb of around two kilometres, carrying 20-litre water cans tied to cloth laced around their foreheads to bear the weight.

Once at the treatment sites, the ore was sieved and grinded to extract the gold. First, the ore was mixed with water in plastic basins to remove the shale and mudstone. Next, shaft workers manually ground the ore down between two rocks to release the gold. Once sufficiently ground, it was then put back into a plastic basin and mixed with water. Often, mercury was added at this stage, forming a grey amalgam with the gold, which sinks to the bottom of the basin because of its higher density. The remaining fine ore collected in large sand-bagged water pits, where it was mixed with water and poured onto sluices that ran downhill. Due again to its high density, the remaining gold sediment sticks to the sluice blanket while the excess flows downhill. The sediment was then gathered and sieved in a plastic basin using mercury, as before. Often working in small teams of two to three people, ore washers spent their days sieving, grinding and sluicing as they searched for any remaining gold.

Once Kadumwa’s workers had produced the metallic grey compound of gold and mercury, it was then sold on to *petits négociants* (small traders), most of whom operated on-site. Workers generally sold in small quantities of just a few dollars, known locally as ‘the lottery’, for which traders offered a price based on a visual assessment. Shaft managers and team leaders, however, would sell in larger quantities, which were heated over a coal stove using a blower to raise the temperature to around 500 degrees Celsius. This evaporates the mercury and other impurities. It was then weighed on a set of scales, using old Zairian coins and toothpicks, and a price was offered.

Local traders travelled periodically to sell their gold to *grands négociants* (big traders) based mostly in the suburb of Essence in the nearby provincial capital of Bukavu (around a four- to five-hour journey by bus), who would usually heat it with nitric acid over a hot stove to rid it of most remaining impurities. After heating, the gold was weighed on an electronic scale, and an estimate of its purity was made depending upon its colour and where it has come from. Normally at this stage, gold from across South Kivu has reached between 82 and 98 percent purity, depending on its origin; Bukavu traders buying gold from Luhwindja offered a buying price based on an estimated 97 percent purity.

Next, all of the Bukavu-based traders buying gold from Luhwindja either sold their gold to *Mines Propres* in Bukavu, one of the gold refineries operating in the city, or smuggled it out of the country, usually to Bujumbura. At *Mines Propres* in Bukavu, the gold was heated to 1,500 degrees Celsius in a cylindrical furnace and once melted, the molten gold was poured into a graphite ingot mould for casting. It takes around 30 seconds for the gold to solidify, after which the chemical composition of the gold ingot was checked using a US-manufactured gold purity testing instrument. A reading from *Mines Propres* of an ingot made using mostly gold from Luhwindja came out at 96.4 percent, confirming the 97 percent purity used by traders when calculating their buying price. While some

of this production was officially declared, most of the ingots produced by *Mines Propres* in Bukavu were smuggled to Dubai refineries in the UAE, which then refine the gold to the minimum purity required for sale on the international market. Having briefly outlined the labour, production and treatment process, the next section determines the productivity of artisanal mining at Kadumwa, and the distribution of the end value to different groups across the chain.

4.3 Productivity and Distribution in Kadumwa's Value Chain

To estimate productivity and value distribution in Kadumwa's informal artisanal gold chain (and subsequently in Twangiza's formal industrial chain), and to recall from the opening chapter, gross (or end) value rather than value-added is used, in light of the difficulty of determining the value of inputs to industrial mining. For this exercise, and to recall once more from the opening chapter, 13 monthly production and financial logs were collected from four artisanal shaft managers, representing just less than 10 percent of the 44 shaft managers working at the site. In the data that follows, however, one logbook is excluded as the required bag production data was not adequately recorded. In addition, 14 monthly financial logs were collected from eight traders. Six of these were traders at Kadumwa, representing around 20 percent of the estimated 30 traders at the mine, and two were from the group of seven Bukavu-based traders who buy the majority of the gold produced at Kadumwa (and across Luhwindja). Before presenting these data, however, four related issues must be noted.

First, there is a possible downward bias in the productivity estimates due to the observed tendency – in the DRC and elsewhere – for those engaged in illicit activity to underreport the levels of this activity. However, to ensure as great a degree of data reliability as possible, daily levels of production and trade were often directly observed or confirmed with conversations the same or the following day, and for around half of the logbooks collected, data was cross-checked directly with shaft manager bookkeeping, and the data in the remaining logs is not incongruous with these recorded levels.¹²⁶

Second, the productivity of artisanal gold mining varies greatly from one site to another, depending primarily upon three factors. First, the life cycle of the site, with periods of lower productivity occurring at the beginning (when workers are looking for the auriferous rock) and towards the end (when the deposit is nearing exhaustion). Second, and for the same reasons, the life cycle of a mine shaft. Third, the time of year, with the wet season typically less productive than the dry season, due to the increased danger and difficulty of working under the heavy rains. Three measures were adopted to control, however incompletely, for these factors: Kadumwa's estimated productivity is compared to data extrapolated from previous studies of artisanal gold mining in South Kivu; the shaft sample for the study contained a range of new, mature and ageing shafts, and; data was collected across both the wet and the dry season.

Third, there is an in-built assumption of a stable workforce, although in reality there is a degree of churning. While most workers and managers stated artisanal mining was their primary labour

¹²⁶ This bookkeeping was not for official purposes, such as tax declarations, but rather to provide a manager with recourse to a written record of past transactions, should a dispute over a particular sale or purchase arise.

activity, for some it is a secondary activity. The impact on productivity is likely minimal, however, as generally a departing worker – for example, to harvest his agricultural production – was replaced by a new one.

Fourth, logbooks are a critical data source for the following calculations, and shaft managers and traders recorded their logbook activity in Congolese Francs and *renge*, the latter a measurement derived from local traders’ use of hand-held scales and old Zairian coins, whereby one *renge* is equivalent to 1.423 grams. Congolese Francs and the *renge* are in common usage at Kadumwa and across South Kivu (and, somewhat confusingly for the newcomer, the *renge* is referred to locally in Luhwindja as grams). Yet US dollars are also used in Luhwindja, and Banro’s financial accounts are kept and wages paid in US dollars, and Banro declares production in ounces (with one ounce equivalent to 31.1 grams). For the purpose of analytical clarity and to facilitate comparison, data is converted to and presented throughout the remainder of the thesis in dollars, grams and kilograms. The dollar conversion was made using the local exchange rate in Luhwindja at the time the data was collected, and thus varied across the logbooks. Similarly, to facilitate comparison between SOMINKI, Kadumwa and Twangiza, the 2017 average gold price on the London Gold Fixing of \$40.42 per gram is used.¹²⁷

Table 4.1 Kadumwa production and value creation, 2017 (grams)

Monthly Log Number	Shaft Production
1	204.4
2	116.0
3	27.6
4	130.7
5	83.9
6	50.2
7	122.7
8	125.1
9	94.3
10	149.3
11	64.5
12	130.0
Average monthly shaft production	108.2
Total annual shaft production (108.2 grams x 44 shafts x 12 months)	57,135.8
Total annual waste production (216 grams x 12 months)	2,592.0
Total annual site production	59,727.8
ESTIMATED ANNUAL VALUE (97% of 59,727.8 grams x \$40.42)	\$2,341,772

Note: One logbook has been excluded as bag production was not adequately recorded.

Source: Calculations based on author data.

¹²⁷ This annual average was obtained from the World Gold Council at www.gold.org/research/download-the-gold-price-since-1978, accessed February 23rd 2018.

The detailed calculations for arriving at an estimation of the annual value created by Kadumwa can be found in Appendix B. Table 4.1 presents a summarised overview, which estimates the annual value created at Kadumwa in 2017 at \$2.3 million. This estimate was arrived at by combining shaft production data taken from shaft manager logbooks with a shaft census and the additional production arising from the ‘waste’ purchased and treated by ore washers from shaft managers, to give an estimated annual production of 59,728 grams. To determine the value of this production, it was first calculated as a percentage of the gold’s purity. This is taken as 97 percent, following Bukavu trader estimations based on their experience of how much weight is lost when gold bought from Luhwindja is treated at a refinery. Next, 97 percent of 59,727.8 grams multiplied by the London Gold Fixing price of \$40.42 gives an estimated \$2,341,772 of value created by Kadumwa in 2017.

From here, the number of workers at Kadumwa was estimated to determine the mine’s productivity. A labour census conducted in 2013 by a local civil society organisation recorded a total of 1,239 people working at the mine (Observatoire Gouvernance et Paix, 2015: 43). However, conversations with workers, managers and traders at the mine in 2016 and 2017 often returned to the observation that there were less people working at the site than during the earlier period of higher output, around the time of the 2013 census. Many workers and traders were encountered who left during the data collection period, complaining that work at Kadumwa was no longer as remunerative as it once was (the reasons for this are considered in more detail in Chapter 9). An updated estimate of 762 workers and managers is therefore used, based on the shaft census, shaft manager logbooks and observation on-site (Table 4.2).¹²⁸

Table 4.2 Estimated units of workers and managers at Kadumwa, 2017

Group	Units
Water Carriers	30
Ore Carriers	80
Ore Washers	80
Shaft Workers	528
Shaft Managers	44
TOTAL	762

Notes: The most important numerical group in the table is shaft workers. To arrive at an estimate of their number, first, the average number of shaft workers per shaft across the four shaft managers who kept production and financial logs was 11, ranging from nine to 13. From observation, shaft managers were generally managing teams of 8 to 15 shaft workers, and so – together with the log data – an average of 12 workers per shaft was used to arrive at the estimated total for the site of 528 shaft workers (12 workers multiplied by 44 shafts). The number of shaft managers was taken from the shaft census, which – as mentioned above – revealed a total of 44 operational shafts at the mine in November 2016. The remaining categories of water carriers, ore carriers and ore washers were estimated based on observation alone.

Source: Author calculation based on shaft census, observation and shaft manager logbooks.

¹²⁸ Due to local awareness that the 2014 mine site census had been financed by Banro, with the assumed aim of determining the company cost of closing the mine, it was decided not to conduct a similar census, as this risked increasing association with the company, compromising trust and restricting access to the site and those who worked there.

Based on this figure, it can be estimated that in 2017, Kadumwa’s labour productivity was \$3,073, or around eight dollars per day (more in terms of purchasing power parity). This productivity can be compared to other artisanal gold sites in South Kivu by extrapolating data from previous studies. Taken together, Kadumwa’s estimated productivity falls within the range observed elsewhere in the region (Table 4.3).

Table 4.3 Artisanal value creation and labour productivity (based on average 2017 gold price)

Study	Gold Production (grams)	Value Creation (\$) (a)	Units of Workers & Managers (b)	Labour Productivity (\$) (a / b)
Weyns et al. (2016)	63.2	2,554	1	2,554
Geenen et al. (2013) (exploratory period)	717.2	28,989	10	2,899
Geenen et al. (2013) (study period)	1,314.9	53,146	33	1,610
Geenen et al. (2013) (high output period)	5,874.1	237,433	50	4,749
Author (2017)	59,727.8	2,341,772	762	3,073

Notes: Geenen et al. (2013: 22-23) present results for a survey implemented at Kamituga in South Kivu, which asked shaft managers to provide worker number and shaft production data for three periods – the exploratory period at the beginning, the high productivity period and the study period – and found average monthly shaft production of 59.8 grams, 489.5 grams and 109.6 grams respectively. For the report by Weyns et al. (2016), between 2013 and 2015, researchers at the International Peace Information Service (IPIS) qualitatively collected production and worker data at 1,220 artisanal gold mines in the former Katanga and Orientale provinces, and the provinces of North Kivu, South Kivu and Maniema. Based on analysis of this data, IPIS made a conservative estimate of 1.17 grams of gold produced per unit of worker and manager per week (Weyns et al. 2016: 16).

Source: Author data presented above; Geenen et al. 2013: 22-23; Weyns et al. 2016: 16.

Next, to calculate the distribution of value across Kadumwa’s chain, a ‘bottom-up’ methodology was used to estimate the respective average annual wages and profits earned by those involved in productive activity at the mine. Net rather than gross figures are presented, considering both formal and informal taxes, as this makes a significant difference in the relative value capture and distribution across different groups, most notably in relation to shaft managers but also – as will be discussed in Chapter 8 – to foreign industrial managers at Twangiza.

For the estimation, employment at Kadumwa was divided into the three main groups described in the previous section: site workers (composed of water carriers, ore carriers and ore washers), shaft workers (composed of workers and team leaders), and shaft managers. While sometimes directly involved with workers in the labour process, shaft managers are nonetheless distinct from workers as they invest the finances required to construct and maintain the shaft, mobilise and organise labour in production and manage the distribution of payment to workers (through a combination of monetary payment and a share in production). In this sense, while they are not conducting formal bookkeeping that records all income and expenses, they are nonetheless accruing profits from their role as financiers and distributors of wages to workers, rather than receiving a wage themselves. Yet in many cases, part of their profits derives from engaging directly in gold trade. For the sake of clarity and to reflect the profits they accrue from their role in the production process, the value they accrue from gold trade – and thus, their full profits – is not considered until the next chapter.

At the aggregate level, considering the total annual value of \$2.3 million created by Kadumwa in 2017, an estimated 49 percent (or \$1.1 million) is captured by workers as wages and 31 percent (or \$728,112) by shaft managers as profits (Table 4.4). The detailed calculations for arriving at these estimations are provided in Appendix C. Average shaft manager profits are around 51 times greater than the wages of the lowest paid workers, and on average shaft manager profits are around eight times greater than shaft worker wages. The estimated share accruing to taxation (1.5 percent) and rent (2.4 percent) is perhaps surprisingly low, particularly in light of the voluminous literature on the predatory nature of local Congolese state officials. As Perks (2011: 1122) has noted, in reference to artisanal mining in South Kivu, ‘the proliferation of official and unofficial agents seeking “rents” has created an extremely complicated operating environment for artisanal miners. Conflict is not uncommon as competing government agents, along with traditional authorities and the military, all extract their share from artisanal mine production’. Four explanations can be offered to explain this finding.

Table 4.4 Kadumwa wages/profits distribution, 2017

Group		Units of Workers & Managers	Net Monthly Wages / Profits per Unit (\$)	Net Annual Wages / Profits per Unit (\$)	Total Annual Wages / Profits (\$)	Share of Total Value Created (%)
Site Workers	Water Carriers	30	27	324	9,720	0.4
	Ore Carriers	80	50.4	605	48,384	2.1
	Ore Washers	80	57.6	691	55,296	2.4
Shaft Workers		528	163	1,956	1,032,768	44.1
SUBTOTAL WORKERS (WAGES)					1,146,168	48.9
Shaft Managers		44	1,379	16,548	728,112	31.1
SUBTOTAL MANAGERS (PROFITS)					728,112	31.1
SUBTOTAL WORKERS & MANAGERS					1,874,280	80.0
Local Government		-	-	-	10,368	0.4
Army Battalion		-	-	-	5,808	0.2
Local Police		-	-	-	4,320	0.2
Miners' Committee		-	-	-	13,584	0.6
SUBTOTAL TAXES					34,080	1.5
Landlords		-	-	-	55,968	2.4
SUBTOTAL RENT					55,968	2.4
TOTAL ANNUAL VALUE CREATED					2,341,772	100.0

Source: Calculations based on author data presented above and in Appendix C.

First, there was evidence that landowners at Kadumwa have decreased their rents in response to the site entering a period of low production. There were five landowners at Kadumwa, all Bashi farming families from Luhwindja whose fathers or grandfathers had inherited the land from former Bami (four inherited the land under *kalinzi*, an indefinite loan in return for loyalty or tribute to the Mwami, while only one had since converted this customary agreement into a private land title recognised by the state).¹²⁹ The general convention during Kadumwa’s period of high

¹²⁹ Conversations and interviews with Kadumwa landowners, Luhwindja, November 2016 to April 2017.

production, around 2012 and 2013, was for these landowners to take a ten percent share. Recently however, as production has decreased, so has the rent claimed by landowners. The monthly log data indicated landowners taking between a two and five percent share, or if production was particularly low during a given month or managers successfully negotiated, no share at all.

Second, the local customary ruler and senior government representative of Luhwindja, Mwami Chibwire V, was not currently claiming a rent on production at the site. Historically, in Luhwindja and elsewhere in South Kivu, the share of this rent has reportedly ranged between 10 and 50 percent of total production (OGP 2008: 22, Pact 2010: 87, Geenen and Mukotanyi 2013: 133, Mthembu-Salter 2014: 28). Before Mbwege's forced closure to make way for the Twangiza mine, land was sold to shaft managers by *baganda*, members of the Mwami's inner circle, in return for a share of production which went to the Mwami, outside of official local state revenue. According to Geenen (2014a: 183), shaft managers paid one gram per month to *baganda*, and up to a 10 percent share during periods of high production. At Kadumwa, however, the land no longer belongs directly to the Mwami. Former Bami had distributed it via *kalinzi* and the current Mwami had not exercised his right to claim it back (in part, some believe, due to public knowledge of the benefits he already accrues from Banro), and so *baganda* were not involved in the distribution of land at Kadumwa when it was being sold for shaft construction.¹³⁰ Shaft managers, traders and *baganda* consistently noted in conversation that although he could if he so wished, the Mwami wasn't claiming rent on production at Kadumwa, other than the official taxes paid to his local government treasury.¹³¹ As one *baganda* said, 'the Mwami can take his share if he wants, but he hasn't yet taken an interest'.¹³²

Third, there are fewer state agents present at Kadumwa than elsewhere. State mining agencies left in 2015, reportedly due to extended salary arrears, and the site is in Banro's concession and lies on what the corporation considers its main Twangiza deposit, and thus has no pretence of legality. This is unlike other artisanal gold sites in South Kivu which, while operating outside of an officially recognised artisanal exploitation zone, are nonetheless subject to numerous local-level taxes from an array of government agencies absent at Kadumwa.

Fourth, while due to aggregation, millions of dollars each year might be made through taxation at the provincial level, this nonetheless represents a relatively small share of the end value. For example, the finding that only 0.2 percent of the value created at Kadumwa (or \$5,808 in 2017) accrued to a battalion of the national army, the *Forces armées de la République Démocratique du Congo* (FARDC) – Armed Forces of the DRC – stationed at Luhwindja is not too dissimilar from other recent studies which have found the equivalent share accruing to state or non-state armed groups to be one percent (UNEP-MONUSCO-OSESG 2015: 24) and 0.4 percent (Kamundala et al. 2015: 172).

¹³⁰ Conversations with local government tax collectors (who are also *baganda*), Kadumwa and Luhwindja, February and March 2017.

¹³¹ Some did, however, report that a Bukavu-based organisation of former Luhwindja inhabitants used to claim rent from the site due to the group's role in keeping the mine open following attempted appropriations by the state and Banro, but that since the Mwami's return a few years ago, this is no longer the case. These dynamics are discussed further in Chapter 9.

¹³² Interview with local tax collector, Luhwindja, November 26th 2016.

Next, to calculate the capture of value by those not directly involved in production, a ‘top-down’ methodology was used, determining the buying and selling prices of traders and smelters, and from here estimating each group’s value share based on world prices. The full calculations are presented in Appendix D. The data suggest that if the value of a gram of gold on the London Gold Fixing is \$40.42 (the average price for 2017), workers and managers at Kadumwa would capture \$31.21 of this value, traders at Kadumwa \$5.34, traders at Bukavu \$1.92, the smelter and trading house *Mines Propres* in Bukavu \$0.54 and international traders and refineries \$1.34. This model assumes that the gold price is static, while in reality, gold traders make greater losses or profits depending upon the fluctuation of the gold price between buying and selling. Nevertheless, while acknowledging this limitation, the model suggests 97 percent of the value created by Kadumwa was captured domestically, and 95 percent was captured domestically by Congolese groups (considering the foreign ownership of the Bukavu-based refinery, *Mines Propres*) (Table 4.5).

Table 4.5 Kadumwa value distribution, 2017

Group	Per Gram (\$)			Nationality / Ownership	Share of Total Value Created (%)
	Buying Price	Selling Price	Value Capture		
International	39.01	40.42	1.41	Foreign	3.5
Mines Propres	38.47	39.01	0.54	Foreign	1.3
SUBTOTAL REFINERIES			1.95	-	4.8
Bukavu Traders	36.55	38.47	1.92	Congolese	4.8
Kadumwa Traders	31.21	36.55	5.34	Congolese	13.2
SUBTOTAL TRADERS			7.26	-	18.0
Workers and Managers	-	31.21	31.21	Congolese	77.2
SUBTOTAL WORKERS & MANAGERS			31.21	-	77.2
TOTAL ANNUAL VALUE CREATED			40.42	-	100.0

Source: Author calculations based on data presented above.

To conclude, from the outset in the 1950s and possibly even earlier, the emergence of a more locally-owned network of gold production and trade was suppressed and stifled by Belgian mining corporations looking to protect their deposits. Yet the collapse of the Zairian state and foreign-led mining in South Kivu in the late 1990s meant any policy aimed at suppressing the growth of informal mining could no longer be meaningfully pursued. The Congo Wars that followed, however, entrenched alliances of mutual interest between Congolese traders, foreign traders and non-state armed groups. These alliances have continued into the late 2010s, despite efforts to sever the ties between artisanal mining and conflict financing.

Nevertheless, the findings from Kadumwa indicate that only around 0.2 percent of the end value generated by the mine in 2017 (or slightly less than \$6,000) accrued to an armed group, in this case a locally-stationed FARDC battalion. Meanwhile, around 49 percent accrued to workers as wages and 31 percent to shaft managers as profits. Including traders, around 95 percent of Kadumwa’s end value accrued domestically to different Congolese groups. This confirms the previous work cited earlier in the chapter by Pact (2010: 71) and Geenen (2014a: 232), which found a similarly high level of domestic value capture from artisanal gold production in South Kivu.

Yet it also builds upon this work, by beginning to draw out the profit-wage relation – developed further in the next chapter – within the capital-labour social relation that exists between shaft managers and site and shaft workers. Kadumwa demonstrates a form of peripheral capitalism that is not fully capitalist. The land is not wholly commodified (although in one instance, as discussed, private land titling has evolved out of customary arrangements), workers are paid in relation to production and shaft managers are at times directly involved in the labour process. Yet neither is Kadumwa fully non-capitalist. Shaft managers take on risk through financial investment, organise and remunerate workers in production, and – as an outcome of these processes – generate their own profits (or accrue losses, as the case may be). In addition, as the next chapter will show, they also control the means of production, and are involved – among other things – in an organic movement towards increasing sectoral productivity via locally-led technological assimilation and capital formation.

By demonstrating the high share of the end value created by Kadumwa that accrues to different Congolese groups, and by highlighting the capital-labour social relation around which artisanal mining at Kadumwa functions, doubt is cast on the wisdom of ignoring or marginalising this locally-led and managed form of gold production within national mineral development strategies. The next chapter further develops this line of thinking by deepening the analysis of the capital-labour social relation underlying the sector. In it, it's argued that under the leadership of an emerging proto-capitalist class of Congolese shaft managers and traders, the sector contributes to raised wages and broader processes of structural transformation and capital accumulation; precisely the outcomes sought by AMC proponents of TNC-led (re)industrialisation.

5. Class Formation and Capital Accumulation in the Countryside

The current chapter builds on the critique begun in the previous chapter of the set of assumptions around ASM that have – directly or indirectly – given sustenance to neoliberal mining reform over the last few decades. As noted in Chapter 2, the low productivity and inefficiency of artisanal mining have been core reasons for the sector’s marginalisation in African national mineral development strategies, feeding into the AMC preference for mining (re)industrialisation to be led by the efficiency and expertise of mining TNCs. The purpose of this chapter is to challenge this line of thinking by extending the analysis begun in Chapter 4 into the capital-labour social relation that underpins and constitutes Kadumwa’s value chain, and to consider to what extent these relations relate to broader processes of economic development. For this, the chapter draws on a range of original data collected during the course of the fieldwork, notably: shaft manager logbooks; a labour survey; individual and group interviews and conversations; life history interviews, and; direct observation from time spent in Luhwindja and Bukavu.

The chapter’s original contribution lies in explicitly grounding an exploration of the sector within the analytical lens of peripheral capitalism (including the capital-labour social relation). Through this lens, and located in an inductive analysis of the data (as opposed to any deductive *a priori* assumptions), it is argued that artisanal gold mining in South Kivu is embedded within a proto-capitalist social structure that is associated with dynamic local processes of class formation, capital accumulation and structural transformation.

The chapter is structured in two sections. The first section shows how artisanal gold production at Kadumwa is dependent upon ‘the manipulation of various non-class social identities’ (Harriss-White 2003: 21) – namely ethnicity, territorial origin, kinship and gender – which interact to organise and control workers labouring at the bottom of the value chain. It highlights the local, rural background of the workers, managers and traders involved in Kadumwa’s chain, and (building on the previous chapter) further emphasises the distinct role played by shaft managers within the capital-labour relation, as the group responsible for mobilising and organising labour in production and making the required investments to finance the endeavour.

The second section builds on these findings by analysing the differentiated consumption and investment patterns associated with the wages and profits derived from artisanal gold production at Kadumwa. The analysis reveals processes of class formation and structural transformation arising from these patterns, including the emergence of a prosperous class of shaft managers and traders. By broadening the lens beyond the Kadumwa mine, the section closes by documenting signs of increasing productivity and capital accumulation in South Kivu’s artisanal gold sector. These processes have been taking place through a dynamic of technological assimilation and capital formation observed in nearby Kamituga (and originating elsewhere in South Kivu), in an organic and locally-led movement towards a semi-mechanised form of gold production.

Before beginning this line of analysis, a note on terminology is required. As will be shown, many shaft managers made part of their profits from engaging in trading activity, while many of the Bukavu gold traders made part of their profits from shafts that they owned and managed at Kadumwa or elsewhere locally. Given, then, the commonality of their position in the production

process, throughout the chapter and the remainder of the thesis, the two groups are at times referred to collectively as trader-managers.

5.1 Production Financing and the Organisation of Labour

At Kadumwa, only Bashi from Luhwindja are permitted to become shaft managers. This criterion is widely acknowledged locally, and is applied by the landlords (themselves all Bashi and natives of the area) when selling use rights to their land, often in favour of family or clan members. As one shaft manager recalled:

At Kadumwa...my father and Amisi [one of the landlords] are cousins. That's why I got a shaft there easily, because they're cousins. For example, Constantin, who you know, he married into the same family. That's why he got a pit at Kadumwa, because they're now in the same clan.¹³³

During the course of the fieldwork, all of the 24 profiled shaft managers were Bashi from Luhwindja, and the ethno-territorial and kinship logics associated with their place in production are commonly acknowledged and generally uncontested (unlike at Banro, as will be shown in Chapter 8).¹³⁴ Most shaft managers hailed from farming or cattle-raising families, around half of which combined agriculture and livestock raising with artisanal mining. One had a father who was a local state agent and one had a father who was a local pastor. The parents of surveyed shaft managers had on average five times more livestock and nearly three times more land than the parents of site workers, and twice as much livestock and around one-third more land than the parents of shaft workers (Table 5.1).

Table 5.1 Assets held by the parents of artisanal workers, managers and traders

Group	Livestock		Land (Ha)	
	Mean	Median	Mean	Median
Site Worker Parents	2	2	1.0	0.6
Shaft Worker Parents	5	3	1.9	1.0
Shaft Manager Parents	10	9	2.9	2.5
Local Trader Parents	6	6	4.8	5.0
Bukavu Trader Parents	24	15	4.8	4.5

Source: Author labour survey.

Shaft managers come, in other words, from a slightly wealthier rural background than site and shaft workers. The following summary of a shaft manager's background is illustrative:

I'm from the village of Cishali in the Cibanda II grouping of Luhwindja.¹³⁵ My father raised and sold cattle and my mother worked on the farm at home. It was a good childhood. I didn't lack anything, because my parents were rich. They had a lot of cows. At that time, there was a lot of free pastureland. You could take your herd anywhere. We produced a lot of milk and sweet potatoes. I studied without

¹³³ Interview with shaft manager, Luhwindja, February 10th 2017.

¹³⁴ Sixteen were profiled through a combination of the labour survey, extended conversations, interviews, and life histories, and an additional eight through the labour survey only.

¹³⁵ The collectivity of Luhwindja is composed of 26 villages, organised in nine groupings (or *groupements*, in French).

any problem but failed the fourth year of secondary school. The long walk to and from school made me too tired to concentrate in class. At this point I was around 18 years old and started working in artisanal mining, as a shaft worker. I did this for one year, then my elder brother sent me on a six-month mechanics apprenticeship in Bukavu. After this, I returned to Luhwindja, and carried on working as a digger.¹³⁶

Although a few shaft managers came from similarly difficult backgrounds as site and shaft workers, such as this manager:

I was born in the Idudwe grouping of Luhwindja. My father died when I was four years old. I suffered a lot after the death of my father, along with my brothers and sisters. My mother worked on other people's farms to earn some money. I went to live with my uncle, who supported my education until the third year of primary school. At this point, my uncle ran into difficulties, and could no longer pay my school fees. When I was 15 years old, I went with him to Minembwe to dig gold, and the money I earned helped me to pay my school fees, so I kept returning during the holidays and managed to continue in education until the fourth year of secondary school. I then spent eight months in Shabunda without making any real money, and sadly had to abandon my education. Around 2001, militia rebels stole the remaining cattle our father had left us.¹³⁷

For most shaft managers though, their relatively wealthier origins played a decisive role in assuming their position within the production process, as the group who make the financial investments and thus take on the associated risks. As Geenen (2011a: 433-434) has observed, the artisanal gold sector in South Kivu is pervaded with a complex web of credit and debt relations, flowing from foreign financiers to Bukavu-based traders down to local traders and shaft managers. As one shaft manager at Kadumwa said, 'the manager of a pit here always has some debts picked up here and there. I owe \$125 to one trader and 110,000 Congolese Francs [around \$90], 80,000 Congolese Francs [around \$65] and 60,000 Congolese Francs [around \$50] to three others.... My debts though are not so bad. There are others who have debts of \$1,000 or more'.¹³⁸ These debts could often lead to problems, particularly if shaft construction failed to enter the production phase or – as was witnessed a few times during the course of the fieldwork – a manager or trader experienced a serious family illness, which absorbed thousands of dollars in a short period of time.

Many of the shaft managers at Kadumwa sold family assets to raise the required financing for shaft construction, such as one manager who sold three cows inherited from his father to raise \$1,000, with which he bought land at Kadumwa in 2005 to begin shaft construction.¹³⁹ Another was the son of the Collectivity Secretary (the third most senior position in local government), whose father provided the \$3,600 he used to buy land at Kadumwa (\$600) and construct a shaft (\$3,000).¹⁴⁰ Some, however, used money saved from their time as shaft workers at Mbwege (before its closure) or elsewhere, or as gold traders. One saved \$3,000 working in a shaft at Mbwege, using \$500 to buy land at Kadumwa and \$2,500 in the shaft construction phase.¹⁴¹ Another began as a site worker around 1980 at Mbwege, saved \$500 to become a trader in the 1990s, and bought land at Kadumwa for \$300 in 2012.¹⁴²

¹³⁶ Life history with shaft manager, Luhwindja, April 9th 2017.

¹³⁷ Life history with shaft manager, Luhwindja, May 12th 2017.

¹³⁸ Shaft manager life history, Luhwindja, April 9th 2017.

¹³⁹ Interview with shaft manager, Kadumwa, September 21st 2016.

¹⁴⁰ Interview with shaft manager, Kadumwa, September 23rd 2016.

¹⁴¹ Interview with shaft manager, Kadumwa, September 17th 2016.

¹⁴² Interview with shaft manager, Kadumwa, October 6th 2016.

Traders have a similar social profile and background to shaft managers. There were around 30 local traders buying gold at Kadumwa and seven Bukavu-based traders were identified as buying the gold from the local traders and shaft managers at the mine. All traders encountered during the fieldwork were Bashi from Luhwindja or (to a lesser extent) neighbouring Burinhyi, born to parents who worked as farmers, pastoralists or in artisanal mining (or some combination of the three). They were also, as with shaft managers, from a relatively wealthier background than site and shaft workers. The parents of surveyed traders generally owned considerably more livestock and land than workers (see Table 5.1 above).¹⁴³

As with shaft managers, this relative family wealth – which was often connected to artisanal mining – was critical in enabling the financial investments required to get started in the trade. Some worked as shaft managers themselves at Mbweza, having inherited the shafts from their fathers and used the profits they made to begin trading. Two brothers who worked as local traders buying gold at Kadumwa said their father worked in artisanal mining and had bought 30 cows from the money he made, and then sold some of these to raise some financial capital to help them start up as traders.¹⁴⁴ The father of another local trader was close to the Mwami and owned several hectares of land and a few dozen cows, and likewise sold some of his herd for a few thousand dollars, which his son then used to begin trading.¹⁴⁵

While some local traders were independent, with no *mzungu* (meaning ‘European’ or ‘white person’ in Swahili, but in this case used to indicate a financier) in Bukavu, many had a financier relationship, receiving financing from a trader in Bukavu, to whom they must sell their gold in return. As mentioned, all of the Bukavu-based traders who bought gold from Luhwindja were Bashi from the local area. The three most important, in terms of their share of the Luhwindja gold trade, had a common history, and many noted it would be difficult to enter this market without their approval. Two of the three were from the same grouping of Idudwe in Luhwindja, and while the third was from Burinhyi, they all went to the same primary school together in Luhwindja. There were also some familial connections between the Luhwindja network of traders and the smelter *Mines Propres*, to whom they sell some of their gold in Bukavu. The main laboratory technician at *Mines Propres* was the nephew of one of the three major traders cornering the Luhwindja gold market.

The ethno-territorial and kinship structures shaping the social composition of shaft managers and traders flows down to the mobilisation and organisation of labour in the production process, which is overseen by shaft managers. Many of the shafts were known as *puits familiaux* (family pits), composed exclusively of family or clan members, while others (but not all) were strongly oriented along similar kinship logics. Those with a family or clan connection to a shaft manager can more easily gain access to shaft work.¹⁴⁶ Those without are asked by shaft managers to pay up to \$100 or an equivalent livestock contribution to join his team, which many cannot afford. While many

¹⁴³ Yet while the difference between the traders in Bukavu and the workers at Kadumwa was quite considerable, this is tempered by the fact that the Bukavu traders were a generation older than the workers (with an average age of 54 among those surveyed), and so were from a time when both land and livestock in Luhwindja were more plentiful.

¹⁴⁴ Conversation with two local traders, Luhwindja, September 22nd 2016.

¹⁴⁵ Interview with local trader, Luhwindja, May 31st 2017.

¹⁴⁶ While Babofa is the clan of the royal family, and nearly all local political positions are held by Babofa, Kadumwa contains a mix of clans with no single clan dominant.

ore carriers and ore washers aspire to become shaft workers due to the higher wages to be earned in the shafts, many lack the money or required kinship relation to make the transition.¹⁴⁷ They are thus left to labour on the site's margins.

Reflecting these logics, 98 percent of the 291 surveyed workers at Kadumwa were Bashi, 77 percent were from Luhwindja and 96 percent were from Luhwindja or one of the neighbouring collectivities. The two percent of surveyed non-Bashi were Warega who had come from nearby Kamituga (an area returned to later in the chapter). This group claimed there were only six Warega working at the site, and they had been allowed access due to their technical proficiency in shaft construction and ore extraction (one was a former SOMINKI worker and one hired out the machinery used to circulate oxygen through and extract water from the shafts). They told of other Warega they knew who had been denied access to Kadumwa, with one stating 'tribalism exists here, absolutely'.¹⁴⁸

Gender similarly influences labour processes of inclusion and exclusion at Kadumwa, functioning to exclude women from occupying any position other than that of water carrier, the least remunerative form of labour at the site. All water carriers at Kadumwa were female, and most were widowers or divorcees. All other workers and managers at Kadumwa were male, predominantly young adults, although some ore washers were teenagers or younger boys.¹⁴⁹ As one of the women recounted:

My parents were farmers. My father had three fields. During my childhood, I didn't go to school. I worked on our land. When I was 20 years old, I got married and I continued the same work. I had three children with my husband, who died shortly after. My husband's family tried to force me to marry the son of one of his other wives. I refused and was imprisoned for a while. After that I left his family and came here to carry water for people, as I have sole responsibility for looking after my children now.¹⁵⁰

All women reported in conversation that they were not allowed to perform any other work at the site, and as a result they held little hope or aspiration of moving off the bottom of Kadumwa's labour hierarchy.¹⁵¹

Almost exclusively from Luhwindja or neighbouring areas, of the 291 workers surveyed, 70 percent came from families where both parents worked as farmers, some of whom were also pastoralists or had worked in artisanal mining, with the remaining 30 percent coming mostly from families of local traders and artisans. Less than 10 percent had completed secondary school and they were generally asset poor, owning few livestock and around half owning no land (while most

¹⁴⁷ Although some have no desire to become shaft workers, preferring the less dangerous work outside of the shafts.

¹⁴⁸ Conversation with Warega workers, Luhwindja, November 18th 2016.

¹⁴⁹ Most often, the boys' fathers worked at the mine and they came to the site during school holidays, yet sometimes they had come following the death of one or both of their parents and lived in one of the few dozen on-site houses. It was rare, though, to see children enter the shafts.

¹⁵⁰ Life history with water carrier, Luhwindja, May 31st 2017.

¹⁵¹ While it is common for women not to be allowed near or in the shafts, often due to beliefs that their presence in these areas will chase away the ore, at other artisanal gold sites across South Kivu women are usually mobilised as *mamans twangaïses*, breaking down rocks. This was not the case in Kadumwa, where the extracted ore was fine and soft, containing few large rocks.

land in Luhwindja is still owned under customary arrangements, through the practice of *bugule*, introduced during the colonial era and discussed in Chapter 3, it is today semi-commodified in the sense that customary land can be assigned a monetary value and bought and sold under private ownership). Median reported land ownership across all workers was 0.1 hectares per person, with a highest reported ownership of five hectares (Table 5.2), in a local context where soil fertility and land productivity are low, and some people own dozens up to several hundred hectares of land.

Table 5.2 Kadumwa worker land ownership (in hectares)

Group	Number Surveyed	Landless (%)	Mean	Median	Max
Site Workers	58	69	0.2	0.0	3.3
Shaft Workers	233	46	0.3	0.1	5.0
All Workers	291	51	0.3	0.1	5.0

Source: Author labour survey.

The ethno-territorial, kinship and gender structures conditioning the mobilisation and organisation of labour at Kadumwa also provide the disciplining mechanism through which labour is controlled. Bukavu-based gold traders owning mine shafts in Kadumwa or elsewhere in Luhwindja or the neighbouring area visit them once a month or even less frequently. Similarly, only a few of Kadumwa's shaft managers spent the working week on-site. Some lived with their families in Bukavu, visiting their shafts with a similar frequency to the traders in Bukavu. Those living locally in Luhwindja generally entrusted selected team leaders – often family or extended family members – with the day-to-day management and oversight of production, visiting the site irregularly and infrequently. As a shaft manager put it while he was drinking one morning in a local bar in Luhwindja, 'my work as a shaft manager is to eat'.¹⁵² This managerial absenteeism suggests a strong degree of control exercised by trader-managers over their workers, which functions in part through the ethno-territorial and kinship logics underpinning labour mobilisation and organisation.

Similarly, workers from outside these criteria appeared to experience a greater degree of exploitation than others. Bashi from outside of Luhwindja, for example, such as from the neighbouring collectivities of Ngweshe, Burinhyi or Kaziba, were more prevalent among male site workers than shaft workers and reported paying higher taxes than Bashi from Luhwindja.¹⁵³ Likewise, shaft workers without close family connections generally enter into debt relations with their managers. The period of shaft construction before the vein is reached is known as *souffrance* (suffering, or *kapame* in Swahili) and can last from a few months to up to a year. During this period, shaft managers usually finance the subsistence and unforeseen needs of their workers (such as food and medical expenses), leading workers to accumulate a debt towards them. Male workers who were close family relations of managers often avoided this debt, which varied in conversations

¹⁵² Conversation with shaft manager, Luhwindja, September 21st 2016.

¹⁵³ As noted in the opening chapter, this somewhat contradicts accounts given by workers themselves, who report no entry barriers other than someone's physical strength and willingness to work, such as the following account offered by the life history of an ore carrier: 'I heard people from my village saying they come here to carry bags of sand from the pit towards the river. They were paid 500FC (\$0.4) per bag carried. I said to myself I have the strength, so I can do this work. I came here and no-one said I couldn't work. There were no conditions other than my physical strength'.

from \$200 to \$2,000.¹⁵⁴ Debt relations thus functioned to discipline and restrict the freedom of workers who had no kinship ties to their manager.

To summarise, the capital-labour social relation between trader-managers and workers that underpinned Kadumwa's value chain was grounded in ethno-territorial, kinship and gender identities, from the distribution of land for shaft construction to Bashi from Luhwindja to the organisation and control of labour by shaft managers along familial, clan and gender considerations, through to the network of local traders buying gold from Luhwindja, either on-site or in Bukavu. In addition to mobilising and organising labour in production, shaft managers made the required investments to finance shaft construction, absorbing the associated risks. While some degree of pre-existing social differentiation between trader-managers and workers was observed, the next section shows how artisanal mining accentuates this stratification through a generational process of class formation, providing a trajectory for trader-managers from rural farming and pastoralism to the university-educated, urban professional classes. It also reveals how the sector contributes to broader processes of locally-led capital accumulation and structural transformation.

5.2 Social Differentiation, Structural Transformation and Sectoral Mechanisation

Most workers at Kadumwa reported little left over from their wages to save or invest once subsistence needs had been met. The minority that had made investments reported doing so primarily in small livestock (mostly chickens and goats), constructing wooden or clay housing locally, or (far less frequently) buying small parcels of land. With just a few exceptions, workers remained in the rural class position – *les villageois* (the villagers), as they are labelled by many urban Congolese – from which they came. Yet shaft worker net wages – which, to recall from Chapter 4, averaged an estimated \$163 per month at Kadumwa in 2017 – compared favourably with the other most common form of informal labour activity in Luhwindja, agricultural day labour, which was remunerated at a daily rate of around one dollar per worker (approximately the same as the wages earned by water carriers).¹⁵⁵

This suggests that artisanal mining in Luhwindja had stimulated structural transformation through a sectoral shift in the labour market, absorbing labour into a higher productivity activity than that found in the average agrarian conditions locally. It had also contributed to a degree of social differentiation through increased consumption. There were dozens of stalls and shops across Kadumwa selling clothes and goods to miners, such as DVD players, radios, mobile phones and solar-powered lamps. There were also a few cinemas, showing mostly American action or Asian martial arts films, and just off-site there was a bar screening European football matches through a

¹⁵⁴ Shaft managers recoup these debts from production, deducting them before distributing in-kind and monetary payment to workers. So, while the debts function as a form of labour control and reduce worker wages while they are being repaid, they do not impact on the shaft worker wage data presented in the previous chapter.

¹⁵⁵ They even compare favourably with more skilled forms of employment locally, such as teaching, with local primary and secondary school teachers earning a formal wage of between \$30 and \$50 per month. Motorbike taxi drivers – of whom there are around 100 in Luhwindja – appeared, however, to earn roughly equivalent wages to shaft workers. Some reported having left Kadumwa as they weren't earning enough money, and as a group generally felt they earned a similar wage to shaft workers but worked in better conditions.

satellite dish, charging a small fee to miners for attendance. In this sense, through their increased consumption habits, workers at Kadumwa gained access to modern consumer goods and film and satellite television that remained beyond the reach of many rural families in Luhwindja.

In addition to these labour dynamics, shaft managers and traders had made significant investments from their profits, stimulating further forms of structural transformation, as well as their upward social mobility. While the average profits earned by shaft managers from production – estimated in the previous chapter at \$16,549 annually – propel them into the local economic elite, they generated additional profits by engaging in gold trade. While historically in Luhwindja, shaft managers sold their gold to local traders who would sell it on in Bukavu, this was no longer the case when the research was undertaken. Many of Kadumwa’s shaft managers bought some or all of the gold from their male workers and nearly all sold directly to the traders in Bukavu. In so doing, they bypassed and replicated the role of local traders – who buy gold on-site at Kadumwa or locally in Luhwindja – assuming a dual position as both traders and managers. Drawing on the buying and selling prices recorded in shaft manager monthly logs, shaft manager trading activity increases their average monthly profits by \$295, from \$1,379 to \$1,674 per month, or from \$16,549 to \$20,083 annually (Table 5.3).

Table 5.3 Kadumwa shaft manager trading profits, November 2016 to June 2017 (USD)

Monthly Log Number	Shaft Profits (a)	Trading Profits (b)			Total Profits (a + b)
		Workers' Share of Production	Manager's Share of Production	Total	
1	1,645	93	225	319	1,964
2	514	271	181	451	965
3	82	41	0	41	123
4	2,845	0	0	0	2,845
5	1,570	0	0	0	1,570
6	840	0	0	0	840
7	1,575	338	82	419	1,994
8	2,438	375	96	471	2,909
9	388	482	5	486	874
10	1,899	440	160	599	2,498
11	844	210	89	299	1,143
12	1,908	331	118	449	2,357
AVERAGE MONTHLY	1,379	-	-	295	1,674
AVERAGE ANNUAL	16,549	-	-	3,534	20,083

Notes: In monthly log number three, no profit was made from the shaft manager’s production as he sold this to a local trader, due to personal circumstances preventing him from travelling to Bukavu as he had planned. In months four, five and six no trading profits were recorded, as the shaft manager in question had an oral agreement to sell all of his own and his workers’ gold to another manager who had helped finance his shaft construction. Many such agreements exist; in monthly logs seven through to twelve, for example, the trading profits made by shaft managers include the purchase of others workers’ production.

Source: Calculations based on shaft manager monthly log data.

The monthly profits recorded by six local traders at Kadumwa were similar to those made by shaft managers from their trade, with an average of \$395 recorded across the 11 monthly trader logbooks

(Table 5.4). All local traders complained, however, that times were hard, and that they were making more money during Kadumwa’s period of high production around 2012 and 2013. As one said, ‘when Mbwega closed, I moved to Kadumwa, like other traders. At the beginning, there weren’t too many traders but there was a lot of gold, so we made a lot of money’.¹⁵⁶ During the course of the fieldwork, a few left the site to try their luck elsewhere, suggesting the local trader market at Kadumwa was bloated. While only three logbooks were collected from the traders in Bukavu, both the logbooks and conversations and interviews with the group suggest each month they trade anything from one to several kilograms of gold, making up to several thousand dollars of monthly profits (depending, of course, on price fluctuations). In addition, and as mentioned above, most Bukavu-based traders also owned and managed a number of shafts in Luhwindja or the surrounding area, providing them with an additional source of profit.

Table 5.4 Kadumwa local trader profits, November 2016 to June 2017 (USD)

Monthly Log Number	Grams Bought	Profits (\$)
1	44.6	161
2	29.0	141
3	30.4	160
4	92.8	246
5	39.5	121
6	52.0	296
7	88.0	423
8	35.7	322
9	21.4	254
10	409.0	1,811
11	229.5	407
AVERAGE	97.4	395

Note: In determining profits, transport and accommodation costs incurred traveling to and from Bukavu have been taken into account.

Source: Calculations based on trader monthly log data.

The two-way trade engaged in by some of the gold traders, using their access to US dollars to import modern consumer and other goods through Bukavu, provided them with a further source of additional profit. As Geenen (2014a: 259) observed in her doctoral thesis, ‘access to foreign currency is important for the large [gold] traders operating at regional and global markets as they can use their access to US dollars to trade in all kinds of manufactured goods’. The largest local trader at Kadumwa, who ran a small gold trading house just off-site,¹⁵⁷ invested his profits in rice, beer and clothing, which he distributed locally to buyers from his trading house.¹⁵⁸ Similarly, one of the Bukavu traders regularly brought clothes, cosmetics and other consumer goods back from Dubai.¹⁵⁹ Another two of the Bukavu traders also owned small supermarkets, one in the suburb of

¹⁵⁶ Local trader life history, Luhwindja, April 8th 2017.

¹⁵⁷ Unlike the other traders, who spent their days on-site roaming from worker to worker.

¹⁵⁸ Interview with Kadumwa trader, Luhwindja, April 13th 2017.

¹⁵⁹ Interview with Bukavu trader, Bukavu, February 21st 2017.

Essence (where most gold trade in Bukavu takes place) and another closer to the city centre. The supermarkets were full of imported goods, from chocolates and liquor to electronics and household appliances.

Most local traders who had been working at Kadumwa since the closure of Mbwege reported using their profits to buy land in and move their families to Panzi, a rapidly expanding suburb on the outskirts of Bukavu and a popular destination for Bashi families migrating to the city from Luhwindja. They also reported constructing homes and investing in some land and large livestock locally in or around Luhwindja, and employing wage labourers to work the land. The traders living in Bukavu were generally situated closer to the city centre, on more expensive land which they owned and had built multi-storey houses on. Their homes were equipped with flat screen televisions, satellite dishes, solar panels, fridge-freezers and other modern goods, and most of the traders owned at least one vehicle. All of them had children or family in university in Bukavu, elsewhere in the DRC, or in neighbouring Burundi or Uganda.

A summary of the trajectory of Luhwindja's most successful Bukavu-based trader captures the generational process of class formation they move through:

His father worked for MGL during the colonial period, after which he began to work independently in informal artisanal mining in Luhwindja. All seventeen of his siblings were educated through the wages his father earned from this work, and he graduated from university in Bukavu with a degree in business management. After he left university, he worked for 11 years as a language teacher at Ifendula in Luhwindja, but the pay was bad; he would receive one bar of soap and seven chickens per month. In 1998, he was nominated as the *Chef de Poste* in Luhwindja [the most senior local government post beneath the Mwami]. He left this role in 2003, and used the money he had made to begin working as a gold trader. Today, he lives in a four-storey home he built in Bukavu, and his eldest child just graduated with a degree in psychology from a university in Bujumbura, Burundi.¹⁶⁰

Shaft managers generally follow a similar path. Of the 14 surveyed at Kadumwa, 13 had invested in housing, 12 in livestock, ten in land and eight in commerce. Many of the 24 profiled had built several houses locally, renting them out to tenants, and nearly all had purchased land and constructed houses in Panzi at a cost of several to 15 thousand dollars. Most had also bought land locally, with some using it as a long-term investment for commercial tree planting and others as agricultural land on which (and as seen for traders) they often employed daily wage labourers. Most had also accumulated several cows along with smaller livestock. Those reporting having reinvested in commerce had done so primarily in petty trade and local stores, including one manager who had opened a clothes store at a cost of \$1,800 in the neighbouring collectivity of Kaziba. Only one reported engaging in productive activity outside of mining and agriculture, in artisanal brick production locally in Luhwindja.

Most shaft managers also had their children in school or university in Bukavu, having migrated their families to the city, and supported the education of other children or siblings either locally or in Bukavu. A typical story from the older generation of shaft managers at Mbwege was of one former shaft manager at Mbwege who, having obtained his shaft in 1985 as his father was the

¹⁶⁰ Interview with Bukavu trader, Bukavu, October 14th 2016.

husband of the Mwami's maternal aunt, put all five of his children through university in Bukavu. In 2017, one of his children was a university professor, one an engineer and one a senior provincial government official. In two generations, his family had moved from rural farming to the urban professional and bureaucratic classes, and this is the trajectory aspired to and pursued by today's generation of artisanal trader-managers in Luhwindja.

Two investment summaries, taken from extended conversations with shaft managers at the end of the monthly logbook data collection process, provide some more detailed insight into these patterns:

I bought land and built a home in nearby Kaziba, and recently bought land at Panzi in Bukavu, where I have started to build a second home for my family. I've also bought land locally, to grow cypress and other trees. I support my two younger brothers in secondary school at Bukavu, and other children who study here. I've loaned a lot of money to various people who are always asking for some, around \$2,000 in total. Last month, I spent \$1,100 on construction of my home in Bukavu, around \$70 on school fees, and \$150 to buy a storage room for my work items at Kadumwa.¹⁶¹

I've built four houses with the money I've made, three in Luhwindja and one in Bukavu. Once I completed the house in Bukavu, my family left Luhwindja to live there. My children are also in school in Bukavu, and I hope one day they will go to university. I rent the houses in Luhwindja to tenants, which earns me an extra hundred dollars or so each month. I also used my money from mining to invest in flour and beer trade. My wife manages the flour depot in Bukavu, and I distribute beer locally here in Luhwindja.¹⁶²

Alongside these investments, a significant share of shaft manager profits was reinvested in production, despite the low capital intensity of production at Kadumwa, where shaft workers use mostly iron hammers and chisels made locally in South Kivu. In 2017, the shaft manager logbooks indicated that an estimated total of around \$200,000 was reinvested in capital inputs, or nine percent of the total value created by the site that year. The main inputs were timber to construct, maintain and extend the shafts, sourced locally, and the use when needed of generator-powered machines (manufactured in China and Japan and imported by Bukavu-based traders through Dubai) to circulate oxygen through the shafts and evacuate water. Most managers owned these machines, while they would also hire them at a cost of \$10 per day, if they didn't own one or their own machinery was broken down.

There is also evidence that productive reinvestment was stimulating increasing sectoral productivity, through a locally-led process of mechanisation. Kamituga, just south of Luhwindja in the same territory of Mwenga, is one of Banro's four main concessions, alongside Twangiza and Lugushwa in South Kivu and Namoya in Maniema Province. As foregrounded in Chapter 3, Kamituga was the main colonial mining town during the era of MGL, home to Mobale, MGL and SOMINKI's most industrialised gold mine in the region during the twentieth century. Following SOMINKI's departure and subsequent liquidation in the late 1990s, artisanal miners – previously operating in the margins of SOMINKI's sites – gained access to the town's most productive

¹⁶¹ Conversation with shaft manager, Kadumwa, March 6th 2017.

¹⁶² Conversation with shaft manager, Luhwindja, October 8th 2016.

deposits. During this period, dynamite was used in some areas to blast through rock, and as a result a group of female workers – known as *mamans twangaises* – emerged, to crush the extracted rock manually using mortars and a wooden pounder; a labour group not present at Kadumwa, where explosives had yet to be deployed in production and the extracted ore had a finer texture.

Around a decade later, however, artisanal miners in Kamituga began to notice a decrease in the quality of the extracted ore. Many sites, no longer profitable to exploit, emptied out. In 2007, a German gold trader, who owned the trading house Aurex in Bukavu, wanted to access the Kamituga gold market. To do so, he entered a partnership with *Société minière du Congo* (SOMICO) – Congo Mining Company – a state-owned mining enterprise established by President Laurent Kabila in 1998 (discussed in more detail in the next chapter), and sent six ball mills to Kamituga. Initially, however, the partnership with Aurex didn't take off, as shaft managers were distrustful of the mills, suspecting they would lose some of their gold in the machines.

Around four years later, in November 2011, a Congolese entrepreneur brought three ball mills to Kamituga from Misisi, a large artisanal gold site in South Kivu further south from Kamituga, and where the mills had been in use since around 2009. He had imported the mills from Tanzania at a cost of around \$7,000 each, and set them up at the Calvaire site.¹⁶³ Shortly after, a former Congolese employee at Aurex set up a ball mill repair workshop in Kamituga, and soon after again, the mills began to be manufactured locally. The first locally manufactured mills were tried out in Lugushwa, another of Banro's concessions.¹⁶⁴ About the size of a cement mixer, the mills are powered by generators and grind large rocks into a fine powder, at a faster rate than the *mamans twangaises*. They could also grind what was previously considered *déchets* (waste). While a *maman twangaise* could break down around 15 to 25 kilograms of rock per day, one of the ball mills could process 300 kilograms in around half an hour. Through the use of these machines, sites that had previously been exhausted by artisanal techniques once again became productive.

While in January 2012, the state mining administration at the level of Mwenga Territory attempted to formally ban the use of ball mills due to their illegal encroachment onto Banro's Kamituga concession, this had little effect. By the end of the year there were around 70 ball mills across the three main artisanal sites of Calvaire, Bipasi and D3, the latter two on SOMINKI's former Mobale mine.¹⁶⁵ Around ten of the mills were owned by shaft managers, with the remaining 60 owned by local gold traders or entrepreneurs. Those wanting to use the mills paid 10,000 Congolese Francs (around six dollars) to the mill owners for every 100 kilograms of treated ore.

Around the same time as the ball mills were being introduced at Kamituga, shaft managers in the area also attempted to respond to decreasing production by connecting sites to the local electricity grid (run by a hydroelectric power station built by SOMINKI). The aim was to facilitate the use of the same water and oxygen machines deployed at Kadumwa which, by circulating oxygen and extracting water, allow for production to continue at deeper levels underground. In many cases, explosives were used alongside these machines, to blast through the hard rock encountered at

¹⁶³ Interview with shaft worker, Kamituga, April 23rd 2017.

¹⁶⁴ Interview with shaft manager, Kamituga, April 22nd 2017.

¹⁶⁵ Interview with Kamituga civil society representative by telephone, February 9th 2018.

these deeper levels of shaft construction. Through the increased use of machinery, explosives and ball mills, then, a semi-mechanised form of production was beginning to organically emerge in the area, with origins in extractive techniques previously adopted at other sites in South Kivu.

To summarise and conclude, Arthur Lewis' (1954: 184) theorisation that if 'scarce [mineral bearing] lands are owned by peasants, the peasants may of course become rich', appears to hold true in the case of Kadumwa. Although a more accurate formulation might be that if these scarce lands are owned by peasants, an upper stratum of peasants may become rich. This upper stratum consists of Luhwindja's trader-manager class, which makes the initial investment to finance shaft construction, mobilises and organises labour in production, owns the (albeit limited) means of production, and reinvests profits in production, including in mechanisation. In this sense, artisanal trader-managers might be considered an emerging proto-capitalist class, seen also through their commercial investments in other sectors that, in agriculture at least, include the use of wage labour. The success of this class is built, in part, on the use of ethno-territorial, kinship and gender identities to organise and control labour in production.

Through these findings, the assumptions that have contributed to the marginalisation of ASM, in favour of neoliberal mining reform and TNC-led mining (re)industrialisation, are further questioned. Not only, as highlighted in the previous chapter, does around 95 percent of Kadumwa's end value accrue to Congolese groups, of which an extremely low share contributes to conflict financing. In addition, Luhwindja's artisanal gold sector has raised wages for (predominantly male) workers compared to surrounding conditions, contributing in the process to a degree of social differentiation via consumption and structural transformation through sectoral shifts in the labour market. In turn, these shifts appear to be linked with increasing productivity, through a locally-owned and managed process of technological assimilation and capital formation towards a semi-mechanised form of production, as well as commercial investments in other sectors (which might themselves be linked to a more diversified process of capital accumulation and increasing productivity). In other words, the productivity of artisanal gold mining in South Kivu might be low, but it appears to be increasing, and the sector has both raised local wages and contributed to broader processes of structural transformation and capital accumulation, led and managed by an emergent proto-capitalist class of local trader-managers.

Nevertheless, the productivity increases and mechanisation observed in this chapter pale in comparison to the historically unprecedented productivity gains induced by Banro's arrival into Luhwindja's gold mining economy around a decade ago, and the capital infrastructure associated with this increase. Yet, as demonstrated in the next chapter, this increase has been achieved by inserting a far more polarised industrial structure than Kamituga's locally-manufactured ball mills (or than the structure that was in place at SOMINKI historically). The capital driving production at Twangiza is highly specialised, deeply dependent upon diffusion from technological centres (primarily of the global North), and poorly articulated with the Congolese economy. This evidence undermines one of the central claims underpinning the African Minerals Consensus, while also highlighting the limitations of industrial mining in the African periphery (irrespective of ownership structures).

6. The Return of TNC-Led Industrial Mining

While the Congo Wars facilitated the growth of artisanal mining in South Kivu by catalysing the retreat of foreign mining corporations, they also contained the seeds of corporate return. Out of these seeds, Banro's Twangiza project was the first industrial mine to reach the production phase in South Kivu, beginning commercial production in 2012. In this context, the purpose of the current chapter is twofold. First, to assess the degree to which the manufacture and provision of goods, equipment and capital infrastructure to Twangiza is articulated with the Congolese economy. Second, to consider the extent to which this articulation is associated with broader processes of domestic capital accumulation and structural transformation (the relation of wages to these processes is taken up in Chapter 8).

Through this analytical focus, the chapter questions the strength of the AMC proponents' claim – highlighted in the opening chapter – that global mining industry restructuring away from vertical integration and towards corporate outsourcing means 'the enclave mentality to diversification in low-income [African] economies is an anachronism' (Kaplinsky et al. 2011: 29). This line of thinking is seen most clearly in the GVC literature, but also functions more generally as a key justification used by IFIs, African governments and development agencies when promoting the model of TNC-led mining (re)industrialisation. By questioning this position, the chapter continues the critique of the set of theoretical assumptions and beliefs underpinning the African Minerals Consensus and underlying neoliberal mining reform across the continent in recent decades.

The core argument of the chapter is that while Banro's arrival has induced a significant productivity increase in South Kivu's gold sector, the industrial structure driving this increase is deeply polarising and disarticulated from the surrounding Congolese economy. Contrary to the expectations of AMC proponents, corporate outsourcing at Twangiza has marginalised the Congolese private sector in favour of foreign (and predominantly Northern) corporations, while doing little to stimulate domestic capital formation and structural transformation. The few domestic firms and suppliers that have been incorporated are at the low value-added end of Banro's chain. Moreover, there are structural limits to domestic incorporation given the narrow, highly specialised and technologically advanced nature of the capital infrastructure used by the Twangiza mine, and the dependence of the DRC on predominantly Northern corporations for the manufacture and supply of this infrastructure.

Archives, corporate documentation, interviews and a subcontractor survey are drawn on to develop this argument. In addition to its grounding in a centre-periphery analytical framework, the chapter's original contribution lies in its use of empirical data from a low-income country; as highlighted in the opening chapter, the conclusions reached in the influential Kaplinsky et al. (2011) and Morris et al. (2012) policy papers are based on case study evidence from middle- and high-income African countries.

The chapter is organised in four sections. The recent history of the return of foreign mining corporations to South Kivu, which has included the arrival of other TNCs alongside Banro, is charted in the first. The scale of the gold sector productivity increase induced by Banro's arrival is determined in the second. The third section investigates the degree and nature of productive

interaction between Banro's Twangiza mine and the Congolese economy, while the fourth considers some of the obstacles to Congolese firm inclusion and (to draw from GVC terminology) 'upgrading' (a process whereby domestic groups move to higher value-added activities within or across global value chains).

6.1 Goodbye Belgian FDI, Hello Transnational FDI

The liquidation of SOMINKI, the Belgian-owned mining subsidiary, in 1997 was part of negotiations begun in 1995, the outcome of which would signal another shift in the relationship between the state, foreign mining corporations and artisanal production in South Kivu's gold sector. Between 1995 and 1997, a group of British-Canadian investors, led by British mining tycoon Algy Cluff, negotiated a number of agreements with the Mobutu administration to acquire control of SOMINKI's assets for \$3.5 million.¹⁶⁶ For this acquisition, Banro sold three million new common shares on the world's stock markets (Carisch 2014: 21), bolstered by the Canadian government's active support of Canadian-listed mining corporations, which saw them arrive *en masse* in the DRC and across Africa during this period (Kennes 2002: 604). By the end of the negotiations in February 1997, Banro had acquired a 93 percent stake through its newly-created subsidiary *Société aurifère du Kivu-Maniema* (SAKIMA) – Kivu-Maniema Gold Company – leaving the Zairian state seven percent. The following month, SOMINKI went into liquidation, and in May 1997, Laurent Kabila's AFDL forces took Kinshasa.

Around one year later, in July 1998, Laurent Kabila – by this time President of the newly renamed DRC – annulled the SAKIMA agreement negotiated under Mobutu, had SAKIMA's assets seized by decree, and created the new state-owned company SOMICO. The Mwami of Luhwindja at the time, Philemon Rusagara, was appointed President of SOMICO, but was murdered by unknown assailants in France in December 2000. In January 2001, Banro contested President Laurent Kabila's decision by filing a lawsuit before the US Federal Court through its American subsidiary Banro American Resources, invoking the Foreign Sovereign Immunities Act to demand \$1 billion in compensation from the Congolese state (which would have represented a healthy return on the \$3.5 million invested to acquire SOMINKI's assets several years earlier). That same month, Laurent Kabila was assassinated and succeeded by his son, Joseph, who negotiated a new agreement with Banro in April 2002, the same month that the Second Congo War was officially ended by the signing in Pretoria of the Global and All-Inclusive Agreement. The new agreement with Banro ceded SOMINKI's tin deposits to SAKIMA, which became a fully state-owned company, and ceded to Banro 100 percent ownership of the gold deposits of Twangiza, Kamituga, Lugushwa (in South Kivu Province) and Namoya (in Maniema Province). The Canadian corporation promptly established four subsidiaries in the DRC (Twangiza Mining, Kamituga Mining, Lugushwa Mining and Namoya Mining), one to manage each respective concession.

The Congo Wars ended with Banro having secured full ownership of SOMINKI's major gold deposits under a 30-year mining convention that included a 10-year tax moratorium from the start of commercial production, the right to export all gold production, the right to operate in US

¹⁶⁶ The following account of Banro's acquisition of SOMINKI draws, except where cited otherwise, on de Faily (2001: 4-8), Mthembu-Salter (2009: 3-5) and Geenen (2014a: 129-134).

currency, and the elimination of import duties (Publish What You Pay 2011: 4). The Congo Wars also ended with the introduction, in July 2002, of the country's first new Mining Code since 1981. As noted in the opening chapter, this was introduced as part of a raft of neoliberal reforms – including a new Investment Code, Forestry Code and Labour Code – all drafted with the IMF and the World Bank's close supervision.

The World Bank provided \$163.5 million in loans to oversee mining sector reform in the DRC,¹⁶⁷ working 'in close collaboration with a Congolese committee on the drafting of the mining law' (Mazalto 2008: 58). Blaming mining sector decline on 'poor governance' under the Zairian state (Rubbers 2010: 330) – as opposed to considering the weight of the external shocks and constraints highlighted in Chapter 3 – reform was driven by the World Bank's maxim that 'Zaire must be less, but better governed' (World Bank 1994, cited in Mazalto 2008: 57). Consequently, the 2002 Code moved to privatise state-owned mining enterprises and attract fresh FDI by offering a generously liberal fiscal regime, including tax holidays and exemptions and low royalty rates.¹⁶⁸ A new Congolese Mining Code was passed in March 2018, which raised royalty rates, introduced a super-profits tax and increased government participation in industrial projects from five percent to 10 percent (part of a broader, regional trend in recent years, the potential significance of which is considered in the concluding chapter).¹⁶⁹

Reflecting the lifecycle of the most recent commodity super-cycle, FDI inflows to the DRC increased by a factor of 17 between 2002 and its peak in 2012, from \$188 million to \$3.3 billion, before dropping off significantly from 2013 to 2017 (Figure 6.1). Across the same period, FDI stocks rose from \$907 million to \$22.5 billion, or from 10 percent of GDP to 59 percent of GDP. The fresh foreign investment was almost exclusively focused on the mining sector (The Economist Intelligence Unit 2008, International Monetary Fund 2010, Englebert 2014). Yet after the end of the Congo Wars, South Kivu, and the eastern DRC generally, remained largely outside of central government control (Freund 2009: 5), with low-level conflict continuing in the region up until the time of writing. In this context, and as discussed further in Chapter 9, Banro's arrival was facilitated by the Mwamikazi of Luhwindja, Espérance Barahanyi, who had assumed the throne and her position as the senior government representative of the collectivity on the death of her husband, while her son was a still a minor.

Nevertheless, from 2007, official copper and cobalt production began to rise, reaching an historic high in 2014, followed by a rise in gold production from 2012 onwards (Table 6.1). By 2013, the total estimated annual value of mining output was \$10.2 billion, or more than 50 percent of GDP (Englebert 2014: 8). By 2015, the formal mining sector employed a total of 77,709 Congolese workers, comprising 23.6 percent of formal sector workers in the country (Marysse 2015: 31). The rise in copper and cobalt was driven by TNC-led industrial production in the Katanga region. Along with Banro, the rise in official gold production was driven by the Kibali project in Haut-Uélé Province, led by a joint-venture between the Canadian TNC Randgold Resources and the

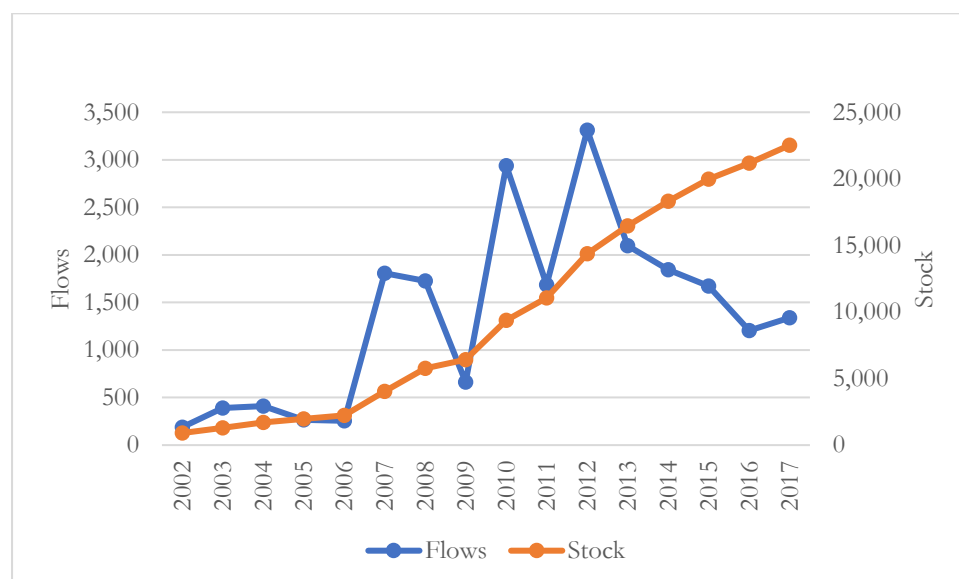
¹⁶⁷ World Bank country database, www.worldbank.org/en/country, accessed October 20th 2017.

¹⁶⁸ Much later, in 2015, the IMF DRC Head of Mission would comment 'the 2002 Mining Code is too generous, so much so that the state captures very little in the end' (cited in Mutamba Lukusa 2016: 156). Author translation.

¹⁶⁹ DRC 2018 Mining Code.

South African TNC AngloGold Ashanti. Between them, the concessions owned by Banro, Randgold Resources and AngloGold Ashanti covered 83 percent of the DRC’s known gold reserves (with 59 percent held by RandGold and AngloGold and 24 percent by Banro) (Mupepele Monti 2012: 57-58).¹⁷⁰

Figure 6.1 FDI inflows and stock to the DRC, 2002 to 2017 (in millions of current USD)



Source: UNCTADstat database, accessed December 17th 2018.

Table 6.1 DRC official production data, 2004 to 2014

Year	Copper (tons)	Cobalt (tons)	Gold (kilograms)
2004	7,689	1,412	715
2005	16,038	934	592
2006	22,440	746	328
2007	185,147	25,286	144
2008	337,430	42,461	120
2009	309,610	56,103	167
2010	437,755	84,005	151
2011	499,198	99,475	309
2012	619,942	86,433	2,819
2013	919,588	76,517	4,900
2014	1,065,744	76,475	23,937

Source: Ministry of Mines Statistics, 2003 to 2014.

Yet Banro is not the only foreign mining corporation operating in South Kivu. The Australian explorer Vector Resources, Canadian TNC Monument Mining, US-listed Panex Resources and

¹⁷⁰ In South Kivu Province, Banro has 12 exploitation permits that cover 2,848km², including six exploitation permits covering 1,358km² for the Twangiza concession (South Kivu Provincial Ministry of Mines mining permit dataset, 2017).

United Kingdom (UK)-listed ARC Minerals have together invested tens of millions of dollars in advanced gold exploration programmes across South Kivu in recent years.¹⁷¹ Today, then, South Kivu's gold sector is in a state of flux, as TNCs operating in a neoliberal regime begin to make their return following a period of generally informalised artisanal autonomy. As mentioned above, Banro's Twangiza mine was the first industrial gold mine to enter the production phase in the DRC since the end of the Congo Wars, beginning commercial production in 2012. To understand the scale of technological change induced by Banro's arrival in South Kivu's gold economy, and to provide context for subsequent analysis on the effects of this change, the next section estimates Twangiza's productivity, relative to that previously estimated at SOMINKI in the 1980s and Kadumwa in 2017.

6.2 Productivity at Twangiza

The year 2013 is used to calculate the mine's productivity, as this is the most recent year for which comprehensive production, employment and financial data was collected, courtesy primarily of the 2013 financial accounts of Banro's subsidiary, Twangiza Mining. When calculating labour productivity, only the number of people working directly (contracted labour) or indirectly (through subcontractors) for Twangiza Mining is considered. This includes all forms of unskilled subcontracted labour, such as catering and cleaning. Managerial or other staff working for the mother companies or other subsidiaries, and who contribute to the mines' productivity but also to the productivity of other mines, have been excluded. As the numbers of this excluded group are relatively small, its addition would not substantially change the productivity measures in any case. As at Kadumwa, the calculations contain an in-built assumption of a stable workforce, although in reality there is a degree of churning. The number of subcontractor workers is particularly variable, with around 50 workers from two firms losing their jobs during the course of the fieldwork.

For calculating the productivity of Banro's Twangiza mine in 2013, production and revenue data was triangulated across three different sources (Table 6.2). The *Centre d'expertise, evaluation et certification* (CEEC) – Centre of Expertise, Evaluation and Certification – at the Congolese Ministry of Mines declared Twangiza's 2013 production of pure gold (that is, adjusted for impurities) at 2,499.8 kilograms. This figure corresponds to the gold sales recorded in both Twangiza Mining's 2013 financial accounts and Banro's 2013 consolidated financial statement (which also adjust for impurities). These same two corporate documents declare the sale value of production at \$111.8 million. CEEC estimates the sale value at \$110.2 million, and combining CEEC's monthly production data with the average monthly gold price throughout the year gives an estimated

¹⁷¹ See the following five examples: www.miningreview.com/news/vector-resources-to-acquire-majority-stake-in-drc-gold-project/, www.marketwired.com/press-release/panex-commences-diamond-drilling-on-highly-prospective-matala-gold-project-south-kivu-otc-pink-dbgf-2160023.htm, www.theaustralian.com.au/news/latest-news/vector-acquires-maniema-gold-project/news-story/5649009c4444b7bd9d5e36b711352c77, www.proactiveinvestors.co.uk/companies/news/179216/ortac-now-focussing-increasingly-on-a-three-million-ounce-gold-target-at-misisi-179216.html, www.juniorminingnetwork.com/junior-miner-news/press-releases/960-tsx-venture/mmy/27889-monument-mining-signs-earn-in-agreement-with-panex-resources-for-matala-gold-project.html, accessed March 1st 2018.

production value of \$113.1 million. Thus, it appears reasonable to use the figure of \$111.8 million declared in Banro and Twangiza Mining's financials.

Table 6.2 Twangiza Mining production and revenue data, 2013

Month	DRC Government		Twangiza Mining		London Gold Fixing	
	Production (Kg) (a)	Value (\$)	Production (Kg)	Value (\$)	Monthly Averages per Kg (\$) (b)	Value (\$) (a x b)
January	173.3	8,653,545	-	-	53,722.3	9,308,460
February	189.1	9,595,233	-	-	52,328.2	9,892,652
March	180.8	9,304,555	-	-	51,211.6	9,258,039
March	98.9	4,747,252	-	-	51,211.6	5,064,830
April	163.2	7,273,147	-	-	47,746.4	7,790,784
May	166.2	7,200,288	-	-	45,445.1	7,555,244
June	234.3	9,708,427	-	-	43,157.9	10,110,595
July	245.5	9,450,256	-	-	41,369.0	10,156,091
August	230.8	9,977,724	-	-	43,310.3	9,993,844
September	157.1	6,986,342	-	-	43,364.9	6,814,364
October	140.7	6,008,765	-	-	42,316.2	5,951,769
October	137.0	5,670,012	-	-	42,316.2	5,795,622
November	199.5	8,240,610	-	-	41,018.6	8,182,383
December	183.7	7,354,221	2,499.8	111,807,544	39,397.5	7,234,567
TOTAL	2,499.8	110,170,377	2,499.8	111,807,544	-	113,109,242

Sources: Ministry of Mines Twangiza Mining production data, 2013; Twangiza Mining financial accounts, 2013; Banro Consolidated Financial Statement, 2013; World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed February 23rd 2018.

However, a Banro press release notes a difference of 2,094 ounces (65.13 kilograms) between the 80,497 ounces of gold sold by Twangiza in 2013 and the 82,591 ounces of gold produced.¹⁷² It can be inferred from this that 65.13 kilograms of gold was stockpiled rather than sold. Including this stockpiled production with the declared sales of the company, and calculating its value based on the average price per kilogram of Twangiza's 2013 sales, indicates that the Twangiza mine created \$114.7 million of value in 2013 (Table 6.3).

Table 6.3 Twangiza production data, 2013

Gold Production	Quantity (kg)	Price per kg (\$)	Value (\$)
Sold	2,499.8	44,727	111,807,554
Stockpiled	65.1	44,727	2,913,043
TOTAL	2,564.9	-	114,720,597

Sources: Ministry of Mines Twangiza Mining production data, 2013; Twangiza Mining financial accounts, 2013; Banro Consolidated Financial Statement, 2013.

¹⁷² 'Banro Announces Year End 2013 Results', Banro, March 31st 2014.

To determine the mine's productivity from here, Twangiza Mining's 2013 financial accounts record a total of 682 workers and managers contracted to the company. In the same year, 684 workers and managers were recorded as working through subcontractors providing labour or services,¹⁷³ giving a total of 1,366 people directly involved in the mine's productive activities.¹⁷⁴ From this, it can be estimated that in 2013 the labour productivity at Banro's Twangiza mine was \$83,983. Adjusting to the average 2017 gold price to facilitate comparison, Twangiza's labour productivity was \$75,892 (or \$208 per day) compared to the \$3,073 (eight dollars per day) of Kadumwa and the \$8,382 (\$23 per day) of SOMINKI (Table 6.4).

Table 6.4 Annual value creation and labour productivity (based on average 2017 gold price)

Company/Site	Gold Production (kg)	Value Creation (\$) (a)	Units of Workers & Managers (b)	Productivity (\$) (a / b)	Ratio to Artisanal Productivity
Kadumwa	59.7	2,341,772	762	3,073	1:1
SOMINKI	435.5	17,602,039	2,100	8,382	3:1
Twangiza	2,564.9	103,668,128	1,366	75,892	25:1

Source: Author calculations based on data presented above.

This represents a dramatic productivity increase in Luhwindja and South Kivu's mining economy, not only from artisanal mining, but also in comparison to SOMINKI's gold productivity in the 1980s. It is notable that SOMINKI was only an estimated three times more productive than Kadumwa, and that Twangiza is eight times more productive than SOMINKI, giving an indication of the greater capital intensity and industrial capabilities of gold mining today compared to SOMINKI's era. Moreover, while data was not obtained to run equivalent calculations for 2014 and 2015, in these years the Twangiza mine produced 3,054 kilograms and 4,216 kilograms respectively, 19 percent and 45 percent more than in 2013.¹⁷⁵ Assuming a relatively stable workforce, this suggests an even greater level of productivity than has been measured here.

In either scenario, the productivity gains provide the theoretical basis for the sort of benefits exhorted by AMC proponents around the possibility for mining (re)industrialisation to raise wages and drive structural change. In the next section, however, it's argued that to achieve these gains, Banro's arrival has inserted an industrial structure that is deeply integrated with mining and technological centres of the industrialised global North (and South Africa) and highly disarticulated from the Congolese economy.

6.3 Northern Dissemination, Foreign Firm Expansion and Domestic Marginality

Corporate outsourcing, the trend identified by GVC scholars as potentially signalling the end of the African LIC mining enclave, can increase a mine's articulation with the domestic economy in two ways. First, by outsourcing the procurement of goods, capital equipment and inputs to

¹⁷³ Email correspondence with Twangiza Mining's Senior Human Resources Officer, November 28th 2017.

¹⁷⁴ This figure corresponds closely to company documentation, which shows a total of 1,402 workers and managers at Twangiza Mining in 2016 (709 contracted and 693 subcontracted).

¹⁷⁵ Banro Year End Press Releases, 2014 and 2015.

domestic suppliers. Second, by outsourcing the provision of productive activities and services to domestic firms through subcontracting. These two practices can, in turn, provide impetus to broader processes of capital accumulation and structural transformation by stimulating the development of the domestic private sector. Considering these outsourcing practices together, the current section confirms the prevalence of their use at Banro, but finds them to have mostly benefited foreign firms, given the full dependence of Twangiza's industrial structure on externally manufactured goods, equipment and inputs. Congolese firms and suppliers, meanwhile, occupy a marginal position within Banro's chain, and there is only limited evidence that the Twangiza mine contributes to domestic processes of capital accumulation and structural transformation (through the local procurement of sand and agricultural produce).

Twangiza is an open pit mine around two kilometres long and half a kilometre wide, and operates 24 hours a day, seven days a week. Each day, around 5,000 tons of rock is extracted from the site, with an average mineral concentration during the course of the fieldwork of around two grams of gold per ton. Controlled explosions using dynamite take place every few months, to loosen the rock for extraction. Once extracted, the rock is deposited in the 'room pad' by trucks and then put on a conveyor belt which carries it a few hundred metres to be crushed in a giant cylindrical plant (known by workers as 'the scrubber'), the noise from which can be heard through the night when lodging in the workers' camp a few hundred metres further uphill. Upon exit, the crushed rocks travel another hundred metres or so along a second conveyor belt where they enter ball mills which grind the rocks down to a muddy liquid.

At this point, a chemical process known as 'carbon-in-pulp', or 'carbon-in-leach', begins. This is a relatively recent technological development that allows for the industrial treatment of thinly dispersed gold deposits (as found in Luhwindja), and one that was not available to MGL or SOMINKI in the 1970s and 1980s, preventing the mechanisation of gold mining in Twangiza at the time.¹⁷⁶ The process mixes the liquid with cyanide and carbon in 13 large tanks, to further increase the concentration of the gold. It then releases the gold from the carbon solution to enter an electrolysis process on steel wood cathodes before being smelted at 1,150 degrees Celsius to around 90 percent purity. Liquid waste is taken and stored in an artificially constructed reservoir around one kilometre away, known as the tailings' management facility. The gold bars produced by the smelting weigh 10 to 15 kilograms and are shipped to the South African smelter Rand Refinery, just outside of Johannesburg, and more recently to a smelter managed by Baiyin Nonferrous Group, a private Chinese mining corporation with its headquarters in Gansu Province, to be smelted to the 99.9999 percent purity required for sale and trade on the global market.

Until the recent entry of Baiyin as a final buyer in itself, the exclusive final buyer of Twangiza's gold had been the North American metals trader Auramet. As mentioned earlier, Banro's right to sell all of its production on the global market was enshrined by the 2002 Congolese mining code, which states 'the title holder is authorised to freely export and commercialise the totality of its

¹⁷⁶ Interview with former SOMINKI director, Kinshasa, August 20th 2016.

production on international markets of its choice'.¹⁷⁷ This right was upheld in the most recently introduced 2018 code.¹⁷⁸

Yet the industrial machinery and technology used in this new production process heralds almost entirely from the Triad states,¹⁷⁹ South Africa and Australia. The gold processing plant itself was purchased second-hand from the Australian mining corporation Tamaya Resources and had, according to Twangiza Mining's asset inventory, an original purchase value of \$16.4 million.¹⁸⁰ The plant – comprising a ball plant, two ball mills, a carbon-in-pulp chemical treatment facility, a gold storage room and a smelting laboratory – was transported by sea from Australia and delivered by road through the Kenyan port of Mombasa, via 140 40-foot containers, for reassembly by engineers on-site at Twangiza.¹⁸¹

Table 6.5 Twangiza Mining asset manufacturers by firm and nationality, 2011

Manufacturer	Nationality	Manufacturer	Nationality
Bobcat	US	Hitachi	Japan
Bomag	US	Honda	Japan
Caterpillar	US	Mitsubishi	Japan
Ditch Witch	US	Suzuki	Japan
Fusion	US	Toyota	Japan
Grove	US	Yamaha	Japan
Ingersoll Rand	US	Dynapac	France
Miller	US	Manitou	France
Robin	US	Deutz	Germany
Wilson	US	Mercedes	Germany
Foden	UK	Kirloskar	India
Henry Cooch & Sons	UK	Samil	India
JCB	UK	Sykes	Australia
La Roche	UK	Kipor	China
Lister	UK	Pramac	Italy
Logic	UK	Bell	South Africa
Powerscreen	UK	Atlas Copco	Sweden
Thwaites	UK	Liebherr	Switzerland
Winget	UK		

Source: Twangiza Mining machinery and mobile equipment asset list, 2011.

Both during and after mine construction, interviews with former and current procurement managers at Twangiza Mining reported the subsidiary to have exclusively used overseas firms and

¹⁷⁷ DRC 2002 Mining Code, Article 266. Author translation.

¹⁷⁸ DRC 2018 Mining Code, Article 108.

¹⁷⁹ North America, the European Union and Japan.

¹⁸⁰ Twangiza Mining Fixed Assets Listing, as of December 31st 2012.

¹⁸¹ Banro Press Release, 'Banro Acquires Refurbished Process Plant to Fast Track Gold Production at its Twangiza Project', August 13th 2009; Banro Press Release, 'Banro Ships Gold Plant from Australia and Signs Milestone Agreements with Luhwindja Community and the Artisanal Miners at Twangiza', June 16th 2010.

suppliers.¹⁸² Corporate documentation supports these impressions and provides insight into the extent of the mine’s technological transplantation from predominantly Northern industrial centres. An asset inventory from 2011 lists all machinery and mobile equipment held by Twangiza Mining at the time, including the associated manufacturer (Table 6.5). A total of 37 manufacturers were listed, 25 of whom (or two-thirds) were American, British or Japanese corporations. The remainder were mostly EU countries, with just five corporations from countries of non-Triad nationality (Australia, China, India and South Africa).

Similarly, a depreciation schedule from the end of 2012 lists all the fixed assets held by Twangiza Mining at the time, including the manufacturer and buying value (Table 6.6). The most expensive asset is the second-hand plant procured from Australia. After this, the highest asset value procured from one firm was from the South African mining TNC Bell, which provided \$15.3 million of dump trucks, excavators and other heavy mobile machinery. Of the \$20.1 million procured from the remaining firms, just \$1.6 million was sourced from the same non-Triad countries that featured in the 2011 inventory (China, India and South Africa). With the exception of South Africa, no Congolese or other African firms appeared in the 2011 inventory or the 2012 fixed asset list.

Table 6.6 Twangiza Mining fixed assets by firm, nationality and buying value, 2012

Company	Nationality	Value (\$)	Company	Nationality	Value (\$)
Tamaya Resources	Australia	16,356,652	Foden	UK	360,951
Bell	South Africa	15,278,663	Thwaites	UK	358,391
Caterpillar	US	4,414,580	Manitou	France	341,689
Hitachi	Japan	4,221,258	JCB	UK	303,496
Toyota	Japan	2,958,535	Lister	UK	282,000
Mercedes	Germany	1,673,260	Motorola	US	232,705
Mitsubishi	Japan	996,869	Ditch Witch	US	167,776
XCYG	China	795,225	Spidersat	UK	137,425
Winget	UK	557,765	Xeros	US	124,763
Liebherr	Switzerland	517,012	Dell	US	117,831
Powerscreen	UK	483,101	Miller	US	101,240
Hydraform	South Africa	427,456	Atlas Copco	Sweden	76,680
Samil	India	423,602	Hewlett-Packard	US	50,933
TOTAL					51,759,858

Source: Twangiza Mining fixed assets listing and depreciation schedule, 2012.

It is only at the lower-value, light industrial range of inputs that domestic and regional firms begin to appear, yet even here only marginally so. Twangiza Mining procurement invoices from 2010 to 2013, a period that spans the construction phase of the mine through to commercial production in 2012, indicate that during this period the subsidiary procured inputs from 86 suppliers and manufacturers (the full list of firms is provided in Appendix E). At the level of productive activities or services, the network is dominated by South African firms, who represent 53 of the 86 firms

¹⁸² Interviews with former and current Twangiza Mining procurement managers and workers, Twangiza, Bukavu and Kinshasa, January to June 2017.

(or 62 percent) (Table 6.7). A review of the invoices reveals the South African firms generally supplied industrial parts or high-tech equipment, such as the 3.2 million South African Rand of steel piping and fittings supplied by Senet,¹⁸³ the \$740,000 of drilling equipment and services provide by Geosearch International,¹⁸⁴ or the \$161,000 of closed-circuit television network supplied and installed by Goldfields Technical Security Management.¹⁸⁵

Table 6.7 Twangiza Mining supplier firms by nationality, 2010 to 2013

Firm Nationality	Number	Firm Nationality	Number
South Africa	53	Mauritius	2
Kenya	4	Rwanda	2
UAE	4	Tanzania	2
UK	4	Netherlands	1
Australia	3	India	1
DRC	3	Malaysia	1
Belgium	2	Turkey	1
Canada	2	Uganda	1
TOTAL			86

Source: Twangiza Mining procurement invoices, 2010 to 2013.

The remaining non-African firms also generally supplied similarly high-tech inputs, such as Nowata Limited – a mining chemical manufacturer and supplier headquartered in the offshore tax haven of the Isle of Man – which provided chemicals used in the treatment process. Nowata invoices from 2012 show the purchase by Twangiza Mining of 251 tons of sodium cyanide and 132 tons of carbon for a total cost of \$811,458 (including ocean freight charges).¹⁸⁶ Also in 2012, a new chemical treatment facility (an InLine Leach Reactor) was purchased and imported from the Australian mining manufacturer Gekko for 240,000 Australian dollars.¹⁸⁷

Yet there is a wider geographical spread than observed in the fixed assets lists, including three Congolese firms and (outside of South Africa) 11 other African firms (four from Kenya, two from Mauritius, two from Tanzania, two from Uganda and one from Rwanda). From an invoice review, the total revenue earned by these African firms across the four-year period is estimated at \$7.2 million (Table 6.8). Five of the 14 firms provided capital and inputs manufactured elsewhere (digital equipment, heavy vehicles and parts and IT equipment), four provided a range of services (customs, transport and travel) and one (a Mauritian firm) provided labour. The remaining four firms – none of which were in the DRC – provided inputs likely manufactured or extracted in their registered country of origin: Afriserve in Mauritius (quicklime and steel balls); Neelkanth Lime and Tata Afrique in Tanzania (lime, chemicals and light industrial goods), and; Stone Crushing in Uganda (light industrial goods, such as piping and fencing).

¹⁸³ Twangiza Mining purchase order 085 MOD 2, October 11th 2010.

¹⁸⁴ Geosearch invoice numbers 191 to 332, April to October 2011.

¹⁸⁵ Goldfields' letter to Banro, 'Request for quotation for Twangiza Mine: SECRFQ1/2011' August 5th 2011.

¹⁸⁶ Natawa Limited commercial invoices 5766, 6203 and 6220, March to August 2012.

¹⁸⁷ Gekko commercial invoice 3064, April 30th 2012.

Of the three Congolese firms, Ami Congo provided customs support to facilitate imports for several months in 2012, yet it has since been replaced by the Belgian corporation Comexas. The remaining two firms were even more ephemerally involved. In November 2011, the Kinshasa-based IT firm Key Print made a one-off supply of Xerox IT equipment at a value of \$16,440, requesting payment into a South African bank account.¹⁸⁸ In November 2013, Malta Forrest, a national Congolese firm owned by the Belgian entrepreneur George Forrest, invoiced Twangiza Mining a total of \$772,439 for the lease of unspecified mining equipment to Twangiza (likely heavy mobile machinery, given the asset base listed by Malta Forrest on its website).¹⁸⁹

Table 6.8 Twangiza Mining African supplier firms, 2010 to 2013

Firm	Nationality	Input/Service	Approximate Revenue (\$)
Freight Forwarders	Kenya	Transport	1,600,000
Logisol	Kenya	Digital equipment	10,000
Neff Auto Spares	Kenya	Vehicle parts	240,000
Union Logistics	Kenya	Transport	500,000
AmiCongo	DRC	Customs	200,000
Forrest Group	DRC	Mobile machinery leasing	16,440
Keyprint	DRC	IT equipment	772,439
Afriserve	Mauritius	Quicklime and steel balls	800,000
Resourcing for Africa	Mauritius	Thai labour	1,200,000
Neelkanth Lime	Tanzania	Lime	106,000
Tata Afrique	Tanzania	Chemicals and light industrial goods	1,500,000
PC World Computers	Uganda	IT equipment	50,000
Stone Crushing	Uganda	Light industrial goods	70,000
Easy Travel	Rwanda	Travel agent	100,000
ESTIMATED TOTAL			7,164,879

Source: Twangiza Mining procurement invoices, 2010 to 2013.

It was only at the lowest-value and lowest-tech end of its supplies that Banro outsourced procurement to Congolese suppliers. Twangiza Mining's procurement policy states: 'Preference will be given to local vendors. Support of local companies in the communities will receive favourable consideration in view of the social responsibility Twangiza Mining SARL has to such communities, provided they are competitive and their quality and service is acceptable'.¹⁹⁰ Twangiza Mining has pursued this policy to some extent, but only by outsourcing the procurement of low-value goods to several Congolese suppliers based in Bukavu, mostly office equipment and stationery, worker safety equipment (including boots, jackets and protective clothing) and basic construction materials (mainly steel bars and concrete).¹⁹¹

¹⁸⁸ Key Print commercial invoice 533/NMM-KYP/AG/2011, November 2nd 2011.

¹⁸⁹ Malta Forrest commercial invoices 21311432 to 21311443, November 11th 2013. forrestgroup.com/en/egmf.html, accessed July 23rd 2018.

¹⁹⁰ Twangiza Mining Policy and Procedures Manual: Procurement & Stores, August 2010.

¹⁹¹ Around 2009, shortly before Banro began construction of the Twangiza mine in earnest, the corporation sent formal correspondence to all major commercial traders in the city, listing the items it needed and requesting supplier

As elsewhere in the procurement chain, none of these goods were manufactured or procured domestically. Rather, local suppliers procured predominantly Asian-manufactured goods almost exclusively through Dubai, with the exception of some light industrial materials manufactured in neighbouring Uganda (steel bars) and Rwanda (concrete).¹⁹² In 2016, these Congolese traders supplied an estimated \$1.5 million of goods and equipment to the mine,¹⁹³ while during the same year Twangiza Mining imported around \$41 million of procured goods through overseas suppliers.¹⁹⁴ Thus, none of Twangiza Mining's procurement across this four-year period made use of domestically manufactured inputs, and only a small percentage of the total value was outsourced to domestic suppliers.

In the realm of subcontracting, in 2017, Twangiza Mining subcontracted 15 firms to provide 13 different activities and services to the mine. Of the 15 firms, outside the provision of labour – considered more fully in Chapter 8 – only two were domestic (for the provision of sand and drilling activities). The remaining activities and services – customs, power, security, road maintenance, fuel, smelting, aviation, catering, gold certification and transportation – were provided by foreign firm subsidiaries. In South Kivu alone, domestic firms operate in at least five of these areas (security, catering, road maintenance, fuel and transportation),¹⁹⁵ with likely others operating in Katanga's more well-established mining industry. Taken together, and drawing on Twangiza Mining's financial accounts, in 2013 foreign subcontractors captured an estimated 87 per cent of the total revenue accruing to subcontractors, or 75 per cent if fuel is excluded (Table 6.9).¹⁹⁶

While foreign firm subsidiaries captured most of the subcontracting revenue, some have also expanded their presence in the DRC since their arrival through Banro. Tsebo Outsourcing Group's first contract in the DRC was with Banro, yet they have recently secured several new contracts in the country, including with mining TNCs Glencore in Lualaba Province and Randgold Resources in Haut-Uélé Province.¹⁹⁷ Similarly, the Tanzanian firm Simba Logistics and the Swiss TNC Société générale de surveillance (SGS) arrived through Banro and have since secured new DRC contracts in the mining region of Katanga and with Randgold Resources in Haut-Uélé.¹⁹⁸

quotations. Those incorporated into Banro's chain at this level were some of Bukavu's most successful and well-known Congolese entrepreneurs, most of whom made their wealth independently of state patronage networks or ties. One, for example, began as a small trader in hardware goods in Kadutu on the outskirts of the city and by 2017 had constructed a five-storey building on Avenue Lumumba (the main road) in the city centre with his general store on the ground floor, a restaurant on the second floor and receptions rooms for parties, weddings and other events on the upper floors.

¹⁹² Interviews with multiple Congolese suppliers, Bukavu, January to April 2017.

¹⁹³ Domestic supplier invoices, 2016.

¹⁹⁴ South Kivu list of declared imports, January 1st 2016 to December 31st 2016, Congolese Central Bank.

¹⁹⁵ *Fédération des entreprises du Congo* – the Congo Business Federation – South Kivu membership list, January 6th 2017.

¹⁹⁶ Perhaps none of the subcontracts speak better to the distorted nature of the DRC's integration into (and the perverse functioning of) the global economy than Twangiza Mining's contract with the Malaysian TNC Engen for the supply of fuel. The DRC exports around one to 1.5 billion litres of unrefined crude oil each year. Meanwhile, Engen supplies around 12 million litres of fuel each year to the Twangiza mine, which is shipped from an Engen refinery in South Africa to Dar es Salaam in Tanzania, and then transported by lorry to the DRC.

¹⁹⁷ Interview with Tsebo Outsourcing Group administrator, Bukavu, December 6th 2016.

¹⁹⁸ Interviews with Simba Logistics DRC director, Bukavu, February 22nd 2017 and SGS manager, Twangiza, June 6th 2017.

Occupying an economically marginal position within Banro’s global chain, three of the five Congolese firms subcontracted to Twangiza Mining are owned or co-owned by local political elites with no prior experience or demonstrated interest in private enterprise and capital formation.¹⁹⁹ Company statutes reveal that the Mwamikazi of Luhwindja (who is also a Provincial Deputy at the Assembly in Bukavu) is the largest of Cinamula’s six shareholders, with a 30 percent stake. She is joined by her sisters-in-law, close friends, Luhwindja’s Chief Administrator and the son of the former Luhwindja Secretary.²⁰⁰ The Mwamikazi also has a 20 percent stake in Premium, alongside the son of Michel Chiribagula, the National Senator for Mwenga, and two others.²⁰¹ The National Deputy and Mwami of Burinhyi (a government collectivity next to Luhwindja) is one of four shareholders in Zuki, holding 20 percent of the equity.²⁰² As discussed further in Chapter 9, the privileged role of local political elites within Banro’s chain has been socially divisive in Luhwindja.

Table 6.9 Twangiza Mining subcontractor revenue, 2013 (in millions of USD)

Nationality	Firm(s)	Productive Activity or Service Provided	Revenue	
			\$	%
DRC	Premium	Sand	3.3	7.2
DRC	Cinamula, Diphil, Zuki	Labour	2.6	5.6
DRC	Groupe Rubuye	Drilling	0.2	0.4
SUBTOTAL DOMESTIC			6.1	13.2
Malaysia	Engen	Fuel	21.6	46.9
Kenya	Civicon	Road Maintenance	8.4	18.2
South Africa	Tsebo Outsourcing Group	Catering	3.3	7.2
UK	Aggreko	Power	2.5	5.4
UK	G4S	Security	1.5	3.3
Switzerland	Société Générale de Surveillance	Gold Certification	1.3	2.8
South Africa	Savannah	Aviation (Helicopters)	0.8	1.7
South Africa	Rand Refinery	Smelting	0.5	1.1
Tanzania	Simba Logistics	Transportation	0.1	0.2
Belgium	COMEXAS Group	Customs	Unknown	
SUBTOTAL FOREIGN			40.0	86.8
TOTAL			46.1	100.0

Source: Twangiza Mining 2013 financial accounts.

From the value accruing to subcontractors (foreign and Congolese), only two have significant domestic procurement expenditure. The first is the Congolese firm Premium, which extracts

¹⁹⁹ The majority shareholder of Diphil was a well-known and successful Congolese entrepreneur residing mainly in South Africa, and Groupe Rubuye was owned by the Rubuye family, a similarly successful group of Congolese entrepreneurs living primarily in Canada. While this says something about the external orientation of these two shareholder groups, their incorporation into Banro’s chain has been relatively uncontroversial, given their backgrounds.

²⁰⁰ Cinamula statute, August 26th 2014.

²⁰¹ Premium statute, August 18th 2014.

²⁰² Zuki statute, September 6th 2014. This documentation confirms and provides further detail on the earlier work of Geenen and Claessens (2013) and Geenen and Honke (2014), which highlighted the involvement of local political elites in subcontracted firms, based on interview data collected locally.

around 200 cubic metres of sand per day from the island of Idjwi on Lake Kivu and Kalehe in South Kivu, for which Twangiza Mining pays around \$7,000, using the sand to shore up the mine's ever-expanding waste storage reservoir facility. Initially, this was a largely artisanal operation, with around 250 workers extracting the sand and loading it on and off boats and lorries; the firm rented two boats and 32 lorries to transport the sand to the mine. Around 2016, however, the firm invested in extractive machinery to increase productivity and acquired three lorries.²⁰³

The second is Allterrain Services (ATS), a subsidiary of the South African catering TNC Tsebo Outsourcing Group. According to Banro's (2016: 23) 2015 sustainability report, ATS 'is required under its contract to source basic food commodities, including vegetables and small livestock, from local producers'. This has led ATS to form and work closely with two local producer cooperatives in Luhwindja, the *Cooperative des éleveurs de Luhwindja* and the *Cooperative agricole de Lubanda*. The former cooperative has 28 members and the latter has 15 members, with both comprised mainly of artisanal miners who were displaced from the Twangiza site to allow for the industrial mine's construction. As the Ghanaian manager of ATS' contract with Twangiza Mining explained:

In our organisation we have a community relations manager whose duty is to go around, sort out from the community what we can buy from them, and train them on what we need to use. Because sometimes, you will go to some of the community, and what you are needing they don't produce it, but they have the land that they can actually cultivate so we train them and we tell them that what they produce, we can buy. So, once the community manager goes down to engage the community and train them, whatever they plant like potatoes, tomatoes and onions we buy from them.

The Food and Agricultural Organisation (FAO) also worked with the cooperatives to improve the insertion of local producers into global value chains, including training the cooperatives to meet the required food control standards.²⁰⁴ Neither of the cooperatives had a formal contract with ATS, but each month the livestock cooperative provided Twangiza around 1,000 kilograms of meat and the agricultural cooperative around one ton of fruit and vegetables.²⁰⁵

According to ATS firm data (Figure 6.2), from January to May 2017, \$287,101 was spent procuring primarily meat and vegetables locally from six suppliers in Luhwindja. Alongside the two cooperatives, the third main supplier (providing fruit and vegetables) was *Cantine Iragi*, owned by a successful local trader who is the wife of the *Chef de Poste*, Luhwindja's second most senior civil servant. The remaining \$418,161 was spent on a combination of domestic and imported produce procured from Bukavu, from fish and meat to coffee, sugar and rice. From this, it can be extrapolated that annually the South African subsidiary spends around \$700,000 sourcing produce from Luhwindja-based suppliers and procures around one million dollars through domestic suppliers in Bukavu, including some Congolese produce.

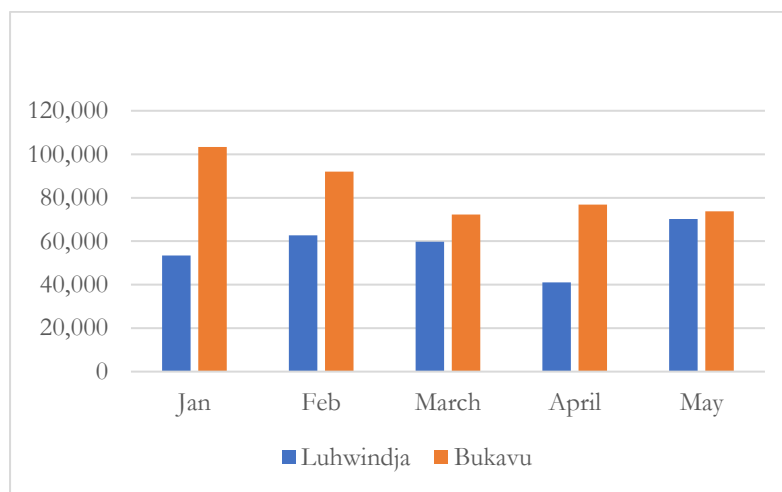
²⁰³ Interviews with Premium director, Bukavu, October 12th 2016 and Twangiza Mining Tailing Management Facility manager, Twangiza, June 9th 2017.

²⁰⁴ Interview with FAO representative, Bukavu, February 24th 2017.

²⁰⁵ Interviews with cooperative members, Luhwindja, February 7th and 10th 2017.

Cooperatives reported having invested in more land to meet the demand, as well as sourcing the required produce from other local farmer associations. One of the local associations was the NGO *Action pour la promotion de l'enfant et la femme* (APEF) – Action for the Promotion of Children and Women – founded and run by the Mwamikazi of Luhwindja, which was providing agricultural employment to around 200 local women.²⁰⁶ As with the increasingly commercial use of agricultural land observed through reinvestment by artisanal trader-managers in the previous chapter, this might imply a process of local capital accumulation and increasing labour productivity. Not all of the money going to suppliers from Luhwindja, however, was stimulating local production. Cantine Iragi, the local supplier earning the most revenue from ATS according to ATS' corporate data, sourced its chickens and eggs from Ngweshe and Walungu (also located, nevertheless, in South Kivu).

Figure 6.2 ATS local food procurement, January to May 2017 (in thousands of USD)



Source: ATS local supplier data, 2017.

To summarise, the Twangiza mine has increased productivity and capital accumulation at the Congolese firm Premium, while also possibly stimulating similar processes locally in Luhwindja through the procurement practices of the South African catering subsidiary ATS. Yet beyond these two examples, there is little evidence to suggest that corporate outsourcing has articulated with the Congolese economy through domestic firms and suppliers or that the Twangiza mine more generally has stimulated broader processes of domestic capital accumulation and structural transformation. Rather, on the whole, the Twangiza mine is profoundly disconnected from the Congolese economy that surrounds it. As the South Kivu representative of the *Fédération des entreprises du Congo* (FEC) – the Congo Business Federation – said, ‘Banro hasn’t had much of an impact on the private sector here. Banro could close tomorrow and we wouldn’t know’.²⁰⁷

With the exception of sand and some agricultural produce, all goods, capital equipment and inputs enabling production at Banro’s Twangiza mine are manufactured overseas and sourced through foreign manufacturers or suppliers, with only the low-value end of Twangiza’s procurement chain outsourced to a small group of Congolese traders. Meanwhile, subcontracting has provided few

²⁰⁶ Conversation with APEF labourer, Luhwindja, February 10th 2017.

²⁰⁷ Interview with South Kivu FEC Representative, Bukavu, January 31st 2017.

opportunities for domestic firms and, as with procurement, the opportunities provided were clustered around low value-added activities. Most subcontracting revenue has been captured by foreign firm subsidiaries who, through their entry and expansion into the domestic Congolese economy, were beginning to acquire a dominant position among increasingly marginalised medium and large firms in the Congolese private sector.

6.4 Obstacles to Domestic Firm Inclusion

Finding themselves marginalised within Banro's production network, Congolese firms and suppliers faced four obstacles to value chain inclusion and 'upgrading', which overlap with two of the four factors identified by Kaplinsky et al. (2011: 25): time; the scale of the sector; the technological complexity of the sector, and; the capacity of domestic firms and suppliers.²⁰⁸ The first of these is structural, and relates to the obstacle of technological complexity. As observed in the previous section, the industrial structure of the Twangiza mine is relatively thin, and it makes use of advanced and highly specialised technology – the plant is for no other purpose than extracting and treating gold – whose development is monopolised by predominantly Northern corporations. This limits both the possible role for domestic actors in the chain, as well as the sector's potential to stimulate broader processes of industrialisation and structural transformation.

The second obstacle echoes the findings of Hanlin and Hanlin (2012: 472) on industrial gold mining in East Africa, that 'expatriate procurement officers tended to avoid engaging in local markets, reverting to markets they understood'. For procurement purchases of more than \$5,000, Twangiza Mining's procurement officers present quotes from three suppliers to the procurement managers, who make a final decision as to which supplier is chosen. The decision is then authorised by the relevant department manager, finance manager and the general director of the mine. Reflecting on this process, a former Twangiza Mining auditor and a former Twangiza Mining procurement officer independently observed a preference among Ghanaian and South African procurement managers to use foreign (and often home country) suppliers for goods, such as worker clothing and IT equipment, when presented with domestic suppliers who could procure the same goods at a lower cost.²⁰⁹ A former Twangiza Mining procurement manager confirmed this tendency to disregard cost efficiency, observing that when he arrived at the mine in 2012, exclusive suppliers were as much as 150 per cent more expensive than alternative options.²¹⁰

The third obstacle is Banro's requirement that subcontracted firms cover their own costs for the first 60 or 90 days of the contract before reimbursement. According to a manager of the subcontracted Kenyan firm Civicon, this is standard industry practice.²¹¹ The practice has, however, excluded domestic firms from inclusion and 'upgrading' in Banro's gold value chain due to insufficient financial capital. In 2015, Twangiza Mining began contacting domestic suppliers to ATS with a view to having one replace the foreign firm subsidiary as the main catering

²⁰⁸ In fact, five factors are mentioned, but the factor concerning the requirements of lead firms broadly correlates to the factor on the capacity of domestic actors (to respond to these requirements), so these two have been merged.

²⁰⁹ Interviews with former Twangiza Mining auditor, Bukavu, December 15th 2016 and former Twangiza Mining procurement officer, Kinshasa, January 13th 2017.

²¹⁰ Interview with former Twangiza Mining procurement manager, Skype call, January 23rd 2017.

²¹¹ Interview with Civicon manager, Luhwindja, November 29th 2016.

subcontractor. None of the domestic suppliers, however, had the financial capital to front the required 90 days of costs, and so were unable to take the opportunity.²¹² Similarly, a domestic fuel supplier approached by Twangiza Mining soon after Banro's arrival in the DRC was unable to front the costs and had to forego the contract.²¹³

The fourth and final obstacle has been absent or insufficient state policy to support and develop domestic capacity, itself a by-product of the earlier mining sector reform led by the World Bank, which wrote out state interventionist measures, prioritising instead privatisation, liberalisation and deregulation. For the first decade after the 2002 Congolese Mining Code was introduced, the DRC had no local content or subcontracting legislation. While this has recently changed, the new legislative measures effectively allow mining TNCs to continue to procure overseas and subcontract foreign firms as they see fit, despite opening with rhetoric about prioritising the promotion of domestic firms and entrepreneurs. The 2014 inter-ministerial local content decree states that mining companies registered in the DRC must procure from domestic suppliers but that imports are permissible 'if the needs expressed by mining companies surpass the capacity of Congolese industries and small and medium enterprises'.²¹⁴ In 2017, a subcontracting law was passed which – while partially addressing the issue of pre-financing by requiring the transfer of at least 30 per cent of the contract before the start of the work – allows for the continued subcontracting of foreign firms if the required expertise is 'unavailable or inaccessible' domestically.²¹⁵ The 2018 Congolese mining code is governed by this law.²¹⁶

Compounding these legislative loopholes, there is little broader industrial policy to increase the 'capacity', 'availability' or 'accessibility' of Congolese actors to facilitate their inclusion and advancement in global mining value chains. The Ministry of Industry agency *Fonds de promotion de l'industrie* (FPI) – Funds for the Promotion of Industry – provides an exception. However, of a total \$125.9 million invested in supporting domestic firms in the three-year period 2013 to 2015, more than half was invested in Kinshasa and only \$2.7 million (or two per cent) was invested in South Kivu.²¹⁷ Beyond FPI, there is little evidence of the state's active pursuit of industrial policy in the DRC, accentuating domestic firm marginalisation in a context of foreign firm subsidiary entry and expansion.

To conclude, Banro's entry into South Kivu's gold mining economy, facilitated by a neoliberal regulatory regime, has induced a significant and historically unprecedented increase in the sector's productivity, providing the basis for the distribution of the value created by these productivity gains to raise wages and contribute to domestic processes of capital accumulation and structural transformation, as theorised by AMC proponents. Yet, considering the latter part of this equation, a review of Twangiza's industrial structure provides little support to the position found in the GVC

²¹² Interviews and conversations with Tsebo Outsourcing Group managers and suppliers, December 2016 to April 2017.

²¹³ Interview with domestic fuel supplier managers, Bukavu, January 31st 2017.

²¹⁴ Inter-ministerial decree 0027/CAB.MIN/MINES/01/2014 and 043/CAB.MIN/IPME/2014 of February 11th 2014. Author translation.

²¹⁵ Law 17/001 of February 8th 2017. Author translation.

²¹⁶ DRC Mining Code 2018, Article 108.

²¹⁷ FPI Annual Reports, 2013 to 2015.

literature, that the move in the global mining industry towards corporate outsourcing over the last few decades ‘invalidate[s] the enclave position’ (Bloch and Owusu 2012: 435) and holds the potential for industrial mining in African LICs ‘to provide a considerable impetus to industrialisation’ (Morris et al. 2012: 414).

Rather, the analysis presents an accentuated version of Prebisch and Singer’s original enclave thesis, whereby resource extraction in the periphery has few domestic linkages and is generally disarticulated from local and national economies due to the periphery’s dependence upon external technology and industrial capabilities in the centre. Accentuated, as the technological frontier of industrial gold mining in the early twenty-first century, on which Banro’s Twangiza mine operates (through its use of the ‘carbon-in-pulp’ chemical production process described earlier), has extended far beyond that of MGL and SOMINKI’s earlier eras. This is highlighted by the finding that in the 2010s, Banro’s Twangiza mine was around eight times more productive than SOMINKI in the 1980s.

A more developmentally-oriented state could help address some of the obstacles to Congolese firm and supplier inclusion in Banro’s chain, namely in relation to procurement manager home country bias and subcontractor pre-financing requirements. Yet the role and position of Congolese actors in Banro’s chain faces the structural constraint that the industrial machinery required by the sector is relatively narrow, technologically advanced and highly specialised, and the DRC is fully dependent upon the external manufacture of this machinery, whose development (based on the data reviewed here) appears monopolised by foreign (and predominantly Northern) firms.

This observation further questions the wisdom of moving from a state-led model of African mining industrialisation to a TNC-led model, grounded in a belief in the superior efficiency of the latter. Rather, and as with the constraint of severe price volatility observed in Chapter 3, it suggests that the industrial composition of the sector itself undermines its potential to drive broader processes of domestic capital accumulation and structural transformation in the periphery, regardless of ownership and management structures. Within the confines of this constraint, a locally-led process of gold sector capital formation and ‘upgrading’ (as described in the previous chapter as taking place in the artisanal sector) might be more desirable than the insertion of foreign-owned and polarised mines already operating on or close to the technological frontier.

The next chapter further develops this argument through an analysis of Banro’s corporate structure and modes of financial integration, which provides reason to question the AMC belief in corporate efficiency. Evidence of mismanagement at the heart of Banro and, as was the case with SOMINKI historically, a failure to control costs in a context of severe price volatility, run contrary to AMC proponents’ faith in superior TNC efficiency and effectiveness. This urges renewed reflection on the theoretical foundations underpinning neoliberal mining reform across African LICs over the last few decades.

7. Corporate Déjà Vu in South Kivu

In the previous chapter, it was argued that the narrow, technologically advanced and highly specialised composition of Twangiza's industrial structure severely constrains its ability to contribute to domestic capital accumulation and structural transformation in the DRC. The purpose of the current chapter is to build on this argument through an analysis of Banro's corporate and financial structure which – as with Twangiza's industrial structure – is deeply integrated with predominantly Northern centres of financial wealth and power, and disarticulated from the Congolese economy. Drawing on corporate archives, Canadian and Congolese government documentation, and interview data, it is argued in this chapter that not only is Banro's contribution to Congolese state revenue low, but mismanagement and inefficiencies in a context of severe price volatility have further constrained the corporation's transformative potential and highlight the fragility and vulnerability of a TNC-led model of mining industrialisation in the African periphery.

Responding to the six-fold gold price increase from 1999 to 2012, in 2011 Banro invested what would amount to around \$250 million to expand productive activity through the opening of Namoya, a second gold mine in neighbouring Maniema Province. Yet between 2012 and 2014, as Namoya was being constructed, the gold price collapsed by around one third, and failed to recover. This drove Banro into increasing indebtedness and financial difficulties. By late 2017, and triggered by a series of local armed attacks against the corporation's newly constructed Namoya mine, Banro was forced to enter Canadian government creditor protection. Banro's descent was exacerbated by underlying mechanisms of surplus extraction from the DRC to Northern (and to a lesser extent Chinese) financial centres, in particular the continued redirecting of value to overseas senior directors and shareholders following the price collapse. This, in turn, squeezed the value accruing to Congolese firms and suppliers already incorporated towards the bottom of Banro's global chain.

Banro's trajectory mirrors that of SOMINKI recounted in Chapter 3, whereby the Belgian-owned subsidiary responded to rising tin price in the 1970s by making a series of fresh investments, only for the tin price to collapse in 1985. This led to mine closures, the suspension of further investment and worker layoffs. Yet none of these measures prevented SOMINKI from running at a loss from 1986 onwards and going into eventual liquidation in 1997, triggered by the onset of the Congo Wars. This historical counterpoint only serves to further undermine the assumptions and logics underpinning neoliberal mining sector reform in the DRC and elsewhere across African LICs since the 1980s. The supposed superiority of corporate-led mining has unravelled in South Kivu not once, but twice. The plight of both SOMINKI and Banro suggest TNC-led mining is just as vulnerable to firm inefficiencies and the vagaries of volatile prices as the state-led model so heavily critiqued by AMC proponents.

By highlighting Banro's low contribution to Congolese state revenue, estimated at around just five percent of the corporation's total revenue, the findings align with a recent strand of literature drawing attention to the Congolese state's weak capture of the industrial mining surplus (cf. CdCRN 2015, Maison des Mines du Kivu 2015, SYNERGIE COSCET and DEDQ 2016, Action pour la Defense des Droits Humains 2017, Initiative Bonne Gouvernance et Droits Humains 2017). Bokonde et al. (2015: 10), for example, calculated that between 2011 and 2014,

total Congolese state revenue collected from the mining sector amounted to a mere six percent of total sector revenue during the same period, concluding that ‘the contribution of the sector to the state budget is very weak in comparison to its potential’.²¹⁸ Similarly, Marysse and Tshimanga (2013) calculated that in 2010 and 2011 the Congolese state exerted around a 13 percent tax rate over the sector, in contrast to the 46 percent tax rate considered reasonable for the DRC by the World Bank (World Bank 2008: 20). Consequently, the authors consider a tripling of state revenue from the sector a realistic goal (Marysse and Tshimanga 2013: 38).

While confirming these findings, the original contribution of this chapter lies in going beyond the general policy recommendation arising out of this body of work, which has been to strengthen national and international governance on tax evasion and avoidance as a means to increase state revenue from the sector. This could, in turn, ‘improve the living conditions of the population’ (Ibid.: 40).²¹⁹ Rather, the analysis that follows brings the model of TNC-led mining industrialisation in the DRC (and other African LICs) itself into question, given evidence of corporate inefficiencies and mismanagement in the face of severe price volatility.

The chapter is organised in three sections. The first section details the Congolese state’s low capture of the value generated by Banro’s productive activity, and discusses three possible financial accounting strategies that might be contributing to this outcome (overreporting investment, underreporting production value, and a complex web of intra-company and shareholder loans and transfers). The second section charts how the combination of mismanagement and a failure to control costs following a sustained drop in the gold price, coupled with the short-term trigger of local armed attacks against its Namoya mine, led Banro to enter creditor protection in 2017. The third section documents the surplus extracting mechanisms of senior director compensation and shareholder pay-outs that exacerbated Banro’s financial difficulties and hastened its entry into creditor protection, and discusses the downwards pressure this exerted on Congolese firms and suppliers providing goods and services to the Twangiza mine.

7.1 Low State Capture

While Banro’s 1997 agreement gave it a ten-year profit tax holiday and an exemption from royalties, in 2007, a Congolese government commission reviewed 63 mining contracts signed during the Congo Wars, recommending that 22 be cancelled and 39 renegotiated (Mutamba Lukusa 2016: 45-47). Banro’s was among those to be renegotiated, resulting in an amendment in 2010, in which Banro committed to paying a one percent royalty tax and a four percent profit tax; still a generous agreement that fell well below the liberal regional standards of African countries elsewhere (Radley 2016: 177).²²⁰

Data for the tax contributions made by Banro are only available for the years 2012, 2013, 2016 and 2017. In 2012 and 2013, the data are courtesy of the Extractive Industries Transparency Initiative

²¹⁸ Author translation.

²¹⁹ Author translation.

²²⁰ Second Amendment to the Mining Convention of February 13th 1997 between the DRC and Banro Corporation, Kinshasa, July 13th 2010.

(EITI) (before the DRC was suspended from participation in the initiative due to non-compliance). In 2016 and 2017, the data come from the Extractive Sector Transparency Measures Act (ESTMA), an initiative implemented by the Canadian government’s Ministry of Natural Resources in 2015, which requires ‘extractive entities active in Canada to publicly disclose, on an annual basis, specific payments made to all governments in Canada and abroad’.²²¹ Across these four years, Banro declared a paid total of \$29 million in taxes, of which \$650,000 went to the Barbadian state and the remaining \$28.4 million to the Congolese state (Table 7.1). Striking from the 2016 and 2017 declarations is the complete absence of taxes paid in Canada which, as discussed in more detail in the third section below, is a result of Canada’s double taxation treaty with Barbados.

Table 7.1 Banro’s international tax payment declarations, selected years (in USD)

Year	Country	Subsidiary	Taxes	Royalties	Fees	TOTAL
2012	DRC	Twangiza Mining	-	-	-	4,201,089
	DRC	Lugushwa Mining	-	-	-	210,743
	DRC	Kamituga Mining	-	-	-	176,641
Subtotal 2012			-	-	-	4,588,473
2013	DRC	Twangiza Mining	-	-	-	4,079,674
	DRC	Banro Congo Mining	-	-	-	570,261
	DRC	Lugushwa Mining	-	-	-	161,562
	DRC	Kamituga Mining	-	-	-	161,100
Subtotal 2013			-	-	-	4,972,597
2016	DRC	Twangiza Mining	200,000	1,280,000	4,220,000	5,700,000
	DRC	Namoya Mining	330,000	1,170,000	3,000,000	4,500,000
	DRC	Banro Congo Mining	0	0	280,000	280,000
	DRC	Lugushwa Mining	0	0	20,000	20,000
	DRC	Kamituga Mining	0	0	10,000	10,000
	Barbados	Banro Group	310,000	0	0	310,000
Subtotal 2016			840,000	2,450,000	7,530,000	10,820,000
2017	DRC	Namoya Mining	150,000	1,150,000	2,640,000	3,940,000
	DRC	Twangiza Mining	0	1,630,000	2,140,000	3,770,000
	DRC	Banro Congo Mining	0	0	480,000	480,000
	DRC	Lugushwa Mining	0	0	90,000	90,000
	DRC	Kamituga Mining	0	0	30,000	30,000
	Barbados	Banro Group	340,000	0	0	340,000
Subtotal 2017			490,000	2,780,000	5,380,000	8,650,000
TOTAL						29,031,070

Source: EITI DRC Final Reports, 2012 and 2013; Banro Corporation ESTMA reports, 2017 and 2018.

While 2017 financial data has not been made available for Banro, since the corporation delisted from the Toronto Stock Exchange (TSE) before these were published, across 2012, 2013 and 2016, the \$20.1 million paid in Congolese taxes was equivalent to just 5.3 percent of Banro’s recorded revenue of \$665 million (Table 7.2). Notably, the payments in 2016 and 2017 do not

²²¹ Canadian Ministry of Natural Resources, www.nrcan.gc.ca/mining-materials/estma/18180, accessed July 3rd 2018.

include the four percent profit tax Banro agreed to in 2010, as the DRC declarations note the taxes paid by Twangiza Mining and Namoya Mining were not paid to the *Direction générale des impôts* (DGI) – General Directorate of Taxation – the agency at the Ministry of Finance responsible for the collection of profit tax. Rather, they were paid to the *Direction générale des recettes administratives, domaniales, judiciaires et de participation* (DGRAD) – General Directorate of Administrative, State and Jurisdiction Revenue and of Participation – the agency responsible for collecting mining royalties and the annual surface rights tax.

Table 7.2 Banro revenue and taxes paid in the DRC, selected years

Year	Production (kg)	Sales (kg)	Revenue (millions of \$)	Tax Declaration (millions of \$)	Taxes as a % of Revenue
2012	803	776	42.6	4.6	10.8
2013	2,565	2,500	111.8	5.0	4.5
2016	6,149	5,971	228.0	10.5	4.6
TOTAL	18,274	16,607	664.8	20.1	5.3

Sources: Banro financial statements and press releases, 2013 to 2017; EITI DRC Final Reports, 2012 and 2013; Banro Corporation ESTMA reports, 2017 and 2018.

While Banro might contend this absence of Congolese profit tax is because it has yet to recuperate its investment, according to corporate and Congolese state data this is not the case for Twangiza, where in 2014 total revenue from the mine of \$280 million outstripped total investment for the first time, and continued to do so through to 2016.²²² In addition, the data suggest it might also be possible that through three different financial techniques, Banro is manipulating its financial declarations to avoid declaring any profits, now and into the future (either at the current rate of four percent or the eventual rate of 30 percent it will be subject to from 2022 onward, when its ten-year profit tax holiday expires).

First, Banro might be overreporting the size of its investment. In its 2015 Sustainability Report, Banro (2016: 3) declared a total investment in the DRC from 2004 to 2014 (excluding government taxes and fees) of \$771 million, including \$237 million of exploration expenditure. This figure is nearly 10 percent higher than the \$719 million recorded by the Congolese government agency ANAPI over the same period (Table 7.3). In addition, ANAPI recorded \$648 million of fresh investment from Banro in 2016; equivalent to around 44 percent of the total level of recorded investment prior to that year. This is peculiar, as both Twangiza and Namoya had reached the production phase by 2016, so it is unclear what motivated this investment, equivalent to at least the total construction cost of both of these mines.

The import process itself raises further doubts over the authenticity of Banro’s investment level declarations. A World Bank consultant who looked into Banro’s investment levels, as part of a broader remit to investigate the issue of mining investment in the DRC, noted that Banro’s imported containers weren’t opened at the border for inspection, but travelled directly to its mine sites. He argued that, as a result of this process, ‘it is Banro alone who controls the level of

²²² Banro financial statements and press releases, 2013 to 2016; ANAPI data, 2004 to 2016.

investment'.²²³ Similarly, a Congolese researcher noted the question of TNC investment levels in the mining sector to be 'a very big problem here in Congo... [because] it's the company who manages it alone'.²²⁴ Such control would allow Banro to artificially overvalue its level of investment, and thus extend the period of time required to recuperate this investment, perpetually prolonging the payment of Congolese profit tax ever further into the future.

Table 7.3 Banro's declared investment in the DRC, 2004 to 2016 (in USD)

Year	Twangiza Mining	Namoya Mining	Kamituga Mining	Lugushwa Mining	Banro Congo Mining	TOTAL	
						\$	%
2004 to 2009	0	0	0	0	0	0	0.0
2010	78,264,965	78,264,965	78,264,965	78,264,965	0	313,059,860	21.3
2011	8,906,326	2,038,772	0	0	0	10,945,098	0.7
2012	2,160,880	190,825,920	0	0	0	192,986,800	13.1
2013	107,531,500	66,293,698	0	0	0	173,825,198	11.8
2014	10,600,000	17,530,066	0	0	0	28,130,066	1.9
SUBTOTAL	207,463,671	354,953,421	78,264,965	78,264,965	0	718,947,022	48.9
2015	63,656,054	39,088,876	0	0	0	102,744,930	7.0
2016	222,534,293	424,085,659	0	400,171	1,050,000	648,070,123	44.1
SUBTOTAL	286,190,347	463,174,535	0	400,171	1,050,000	750,815,053	51.1
TOTAL	493,654,018	818,127,956	78,264,965	78,665,136	1,050,000	1,469,762,075	100

Source: ANAPI data, 2004 to 2016.

Second, there is some evidence to suggest Banro might be underreporting the value of production as a means to artificially decrease revenue (and therefore potential profits) and royalties owed. Interviews with senior government officials in Kinshasa noted that the Congolese government lacks the capacity to verify the quality of the ore being exported, and depends upon the mining companies to conduct the required tests and declare this quality themselves.²²⁵ This likely explains why the gold purity documented on signed invoices of the South African refiner Rand Refinery – where Twangiza's gold is exported and smelted to the purity required for trade on international bullion markets – correlate exactly with the purity registered by the Ministry of Mines. For example, in June and September 2012, both Rand Refinery invoices and the Congolese Ministry of Mines recorded the purity of Twangiza's exported gold at 94.34 percent and 85.80 percent respectively.²²⁶

However, triangulating data between government records, corporate declarations and market values for Twangiza's production from 2013 to 2016 reveals some discrepancies across the three sources (Table 7.4). In 2015, the Congolese government recorded a production value \$15.5 million (or nine percent) greater than that recorded by Banro, although Banro's 2015 declaration corresponds closely to the annual average market value. Similarly, in 2016, the annual average

²²³ Conversation with World Bank consultant, Kinshasa, November 16th 2016.

²²⁴ Interview with NGO representative, Kinshasa, January 11th 2016.

²²⁵ Interviews with senior government officials at the Ministry of Mines and the Ministry of Finance, Kinshasa, February 2016.

²²⁶ Twangiza Mining invoices to Rand Refinery 00007/2012 and 000012/2012, June 12th and September 18th 2012; CEEC gold production and export data, 2007 to 2015.

market value was around nine percent greater than Banro’s declaration. This might, however, be attributable to monthly sales in accordance with price fluctuations throughout the year, and a larger data sample is needed to confirm whether this becomes a trend, as Banro seeks to return from the brink of bankruptcy (discussed more fully in the next section).

Table 7.4 Twangiza Mining production and revenue data, 2013 to 2016

Year	DRC Government		Banro		London Gold Fixing	
	Production (Kg)	Value (\$)	Production (Kg) (a)	Value (\$)	Annual Average per Kg (\$) (b)	Value (\$) (a x b)
2013	2,499.80	110,170,377	2,499.80	111,807,544	45,372	113,421,148
2014	3,455.66	128,586,115	3,053.86	125,436,000	40,716	124,340,039
2015	4,676.60	172,164,249	4,215.52	156,710,000	37,297	157,225,353
2016	-	-	3,248.39	119,445,000	40,214	130,631,050

Note: The slight difference between the 2013 London Gold Fixing value presented here and in Chapter 6 is due to the use of an annual average gold price here and monthly averages in Chapter 6.

Sources: Ministry of Mines Twangiza Mining production data; Twangiza Mining financial accounts; Banro Consolidated Financial Statements; World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed February 23rd 2018.

Third, intra-company and shareholder loans and transfers suggest a final means through which Banro might be manipulating its financial declarations. Reviewing Twangiza Mining’s financial reports from 2010 to 2013 (the only years for which these reports were obtained), a distinct pattern emerges. In 2010 and 2011, before commercial production at Twangiza began, Twangiza Mining was credited with a net total of \$105.4 million in transfers from its mother company Banro Corporation in Canada. In 2012 and 2013, when the subsidiary began to record revenue for the first time, it sent back to Banro Corporation a net total of \$62.7 million in transfer and loan repayments (Table 7.5).

Table 7.5 Transfers and loans from Banro to Twangiza Mining, 2010 to 2013 (in millions of USD)

Year	Country	Entity	Movement	Twangiza Mining		Net Difference (a - b)
				Credit (a)	Debit (b)	
2010	Canada	Banro Corporation	Transfer	108.0	12.2	95.8
2011	Canada	Banro Corporation	Transfer	9.6	0.0	9.6
PRE-PRODUCTION TOTAL				117.6	12.2	105.4
2012	Canada	Banro Corporation	Transfer	33.9	78.5	-44.6
2013	Canada	Banro Corporation	Transfer	3.6	0.0	3.6
2013	Canada	Shareholders	Loan	65.0	86.7	-21.7
POST-PRODUCTION TOTAL				102.5	165.2	-62.7

Source: Twangiza Mining annual financial reports, 2010 to 2013.

Across the same four-year period, the subsidiary declared minus \$42 retained annual earnings from 2010 to 2012 and precisely zero retained earnings in 2013.²²⁷ When explaining these losses, a former

²²⁷ Twangiza Mining financial accounts, 2009 to 2013.

senior financial manager for Banro in the DRC noted that the subsidiary's retained earnings were counterbalanced against the repayment of loans and transfers.²²⁸ Thus, any combination of these three different strategies – overreporting investment levels, underreporting the value of production and intra-company financial flows – might be providing Banro with the means to artificially control the revenue and profits declared by its DRC-based subsidiaries, and in turn the level of profit tax and royalties paid to the Congolese state. Yet arguably of deeper concern, as demonstrated in the next section, Banro's transformative potential is greatly hampered by a generalised level of mismanagement and inefficiency compounded by price volatility.

7.2 Banro's Descent into Creditor Protection

In 2012 and 2013, the first two years of full commercial production at Twangiza, the cash cost per ounce of gold produced was \$879 per ounce and \$801 per ounce respectively.²²⁹ This was significantly greater than the \$257 per ounce production costs estimated by Banro in 2007.²³⁰ Five years before Twangiza began production, in 2008, the annual average gold price was \$872 per ounce, but it had nearly doubled by 2012 to \$1,669. In other words, the early profitability of production at Twangiza was entirely the result of a significant increase in the gold price. Had the gold price remained stagnant or decreased, Twangiza would likely have run at a loss from the beginning. Yet no doubt encouraged by the rising price (which had been underway with year-on-year increases since 1999), towards the end of 2011, Banro began to construct Namoya, its second mine, in neighbouring Maniema Province.

According to Twangiza Mining's General Director, this was a major mistake, as 'we went to build Namoya before we started stabilising at Twangiza', with the decision to do so driven by senior directors who were 'more concerned with the company's share price than the mining fundamentals'.²³¹ He recounted that Namoya was initially budgeted to be built for \$100 million using in-house revenue raised by Twangiza, but on the assumption that gold would stay at its current price. Yet the gold price collapsed by around one-third from 2012 to 2015 and had yet to fully recover by 2017 (Figure 7.1), leading to significant shortfalls in Twangiza's forecasted revenue. In addition, and again according to the General Director, underestimating the industrial machinery required to process gold at Namoya meant 'the [budgeted] \$100 million went up in smoke in a month', with construction costs eventually totalling \$250 million.²³²

Yet a 2012 third-party audit of Twangiza Mining suggests a general level of corporate inefficiency and mismanagement was an important additional contributory factor. The audit found that 'the organisation is losing massive commercial benefits at present, will not be able to effectively manage the operations optimally, [and] does not have a sound, controlled (low risk), high integrity, or value-added platform on which to build and support the core processes required to operate at

²²⁸ Conversation with former Banro senior financial manager, Kinshasa, July 19th 2018.

²²⁹ Banro consolidated financial statements, 2012 and 2013.

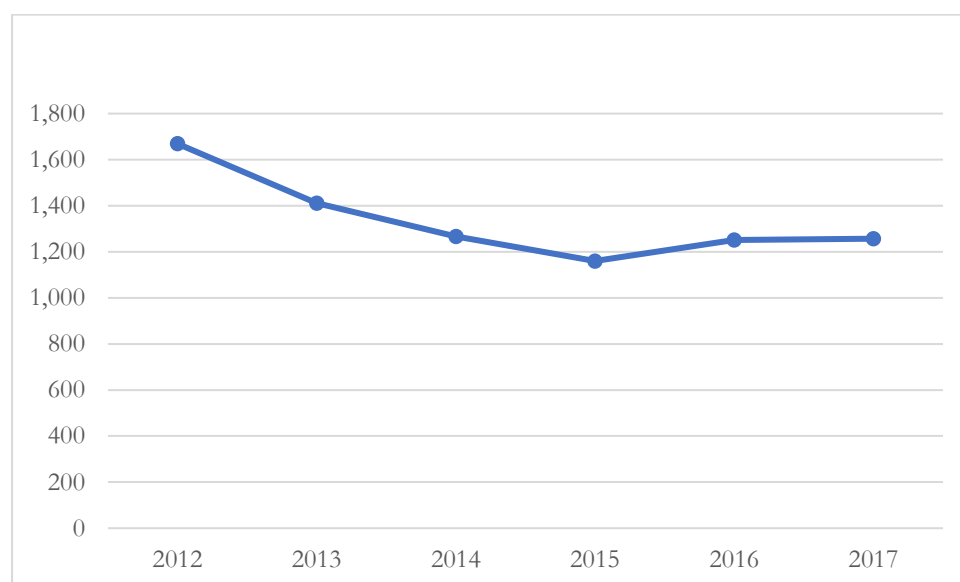
²³⁰ Banro press release, July 30th 2007.

²³¹ Interview with Twangiza Mining General Director, Twangiza, June 6th 2017.

²³² Banro consolidated financial statements 2012 to 2016; Interview with Twangiza Mining General Director, Twangiza, June 6th 2017.

acceptable business standards'.²³³ Specifically, the audit highlighted a number of key issues negatively affecting corporate performance: 'limited effort and results in ensuring process effectiveness; significant inventory and procurement systems inadequacies; ...systems management, ownership and required structures do not exist or inadequate; significant...manipulation risk; no...resolution or optimisation management; ...project structure and ownership appears ineffective, [and]; systems alignment with business processes poor'.²³⁴ According to both Twangiza Mining's General Director and John Clarke, Banro's CEO from 2013 to 2018, overspend on the Namoya construction combined with the gold price collapse led the corporation into financial difficulties (from which, as will be shown below, Banro had yet to emerge as of early 2019).²³⁵ Yet the 2012 external audit, alongside interviews with former procurement employees highlighted in the previous chapter,²³⁶ suggest this situation was exacerbated by a generalised degree of internal mismanagement and corporate inefficiency.

Figure 7.1 Annual average gold price per ounce, 2012 to 2017 (in USD)



Source: World Gold Council. www.gold.org/research/download-the-gold-price-since-1978, accessed November 24th 2017.

Needing to raise an additional \$150 million to finance the Namoya construction, but with a market capitalisation on the TSE of \$80 million, Banro had to find this financing elsewhere. This forced the corporation, according to Twangiza Mining's General Director, 'to take a number of short-term loans that came at a premium'.²³⁷ These included, in 2013, \$15 million each from the Congolese bank Rawbank and the Nigerian bank Ecobank at interest rates of nine percent and 8.5 percent respectively, and an additional \$53 million from several other unspecified lenders.²³⁸ A year

²³³ Twangiza Mining External Audit Report, Nubian Africa, 2012.

²³⁴ Idem.

²³⁵ Interview with Twangiza Mining General Director, Twangiza, June 6th 2017; Interview with former Banro CEO John Clarke, UK, October 26th 2017.

²³⁶ To recall one example, a former Twangiza Mining procurement manager noted that in 2012, the mine's exclusive suppliers were as much as 150 per cent more expensive than alternative options.

²³⁷ Interview with Twangiza Mining General Director, Twangiza, June 6th 2017.

²³⁸ Banro Annual Information Form 2013; Banro Press Releases 2013.

earlier, in 2012, Banro also sold a bond of 175,000 units at \$1,000 per unit for total gross proceeds of \$175 million, with a 10 percent interest rate and maturing (as would later prove critical) in 2017.

It was at this juncture that Banro’s financial health began to deteriorate. The corporation’s long-term debt increased from zero in 2011 to \$159 million in 2013, and from 2013 onwards Banro entered a year-on-year negative working capital position (Table 7.6).²³⁹ Requiring further financing to meet its new debt obligations, from 2014 onwards, Banro entered a number of gold forward sale and gold streaming transactions (Table 7.7).²⁴⁰ In 2014 and 2015, Banro completed four forward sale transactions with Gold Holding in the UAE, the American private equity fund Gramercy and two undisclosed investors. Over a four-year period, these agreements committed Banro to deliver 102,985 ounces of Twangiza’s gold production – worth around \$125 million at the time²⁴¹ – in return for \$98 million of investment. This represented not only a potential undervaluation of around one quarter of Twangiza’s production during this period, but also meant that the mine forewent this future revenue in return for current investment.

Table 7.6 Banro financial overview, 2006 to 2016 (in millions of USD)

Year	Revenue	Net Income	Long-Term Debt	Working Capital
2006	0	-3	0	50
2007	0	-4	0	26
2008	0	-8	0	-2
2009	0	-5	0	69
2010	0	-3	0	68
2011	0	-9	0	-27
2012	43	-5	155	4
2013	112	2	159	-73
2014	125	0	201	-68
2015	157	-74	168	-80
2016	228	-51	206	-

Sources: Banro Consolidated Financial Statements, 2007 to 2016; Morning Star investor website, www.morningstar.com/, accessed March 28th 2017.

In 2015 and 2016, Banro completed streaming transactions with Gramercy for the Namoya mine and with the Chinese Baiyin Nonferrous Group (hereafter, Baiyin) for the Twangiza mine. This second transaction committed Banro to deliver to Baiyin 11 percent of Twangiza’s life-of-mine production at \$150 per ounce in return for \$67.5 million of investment, with the percentage

²³⁹ Long-term debt consists of any loans or other financial obligations that require repayment over the course of more than one year. Working capital is calculated by subtracting a firm’s current liabilities (debts and other obligations) from its current assets. It’s used as an indication of a firm’s short and medium-term financial health, with a high level of working capital correlated with strong financial health (through, for example, the ability to reinvest in productive activity).

²⁴⁰ Gold forward sale transactions provide the investor an agreed amount of gold delivered over an agreed timeframe. Gold streaming transactions secure the investor an agreed percentage of the life-of-mine production at an agreed cost.

²⁴¹ World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed November 24th 2017.

delivered to halve when total production at Twangiza reached 1.14 million ounces, which was approximately eight years away at the time the agreement was made. Assuming that Twangiza produces 100,000 ounces of gold annually during each of those intervening eight years, as per current levels, this will secure Baiyin 88,000 ounces of gold – worth around \$110 million at the time²⁴² – at a cost of \$80.7 million (the initial \$67.5 million investment plus the additional \$13.2 million paid for the gold, at \$150 per ounce), plus 5.5 percent of life-of-mine production beyond this point. In 2016 and 2017, Banro’s forward selling agreements related to the Twangiza mine meant Banro received almost no revenue for more than one-third of the mine’s production. By 2017, Gramercy, Baiyan and BlackRock had emerged as Banro’s three largest institutional investors (Figure 7.2).

Table 7.7 Banro’s forward sale and streaming transactions, 2014 to 2017

Year	Transaction	Investor	Value (\$)	Return
2014	Forward sale	Gold Holding (UAE)	41 million	40,500 ounces from Twangiza (4 years)
2015	Streaming	Gramercy (US)	50 million	8.3% from Namoya at \$150/ounce (life-of-mine)
	Forward sale	Gramercy (US)	40 million	44,496 ounces from Twangiza (3 years)
	Forward sale	Undisclosed	10 million	9,508 ounces from Twangiza (2 years)
	Forward sale	Undisclosed	7 million	8,481 ounces from Twangiza (33 months)
2016	Streaming	Baiyin (China)	67.5 million	11% from Twangiza at \$150/ounce (life-of-mine)
2017	Forward sale	Undisclosed	45 million	51,880 ounces from Namoya (3 years)

Sources: Banro Annual Information Forms 2014-2016; Banro Press Releases 2014-2017; Banro Material Change Report, March 2016.

Banro’s own assessment of its financial structure, given in its 2016 Annual Information Form, highlights the extent of the constraints placed on corporate performance by the loans and borrowing arrangements it had entered into to respond to overspend and the gold price collapse, and is worth citing at length:

The Company has a significant amount of indebtedness and other liabilities and obligations (collectively, “Obligations”), including the notes (the “2012 Notes”) issued by the Company in March 2012 under a US\$175 million debt financing, gold delivery obligations under forward sale and stream transactions, trade payables, DRC bank debt, and preference shares and preferred shares issued by the Company and certain of its subsidiaries, respectively. This could have important adverse consequences, including: limiting the Company’s ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or other general corporate requirements; requiring a substantial portion of the Company’s cash flows to be dedicated to service these Obligations instead of other purposes, thereby reducing the amount of cash flows available for working capital, capital expenditures, acquisitions and other general corporate purposes; increasing the Company’s vulnerability to general adverse economic and industry conditions; limiting the Company’s flexibility in planning for and reacting to changes in the industry in which it competes; placing the Company at a disadvantage compared to other, less leveraged competitors; and increasing the cost of borrowing.

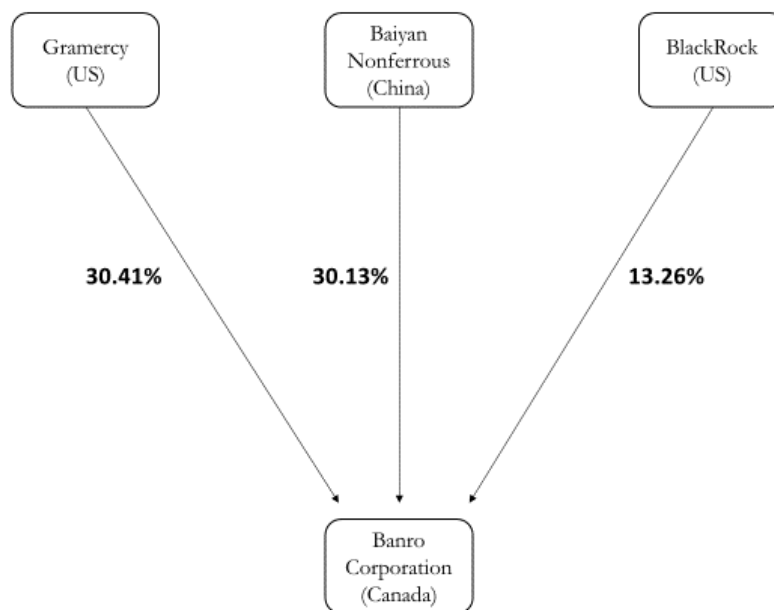
Certain financing agreements the Company is a party to, including the Note Indenture, contain a number of restrictive covenants that impose significant operating and financial restrictions on the Company and

²⁴² World Gold Council price data from www.gold.org/research/download-the-gold-price-since-1978, accessed November 24th 2017.

may limit the Company’s ability to engage in acts that may be in its long-term best interest, including restrictions on the Company’s ability to: incur additional indebtedness; pay dividends or make other distributions or repurchase or redeem capital stock; prepay, redeem or repurchase certain debt; make loans and investments; sell assets; incur liens; enter into transactions with affiliates; alter the businesses it conducts; enter into agreements restricting its subsidiaries’ ability to pay dividends; and consolidate, amalgamate, merge or sell all or substantially all of its assets.... As a result of these restrictions, Banro may be: limited in how it conducts its business; unable to raise additional debt or equity financing to operate during general economic or business downturns; or unable to compete effectively or to take advantage of new business opportunities. These restrictions may affect the Company’s ability to grow in accordance with its strategy (Banro Corporation 2016: 20-21).

This forecast warning was to prove prescient. In March 2017, the repayments on the \$175 million of debt financing taken in 2012 became due. That same year, a series of local-level armed attacks on the Namoya mine disrupted production. In March, an armed attack was launched, following which two Congolese, one Tanzanian and one Frenchman were kidnapped. While all were eventually released unharmed, continued attacks on the mine and convoys from May through to September led to the deaths of military and police personnel and the suspension of production on three separate occasions.²⁴³

Figure 7.2 Banro’s major institutional investors, 2017



Sources: Banro Annual Information Forms 1999-2016; Banro Press Releases 1998-2017; Banro Material Change Report, March 2016.

While the context behind and implications of these attacks is considered in more detail in Chapter 9, the lost revenue to Banro resulting from the enforced production suspensions provided a short-term trigger that drove Banro, on the brink of bankruptcy, to enter Canadian government creditor protection in December 2017. Banro emerged from creditor protection in March 2018, as a major

²⁴³ Banro press statements, 2017.

financial restructuring plan saw securities exchanged for equity, the deferment of forward sale and streaming transactions, and common shareholders wiped out as the corporation was delisted from the TSE.²⁴⁴ The newly-appointed CEO, Brett Richards, visited Twangiza and Namoya in July 2018, confirming an 18-month programme was in place to ensure Banro's full recovery.²⁴⁵ To implement this programme, Richards removed around 30 senior directors and managers and replaced them with people within his own professional network.²⁴⁶

To summarise, while local attacks provided the short-term catalyst, three longer-term factors drove Banro into creditor protection in 2017. First, corporate systems and processes that, to refer once more to the 2012 external audit report, were 'not in line with business expectations or professional standards'.²⁴⁷ Second, significant overspend on the construction of the Namoya mine. Third, a gold price collapse starting in 2012, just after Banro had begun construction at Namoya. The first two factors can be equated to a general level of corporate mismanagement and inefficiency, and the third to exposure to severe price volatility. Together, these factors pushed Banro into increasing indebtedness, with its long-term debt rising from zero in 2011 to \$206 million by 2016. Unable to meet its obligations to lenders and investors as the gold price continued to stagnate, Banro had no choice but to seek Canadian government support in 2017. As shown in the next section, Banro's descent was further exacerbated by underlying mechanisms of surplus extraction to primarily Northern centres of financial wealth.

7.3 Centripetal Forces

From the 1990s, the TSE in Canada became the major home of the global mining industry, in particular of junior companies focusing on exploration. In 2003, 53 percent of mineral exploration companies in Africa were Canadian (Deneault et al. 2008: 164), with Banro – first registered on the Toronto market in 1996 – among them. In 2007, 60 percent of the world's mining companies were listed in Toronto, twice as many as the five major competing stock exchanges combined (Ibid.: 163). According to Kennes (2005: 159), they were attracted by a favourable investment climate, minimal government regulation and reporting obligations, and a well-developed industry of financial services.

In Banro's case, this included Canadian government seed funding for junior exploration activities. In 2005, the Canadian government announced the launch of the Canada Investment Fund for Africa (CIFA), jointly managed by the emerging market private equity investors Actis and Cordiant, to provide risk capital to Canadian corporations operating in Africa. At the time Paul

²⁴⁴ 'Banro Announces Intention to Proceed with Recapitalization Plan' and 'Banro Announces Effectiveness of its Recapitalization Plan', Banro press releases, March and May 2018. sedar.com, accessed July 24th 2018.

²⁴⁵ 'Brett Richards's plan to save Banro', Africa Intelligence, July 24th 2018. www.africaintelligence.com/AMA/businessmen/2018/07/24/brett-richards-s-plan-to-save-banro,108318147-GRA?utm_source=AIA&utm_medium=email&utm_campaign=AUTO_EDIT_VEI, accessed July 24th 2018.

²⁴⁶ 'Banro Corp brings in elite unit to shake off troubles', Africa Intelligence, October 23rd 2018. www.africaintelligence.com/ama/exploration--production/2018/10/23/banro-corp-brings-in-elite-unit-to-shake-off-troubles,108329108-art?utm_source=AIA&utm_medium=email&utm_campaign=AUTO_EDIT_VEI, accessed October 25th 2018.

²⁴⁷ Twangiza Mining External Audit Report, Nubian Africa, 2012.

Fletcher, then Senior Managing Partner of Actis, said ‘this is a great day for the private sector in Africa, as the money we will invest will create sustainable long-term businesses in Africa’.²⁴⁸ In November 2005, CIFA announced a 13 million Canadian dollar investment to support Banro’s exploration activities in the DRC, with the head of Actis’ mining investments declaring ‘not only do we believe that Banro has extremely attractive commercial prospects, but through this investment we can make a significant contribution to the long term development of the mining industry in the DRC’.²⁴⁹ On closing in 2006, CIFA had provided \$212 million of risk capital to predominantly mining but also other activities across the continent.²⁵⁰

While Banro raised some initial finance from the Canadian government, as discussed in the previous section, a significant part of Banro’s money in its early years was raised by the issuance and sale of common shares, with the corporation raising 19.5 million Canadian dollars on the TSE in 1996 to finance the initial acquisition of SOMINKI’s gold assets. Raising capital to finance its exploration activities through the sale of shares was the corporation’s main strategy over the next decade (a detailed overview of Banro’s financing history from 1996 to 2018 can be found in Appendix F, from which much of the following derives). Between 1996 and 2016, Banro issued around 300 million Canadian dollars and 100 million US dollars in shares.²⁵¹ Twangiza Mining’s General Director noted that most of the initial shares were purchased by Banro’s founding directors.²⁵² There is some evidence to support this. By 2003, for example, Banro’s Executive Vice President and co-founder, Arnold Kondrat, controlled 11.6 percent of the corporation’s issued and outstanding shares.

Including Kondrat, and primarily through exercising their own shares in the company, a small group of 17 company directors have amassed considerable wealth from Banro. Domiciled predominantly in Canada, South Africa and the UK (including one Congolese-Canadian based in Ontario), this group accrued at least \$54.6 million in salaries, exercised shares, fees, incentives and bonuses over the 20-year period from 1997 to 2016, including \$36.6 million before production began. From 2002 to 2016, this equated to average annual director earnings of between \$400,000 and \$530,000 (Table 7.8).²⁵³ The real earnings are likely considerably higher, as not all the converted share options are accounted for (given the beneficiaries of options are under no reporting obligation when they exercise them), and this figure is likely a multiple of the \$54.6 million identified, given Banro’s stock peaked at around \$14 per share in 2007, from \$0.5 per share in 2001.

Three observations from this data stand out. First, the exercised share options that were identified from corporate filings totalled \$19 million of pay-outs covering a ten-year period before Banro produced its first gold bar. Second, \$30.2 million of the total \$54.6 million (more than half) accrued

²⁴⁸ Cordiant, ‘US \$162 million Canada Investment Fund for Africa Launched’, no date. cordiantcap.com/press_release/us162-million-canada-investment-fund-for-africa-launched/, accessed July 5th 2018.

²⁴⁹ CIFA press release, ‘Actis and Cordiant make their first investment in Democratic Republic of the Congo’, November 7th 2005.

²⁵⁰ CIFA press release, ‘Final closing of US\$212 million Canada Investment Fund for Africa’, July 28th 2006.

²⁵¹ Banro press releases, 2013 to 2017.

²⁵² Interview with Twangiza Mining General Director, Twangiza, June 6th 2017.

²⁵³ I am grateful to Enrico Carisch for sharing his dataset with me on this same issue.

to just two directors, co-founder Arnold Kondrat (\$16.5 million) and former CEO and Chairman of the Board of Directors, Simon Village (\$13.7 million). Third, and perhaps most crucially, the financial difficulties Banro entered into from 2012 onwards had no meaningful impact on the level of compensation accruing to the corporation's senior directors.

Table 7.8 Banro senior director compensation, 1997 to 2016 (in USD)

Five-Year Period	Number of Directors	Wages	Identified Shares Exercised	Fees, Incentives & Bonuses	TOTAL	Average Annual Compensation per Director
1997-2001	4	967,945	0	497,092	1,465,037	73,252
2002-2006	7	2,570,320	10,577,781	894,786	14,042,887	401,225
2007-2011	8	6,533,812	8,411,646	6,121,362	21,066,820	526,671
Pre-Production Subtotal	-	10,072,077	18,989,427	7,513,240	36,574,744	-
2012-2016	9	10,234,251	0	7,820,794	18,055,045	401,223
Post-Production Subtotal	-	10,234,251	0	7,820,794	18,055,045	-
TOTAL	-	30,378,405	37,978,854	22,847,274	54,629,789	-

Sources: Banro Management Information Circulars, 2004 to 2016; Enrico Carisch's personal dataset.

The potential for gold corporation directors to accumulate significant wealth through the short-term performance of their firm's shares is a relatively recent phenomenon. From the end of the direct convertibility of US dollars into gold in 1971 through to the 2000s, trade in gold has increased to the point where today, gold 'has become as easy to trade as it is to trade any stock or share' (Shafiee and Topal 2010: 180). In the case of Banro, and as noted in the previous section, the short-term financial value of the shares owned in the corporation by its directors appeared to eventually outweigh long-term investment in productive capacity, with the decision to construct Namoya to (according to the Twangiza General Director) further drive the share price proving a key factor in the decline of Banro's corporate performance.

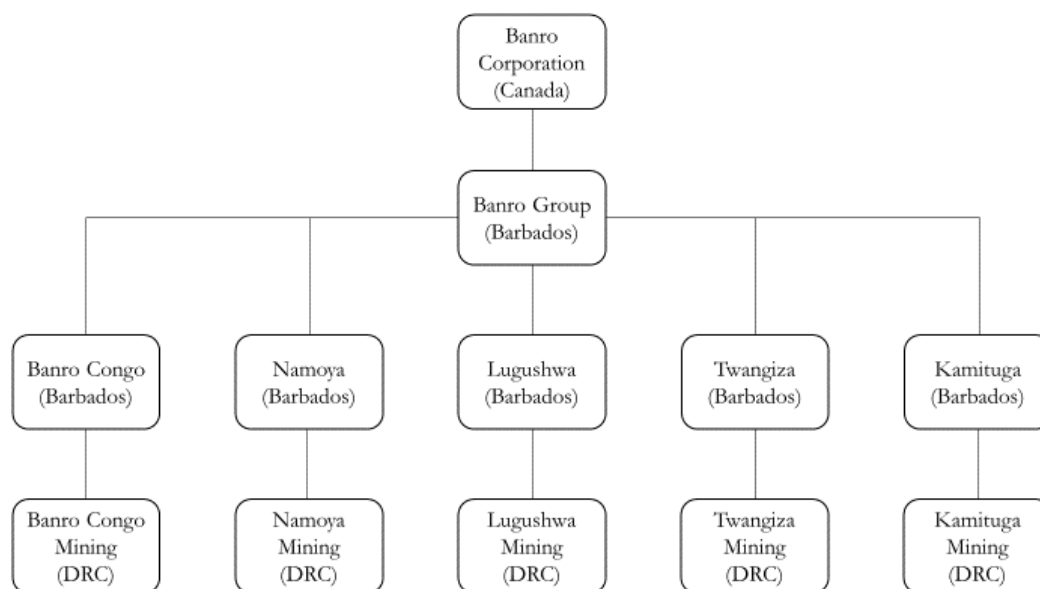
In addition to director compensation, Banro's corporate structure, within which its DRC-based subsidiaries are run through holding subsidiaries in Barbados (Figure 7.3), redirects further value to its shareholders. According to the Barbados International Business Association:

Investment by Canadian companies looking to avoid paying Canadian tax on income derived from foreign earnings has grown from \$500 million in 1987 to \$51.7 billion [in 2010]. Nearly nine percent of Canadian direct investment abroad is done in Barbados. Canadian subsidiaries, which include a large number of mining, oil-and-gas and financial services companies, account for one-third of the 3,750 corporate structures set up there.... Barbados' 2.5 percent corporate tax rate has been a key attraction to Canadian investors since Canada signed its own double taxation treaty with the country in 1987. Under the treaty, Canadian companies can set up a subsidiary in Barbados to conduct international business. If the company has five employees in Barbados and maintains a management presence there, it can repatriate profits without paying Canadian tax. The practice of investing in low-tax jurisdictions

remains controversial. About a fifth of Canada’s foreign direct investment moves through low-tax jurisdictions, of which Barbados is the biggest recipient.²⁵⁴

In December 2013, Banro began making shareholder dividend payments out of Banro Group in Barbados, and continued to do so on a regular basis up until the end of 2017.²⁵⁵

Figure 7.3 Banro’s corporate structure



Source: Banro Corporation, Annual Information Form, March 2016.

Thus, a few senior directors made tens of millions upfront before production began, and both senior directors and shareholders continued to extract value from 2012 onwards, despite the increasing financial difficulties Banro began to face during this period. In this sense, senior director compensation and shareholder pay-outs exacerbated Banro’s corporate inefficiency and exposure to price volatility, further hastening the downward financial spiral which eventually led the corporation to enter creditor protection in late 2017.

One effect of these dynamics was to further squeeze the value accruing to Congolese firms and suppliers, themselves already incorporated in generally low value-added activities within Banro’s global chain, as discussed in the previous chapter. In June 2017, Twangiza Mining’s Finance Manager reported that the subsidiary had around \$18 million of unpaid debts to subcontractors and suppliers. He added that domestic firms and entrepreneurs had been disproportionately negatively affected, as unlike their foreign counterparts they don’t have the personal connections to be on the phone daily to Banro’s CEO, board members or senior management demanding payment.²⁵⁶ A former Twangiza Mining procurement officer expressed the same sentiment.²⁵⁷

²⁵⁴ ‘Barbados Touts its Low-Tax, Offshore Advantage’, Barbados International Business Association, July 28th 2011. biba.bb/barbados-touts-its-low-tax-offshore-advantage/, accessed July 3rd 2018.

²⁵⁵ Banro press releases, 2013 to 2017.

²⁵⁶ Interview with Twangiza Mining Financial Manager, Twangiza, June 8th 2017.

²⁵⁷ Interview with former Twangiza Mining procurement officer, Kinshasa, January 13th 2017.

Conversations and interviews with Twangiza Mining's suppliers and subcontractors indicated that initially there were no problems with repayments, but that difficulties arose from 2013 onwards, shortly after the beginning of the gold price collapse and around the time that the Namoya construction began to run into significant overspend. In many cases, the subsidiary would miss two to three repayments, and then begin paying off a small percentage of the first missed repayment. When trying to insist upon the payment of the money owed to them, suppliers and subcontractors would be told by Banro staff in the DRC that 'we're waiting on Toronto'.²⁵⁸ One of the foreign firm subcontractors was able to meet with one of Banro's senior directors in 2015, and was told that once Banro had undergone debt restructuring it would have more working capital and would be able to pay off its subcontractor and supplier debts.²⁵⁹ By mid-2017, however, many of the debts to domestic actors remained unpaid.

All four major Congolese suppliers reported unpaid debts owed by Twangiza Mining of \$2,000, \$15,000, \$110,000 and around \$500,000 respectively.²⁶⁰ Congolese subcontractors reported the same problem, which in one instance forced the withdrawal of a domestic firm from the value chain. Initially, the Congolese firm GINKI Petroleum International (hereafter, GINKI) was Twangiza's main fuel supplier. By 2014, Banro had accumulated a debt of \$2.4 million towards GINKI, at which point the firm withdrew from the contract as the risk of accumulating more debt was considered too high. In 2017, Banro still owed GINKI around \$670,000, while the Malaysian TNC Engen – with far greater liquidity to absorb such debts – won the subcontract in 2015.²⁶¹ According to one of GINKI's directors, 'Banro has a colossal Congolese debt. There isn't one Congolese operator it has engaged with that it doesn't owe money to...we were doing better when they weren't here'.²⁶² The same director also indicated that GINKI was continuing to negotiate full repayment.

Foreign firms were also affected, with the catering subcontractor ATS reporting it was owed three to four months of costs amounting to around \$900,000 to \$1.2 million.²⁶³ To manage the risk of these debts, the catering subsidiary had postponed payments to its local suppliers at Luhwindja, with the *Cooperative des Eleveurs de Luhwindja* reporting \$54,000 of unpaid meat deliveries.²⁶⁴ Another former local supplier in Luhwindja, supplying foodstuffs such as eggs, bananas and peanuts sourced from across the region, withdrew from his position in Banro's chain in early 2016, as he could no longer afford to keep pre-financing his orders in the face of late repayments.²⁶⁵

To summarise, mechanisms of surplus extraction in the form of senior director compensation and shareholder pay-outs have directed financial flows outside of the DRC, exacerbating Banro's financial difficulties, highlighted in the first section as resulting from corporate inefficiency and a failure to control costs when confronted with price volatility. This, in turn, squeezed value out of

²⁵⁸ Interview with Twangiza Mining supplier, Bukavu, January 31st 2017.

²⁵⁹ Interview with Simba Logistics DRC director, Bukavu, February 22nd 2017.

²⁶⁰ Interviews with multiple domestic suppliers, Bukavu, January to April 2017.

²⁶¹ GINKI financial archives; Interviews with GINKI director, Bukavu, April and May 2017.

²⁶² Interview with GINKI director, Bukavu, February 14th 2017.

²⁶³ Survey interview with ATS manager, Bukavu, June 17th 2017.

²⁶⁴ Interview with local farmers' cooperative president, Luhwindja, February 7th 2017.

²⁶⁵ Conversation with former ATS supplier, Luhwindja, November 30th 2016.

Congolese firms and suppliers, already clustered around low-productivity activities within Banro's chain. This recalls the phenomenon of financialisation referenced in the opening chapter whereby, according to Fine (2008), new processes of surplus extraction from the periphery to financial centres can exert downwards pressure on TNC profits, which is in turn alleviated by squeezing the value accruing to actors in the periphery, such as domestic firms. Yet while some of the financial techniques might be new, such as gold forward sale and streaming transactions, the mechanisms of centre-periphery surplus value extraction appear relatively traditional and well established, insofar as Best and Polanyi Levitt (2009) have argued the predominance of the sphere of financial circulation over the process of production can be dated as far back as the colonial Caribbean plantation economy in the seventeenth century (cf. Fischer 2019).

To conclude, the evidence presented in this chapter began by demonstrating the Congolese state's low capture of the end value generated by Banro, and considering the financial techniques of overreporting investment, underreporting production value, and controlling intra-company loans and transfers that might be artificially manipulating Banro's recorded profits in the DRC. It then provided a more fundamental critique of the assumption underpinning the African Minerals Consensus that modern corporations will be more efficient and effective at leading mining industrialisation than the forms of state-led developmentalism that preceded them.

Contrary to these expectations, the evidence indicates the presence of corporate mismanagement and inefficiency at the heart of Banro's operations, which in turn contributed to a failure to control costs following the gold price crash. The intervention of the Canadian government was eventually required to save Banro from bankruptcy (the same Canadian government which, to recall the words of Paul Fletcher from above, had invested in Banro twelve years earlier as part of an effort to 'create sustainable long-term businesses in Africa'). The speed of Banro's financial deterioration was hastened by underlying mechanisms of surplus extraction, the most important of which appears to have been senior director compensation, which continued apace even as Banro was increasing its indebtedness and the noose of bankruptcy began to tighten. This is little different in nature and effect to the forms of rent-seeking for which African states and SOEs were so heavily criticised following the failure of state-led developmentalism in the 1960s and 1970s, but in this instance flowing to the managers of Banro, a private corporation.

In light of all of this, it is difficult to imagine a scenario whereby Banro will be in a position to pay what in 2022 will become a 30 percent Congolese profit tax (assuming it survives that long), let alone the current four percent rate it renegotiated with the Congolese government in 2010. With a productive and financial structure that is deeply disconnected from the Congolese economy and strongly oriented towards (predominantly Northern) industrial and financial centres, Banro appears to have very little capacity to contribute to domestic capital accumulation and structural transformation in the DRC, as envisaged by AMC proponents. Yet might the corporation at least, as also envisaged by consensus proponents, raise wages and contribute to improved living standards locally? Alas, reality here appears to fall similarly short of expectations. As the next chapter discusses, wages for workers at the lowest strata of Twangiza's labour regime have been lower than or comparable to those earned in the informal economy, and most of the value accruing to labour at the mine has been captured by a narrow and generally externally-oriented managerial class.

8. Local Labour Marginalisation and Fragmentation

The previous two chapters have highlighted the high level of polarisation and degree of disarticulation between Banro's industrial and financial structure and the Congolese economy, alongside a demonstration of the corporation's inefficiencies. The present chapter centres attention on Twangiza's labour regime. If AMC proponents are to be believed, mining (re)industrialisation, by virtue of the productivity gains it will deliver, can compensate for low labour absorption by delivering higher wages, the expenditure of which can drive rising local wages and economic development. The main purpose of this chapter is to unveil the fallacy of this line of thinking, by demonstrating that despite delivering a 25-fold increase in productivity compared to Kadumwa, Banro's arrival in South Kivu has been associated with low wages to local workers and an expansion of labour informality. At Twangiza, wages have been comparable to the informal artisanal sector, and a narrow and predominantly externally-oriented managerial class has been the main beneficiary of the increased wage polarisation and inequality induced by Banro's arrival. This echoes findings from elsewhere in the global South, concerning the 'adverse incorporation' of workers at the bottom of global value chains (cf. Du Toit 2004; Newsome et al. 2015; Meagher 2016).

The chapter's original contribution is to empirically deconstruct the AMC position, best captured by the industry-funded World Gold Council (2011: 21) report cited in the opening chapter, that TNC-led industrial gold mining pays its workers 'significantly more than typical local wages'. The data behind the World Gold Council's claim (which cited the differential between industrial gold mining wages and 'typical local wages' in the global South as being up to seven times greater for the lowest level industrial workers) was provided by the consultancy firm Maxwell Stamp, 'based on company sustainability reports' (Ibid.). Critically, however, corporate reports (and the industry literature more broadly) generally leave out a consideration of ASM when making such claims. Rio Tinto's (2018: 7) latest sustainability report, for example, notes that 'our business is often the major source of jobs and livelihoods, and sometimes, one of few avenues to opportunity'. In the 100-page report, the corporation's impact on ASM is not discussed. Similarly, a report by the industry-funded International Council on Mining and Metals (2016: 39) found industrial mining jobs to be better paid than available alternatives, but noted that 'ASM is not included in the analysis as reliable estimates for employment in ASM do not exist'.

This chapter incorporates precisely such a consideration of the ASM sector, and draws on a wider range of primary and secondary data to demonstrate how, on the contrary, the lowest paid mine workers at Twangiza earn equivalent or even inferior wages to those earned in the informal artisanal economy (as foregrounded in Chapter 4). The data used to advance this argument include: archival material and company documentation; a subcontractor survey; a labour survey; conversations and individual and group interviews; life history interviews, and; direct observation from time spent on-site at Twangiza and in Luhwindja.

The chapter also advances an original contribution to the GVC literature reviewed in the opening chapter. By highlighting the negative effects of corporate outsourcing on the strength of workers vis-à-vis their managers through organisational fragmentation (the division of workers into different organisational structures), a tension inherent in this practice is revealed; while it might

contribute to industrialisation (although, as discussed in Chapter 6, this does not appear to be the case with Banro), it might also weaken the position of labour within the industry. GVC enthusiasts for TNC-led mining (re)industrialisation in the African periphery are unable to speak to this tension, as a consideration of labour is absent from their analytical framework. The finding itself, however, is not new, but rather confirms the earlier findings of Bezuidenhout and Buhlungu (2011) and Bolt and Rajak (2016) in South Africa and Manky (2018: 123) in Peru, that high levels of organisational fragmentation hamper the ability of industrial mining workers to organise and agitate for improved conditions.

The chapter is structured in four sections. The first section establishes that the wages of most of Twangiza's workers are comparable to or less than those earned by workers in the informal artisanal economy. It then highlights that Banro's arrival has accentuated wage inequality compared to historical formal and existing informal levels, with the main recipients of this increased wage polarisation a relatively narrow managerial class. In addition, since at least 2012, and related at least in part to Banro's financial precarity observed in the previous chapter, worker wages have been stagnant, declining in real terms. This is similar to the situation described during the twentieth century in Chapter 3, where from at least the 1980s onwards (if not earlier), worker wages at SOMINKI were below those found in the informal mining economy and were stagnant, declining significantly in real terms during the 1990s.

The second section considers change and continuity in the social structures influencing labour mobilisation and organisation at Twangiza. While the same structures prevalent at Kadumwa retain influence (namely, ethnicity, kinship and territorial origin), they interact at Twangiza to exclude (rather than to include) local inhabitants from the middle and upper strata of the labour hierarchy, while only those with connections to local political elites manage to access the lowest strata of the mine's labour regime. The third section shows how, in addition to the marginalisation of local workers within the regime, the organisational fragmentation of labour has weakened the collective strength and power of workers to counteract their marginality.

The fourth and final section assesses the differentiated consumption and investment patterns of workers and managers at the mine, to consider the possible effects of Banro's arrival on broader processes of accumulation and structural transformation. As was observed at Kadumwa, most workers at Twangiza reported little left over from their wages to save or invest once their basic subsistence needs had been met. While the savings and investment patterns of some Congolese managers demonstrated signs of increasing productivity and capital accumulation, the small size of this class limits the potentially transformative impact of this dynamic. Meanwhile, most of the wages accruing to Twangiza's narrow managerial class have been consumed and invested overseas.

8.1 The Informal Logics of Formal Sector Wage Setting

Determining the share of end value accruing to workers and managers at Twangiza, and the distribution of this value between different groups, is a slightly more straightforward task than at Kadumwa, due to the availability of corporate documentation on employee categories and

wages.²⁶⁶ For the exercise, employment at the mine was divided into three main categories: hired labour, subcontractor workers, and Twangiza Mining employees.²⁶⁷ For Twangiza Mining, employment was further subdivided according to the data recorded in the subsidiary's 2013 financial accounts, which classifies employees into unskilled workers, skilled workers, supervisors, managers and directors (who are senior level employees, not owners). Following this classification, employment among hired labour and subcontractor workers was also further subdivided into workers, supervisors, managers and directors.

At the aggregate level, the productivity gains induced by the arrival of Banro in South Kivu's gold mining economy have significantly altered the share of value accruing to workers and managers (Table 8.1). In 1984, 51 percent of SOMINKI's end value accrued to workers, and at Kadumwa this share increases to around 80 percent. At Twangiza, however, the equivalent figure (as will be detailed below) is just 11.5 percent, speaking again to the significantly greater capital intensity of production at Twangiza compared to both SOMINKI and Kadumwa. Yet as the data in the table below shows, when making the figures comparable through adjustment based on the average 2017 gold price, the absolute value captured per unit of worker and manager at Twangiza is greater than the equivalent value at SOMINKI and Kadumwa (by a factor of two and four respectively). Based on this observation, AMC proponents would likely counter that while the share of end value accruing to workers and managers at Twangiza has decreased, this is simply a function of increased productivity, which itself has in fact raised overall wage levels for Congolese. However, a closer look at the distribution of wages at Twangiza complicates this position.

Table 8.1 Value capture by labour (in USD, based on average 2017 gold price)

Site	Total Value Created	Units of Workers & Managers	Total Value Captured by Labour	Value Captured per Unit	Share of Total Value to Labour (%)
SOMINKI	17,602,039	2,100	8,959,438	4,266	50.9
Kadumwa	2,341,772	762	1,874,280	2,460	80.0
Twangiza	103,668,128	1,366	11,921,835	8,727	11.5

Source: Author data presented below and in Chapters 3 and 4.

Considering the total annual value of \$114.7 million created by Twangiza in 2013, an estimated \$13.1 million of the site's end value was captured by workers and managers (Table 8.2; the detailed calculations for arriving at the data presented in this table can be found in Appendix G). Considering the distribution of wages between different groups, 51 percent is captured by a managerial class of supervisors, managers and directors, representing 16 percent of employment at the mine, while 29 percent is captured by workers, representing 84 percent of employment. The remaining 20 percent is captured by the Congolese state via taxes.²⁶⁸ Foreign managers –

²⁶⁶ Obtained through the anonymous informant mentioned on page 32 of Chapter 1.

²⁶⁷ As will become clear as the chapter progresses, hired labour are informal day labourers working for local firms, subcontractor workers are working for firms subcontracted by Twangiza Mining to provide goods, services and activities to the mine, and Twangiza Mining employees are those directly contracted by the Canadian subsidiary.

²⁶⁸ All workers and managers across all categories were paid their wages via bank transfer. Congolese employee payslips confirmed that taxes are claimed directly out of their wages by the Congolese state, with the remainder transferred to their personal accounts.

representing just five percent of employment and one-third of the managerial class – capture 34 percent of the total value accruing to workers and managers at the mine and two-thirds of the value accruing to managers (this is returned to later on in the chapter).

Table 8.2 Twangiza net wage distribution, 2013

Category	Group			Units of Workers & Managers	Net Monthly Wage per Unit (\$)	Net Annual Wage per Unit (\$)	Total Annual (\$)	Distribution (%)
Workers	Hired Labour			323	154	1,851	597,970	3.6
	Subcontractor Workers			285	226	2,713	773,091	4.7
	Twangiza Mining	Unskilled	I	214	270	3,240	693,257	4.2
			II	24	360	4,325	103,789	0.6
		Skilled	III	128	511	6,135	785,328	4.8
			IV	42	614	7,369	309,500	1.9
V			133	930	11,165	1,484,978	9.0	
SUBTOTAL WORKERS				1,149	-	-	4,747,914	28.9
Congolese Managers	Hired Labour	Supervisors	12	330	3,960	47,520	0.3	
		Managers	3	543	6,510	19,530	0.1	
		Directors	3	2,025	24,300	72,900	0.4	
	Subcontractors	Supervisors	27	628	7,533	203,391	1.2	
		Managers	6	1,067	12,798	76,788	0.5	
		Directors	2	3,375	40,500	81,000	0.5	
	Twangiza Mining	Supervisors	72	1,308	15,696	1,130,132	6.9	
		Managers	20	3,907	46,879	937,575	5.7	
		Directors	1	16,284	195,403	195,403	1.2	
SUBTOTAL CONGOLESE MANAGERS				146	-	-	2,764,238	16.8
Foreign Managers	Subcontractors	Supervisors	8	709	8,505	68,040	0.4	
		Managers	9	1,383	16,590	149,310	0.9	
		Directors	6	4,375	52,500	315,000	1.9	
	Twangiza Mining	Supervisors	14	4,672	56,058	784,814	4.8	
		Managers	32	9,932	119,183	3,813,862	23.2	
		Directors	2	20,700	248,395	496,790	3.0	
SUBTOTAL FOREIGN MANAGERS				71	-	-	5,627,816	34.2
SUBTOTAL ALL MANAGERS				217	-	-	8,392,054	51.0
SUBTOTAL ALL WORKERS & MANAGERS							13,139,968	79.9
Taxes	INSS			-	-	-	328,499	2.0
	DGI			-	-	-	2,978,772	18.1
SUBTOTAL TAXES							3,307,272	20.1
TOTAL							16,447,240	100.0

Notes: The employment data in Twangiza Mining's financial accounts divides unskilled workers across categories I and II, and skilled workers across categories III, IV and V; Wage data includes overtime and allowances. On top of their base wage, workers and managers at Twangiza Mining receive lodging, transport, and child and spouse allowances, with managers also receiving a responsibility allowance. Overtime makes a significant difference to worker wages, often as much as doubling the base wage in the case of subcontractor workers.

Sources: Subcontractor survey; subcontractor manager and director interviews; Twangiza Mining 2013 financial accounts; labour survey; worker interviews and conversations; Twangiza Mining wage classification documentation.

For workers, the average hired labour monthly wage of \$154 is lower than the average artisanal shaft worker monthly wage at Kadumwa of \$163, estimated in Chapter 4. The lowest paid hired labour worker wage of \$110 – earned by 169 of the mine’s hired labourers in 2017 – is well below this artisanal level. This contradicts the World Gold Council’s (2011: 21) claim, cited above, that the lowest paid mine workers earn ‘on average 3.5 times more than the typical local wage, and may earn almost seven times more’. In addition, 822 of Twangiza’s 1,149 workers, or 72 percent, earn monthly wages of \$270 or less, which are broadly comparable to shaft worker wages, and none earn more than average shaft manager profits of \$1,674 (Table 8.3). While wages begin to significantly increase at the level of labour directly employed by Twangiza Mining (yet from which, as the next section discusses, most local people are excluded), the lowest strata of Banro’s wage scale are comparable to wages earned in the informal artisanal economy. This is despite the fact that, as observed in Chapter 6, the Twangiza mine is more productive than Kadumwa by a factor of 25.

Table 8.3 Kadumwa and Twangiza worker wages/profits distribution

Site	Group		Units of Workers & Managers	Net Monthly Wages / Profits per Unit (\$)	Net Annual Wages / Profits per Unit (\$)	
Kadumwa	Site Workers	Water Carriers	30	27	324	
		Ore Carriers	80	51	605	
		Ore Washers	80	58	691	
	Shaft Workers		528	163	1,956	
	Shaft Managers (Profits)		44	1,674	20,083	
Twangiza	Hired Labour		323	154	1,851	
	Subcontractor Workers		285	226	2,713	
	Twangiza Mining	Unskilled	I	214	270	3,240
			II	24	360	4,325
		Skilled	III	128	511	6,135
			IV	42	614	7,369
			V	133	930	11,165

Source: Data presented above.

Banro’s arrival has also influenced the level of wage inequality and the distribution of value across different groups of labour. The ratio between the highest and lowest paid worker has risen from 74:1 at SOMINKI in 1984 and 37:1 at Kadumwa in 2017, to 134:1 at Twangiza, or a staggering 796:1 if the highest paid Twangiza director (\$20,700 per month) is compared to the lowest paid worker at Kadumwa (\$27 per month, as estimated for water carriers in Chapter 4). The degree of wage inequality between Congolese groups also appears to have grown dramatically, from 21:1 at SOMINKI in 1984 to 106:1 at Twangiza.

In addition, the low worker wages have been stagnant and have recently declined in real terms. Comparing Twangiza Mining worker payroll data and worker payslips from 2012 with the subsidiary’s 2016 wage classification indicates wage levels to have remained unchanged over this five-year period across all groups, from unskilled workers to managers. Further, in 2010 the

subsidiary annulled the three percent annual wage increase agreed to in the DRC's interprofessional collective agreement to which the FEC and its partners (which included Banro) were signatories. At the time this decision was taken, there was no formal union at the company to resist or protest the change.

However, a union was eventually formed following a 2013 decree from the Congolese Labour Minister requiring all companies to hold union elections by June 2014.²⁶⁹ The newly-formed union worked to reinstate the annual raise in Twangiza Mining's inaugural collective agreement (that was being drafted in 2014), but was ultimately unsuccessful.²⁷⁰ The final agreement states only that 'the parties agree to an annual evaluation of the salary scale taking account of the cost of living'.²⁷¹ According to union delegates, this has not been respected and no increases have been accorded since they were last annulled in 2010. Indeed, there was no reference to wage increases in a 2017 worker contract template, provided by Twangiza Mining's Senior Human Resources Officer. Since at least 2012, then, wage scales at Twangiza Mining don't appear to have been adjusted nor wage increases given. In addition, data from the Congolese Central Bank indicates that the annual inflation rate from 2010 to 2017 was 7.5 percent.²⁷² Thus, over the last several years, the nominal value of Twangiza Mining worker wages has stagnated, and as a result of inflation the real value has decreased substantially.

While equivalent company documentation was not obtained for hired labour and subcontractor workers, conversations and interviews with this group suggest a similar experience. Both worker groups consistently reported the absence of wage increases, with some having worked at a particular company for five years or more on the same wage. In 2015, Rubuye workers wrote a signed letter to management requesting a wage increase but never received a response.²⁷³ When workers at SGS raised the same issue with their management, management refused to permit increases, pointing to the benefits workers enjoy such as on-site lodging and food.²⁷⁴ Security workers at G4S reported that when G4S arrived around 2015 to replace the British security TNC Erinys International, they experienced a wage decrease from \$250 per month to \$185 per month.

There are two primary factors to explain low and stagnant wages at Twangiza. First, Banro's incentive – especially from 2012 onwards – to compress the value of wages, as a significant cost component the corporation can control when faced with financial difficulties. Second, the downwards pressure on wages exerted by the shift in Luhwindja's labour supply from scarce to abundant, as observed elsewhere in Africa from around the 1980s onwards (cf. Arrighi 2002: 26). As noted in Chapter 3, at the beginning of the twentieth century, the Mwami of Luhwindja mobilised labour for the Belgian mining subsidiary MGL during a period of labour scarcity, often forcibly recruiting members of families with whom he was in conflict. Similarly, in the mid-twentieth century and up to as late as the 1980s, MGL and SOMINKI often noted the difficulty of mobilising local labour.

²⁶⁹ Circulate note No. 39/CAB/MIN/ETPS/MBL/NMC/pkg/2013 of July 24th 2013.

²⁷⁰ Conversations with Twangiza Mining union delegates, June and July 2017.

²⁷¹ Twangiza Mining Collective Agreement, Article 67. Author translation.

²⁷² Congolese Central Bank, Inflation Dataset, 1991-2017.

²⁷³ Interview with Rubuye worker, Luhwindja, October 7th 2016.

²⁷⁴ Interview with SGS manager, December 13th 2016.

Yet in the 2010s, the situation has reversed. As one manager at the Luhwindja office of a labour hire firm reflected:

There are days when ten people come to ask for work when we don't have any. We reply clearly that there's no work and it's of no use to insist. Unfortunately, they still insist. In any case there are a lot of people who come to ask. We even receive text messages. It's enough just to have heard there's a job available and you'll find even 100 people for the one job.²⁷⁵

This is a result primarily of demographic pressures, with Luhwindja's population density having increased from around 44 people per square kilometre at the beginning of the twentieth century to around 530 people per square kilometre in 2017 (or from 8,200 inhabitants to 97,080).²⁷⁶

To summarise, labour's share in the end value generated by gold mining at Twangiza has decreased significantly compared to both SOMINKI historically and Kadumwa in 2017, and most workers have not benefited, or have benefited only marginally, from the 25-fold increase in the productivity of gold mining induced by Banro's arrival. Wage inequality has increased, and while representing just five percent of total employment at Twangiza, foreign managers capture around 34 percent of total wages. In addition, workers' wages have been stagnant since at least 2012, declining in real terms. Compounding these distributional inequalities, and as the next section documents, while the social structures that determine labour mobilisation and organisation at Kadumwa continue to retain influence at Twangiza, the effect is inverted, with most locals – unlike at Kadumwa – excluded from access to the middle and upper strata of Twangiza's labour regime.

8.2 Social Structures of Inclusion and Exclusion

For the recruitment of unskilled workers at Twangiza Mining, the subsidiary's Senior Human Resources Officer explained that the company goes 'outside of normal human resource practices' by selecting workers from a list of names and CVs given to them by local collectivity-level state authorities.²⁷⁷ Labour hire firms are incorporated into the same practice. As one labour hire firm manager explained:

There is first a list that comes from the collectivities, all the neighbouring collectivities send their lists and then Banro's human resources department selects from these lists according to their needs...and afterwards, they send us the names of those retained, they recommend to us the people retained from the selection.²⁷⁸

There were five labour hire organisations subcontracted to Twangiza in 2017, three of which were private companies foregrounded previously (Cinamula, Diphil and Zuki). The remaining two were Assodec and Utralu, two non-profit organisations founded in 2013 and 2015 respectively. Together, the workers across these five organisations constituted around one third of all workers at the mine. Each organisation openly mobilised labour along the same social structures and

²⁷⁵ Interview with Diphil manager, Luhwindja, 2017 (exact date mislaid).

²⁷⁶ Luhwindja civil registry office data.

²⁷⁷ Interview with Twangiza Mining Senior Human Resources Officer, June 6th 2017.

²⁷⁸ Interview with Diphil manager, Luhwindja, 2017 (exact date mislaid).

identities identified as central to labour mobilisation at Kadumwa in Chapter 5, namely ethnicity, territorial origin and kinship. While priority across all three firms was initially given to artisanal miners displaced from Mbweza, Cinamula was founded by the Mwamikazi of Luhwindja and most of its workers were from Luhwindja, with some from neighbouring collectivities. All workers at Diphil were from Luhwindja or the neighbouring Bashi collectivities of Burinhyi and Kaziba.²⁷⁹ Zuki was founded by the Mwami of Burinhyi and all its workers were from the collectivity.²⁸⁰

Utralu was founded by the Mwami of Luhwindja, and following previous tensions around which of Luhwindja's nine groupings had been favoured in earlier recruitments, labour at Utralu was mobilised 'in the greatest transparency, considering the geopolitical equilibrium of all nine of Luhwindja's groupings'.²⁸¹ Each Grouping Head (nominated by the Mwami) provided a candidate list from which workers were selected, in accordance with population weighting between the groupings.²⁸² Lastly, access to labour at Assodec was reserved for those who were forcibly displaced from their homes and relocated to Cinjira in 2010, during the construction of the Twangiza mine (discussed in more detail in the next chapter).²⁸³ The two largest service provision subcontractors, G4S and ATS, used the same collectivity lists and worker recruitment logics as Twangiza Mining and labour hire firms, taking workers exclusively from Luhwindja and neighbouring collectivities.²⁸⁴ As a result of these labour mobilisation practices among the lower strata of Twangiza's workers, the vast majority of hired labour, subcontractor workers and unskilled Twangiza Mining workers were from Luhwindja or the surrounding collectivities. Of the 90 workers surveyed at these levels, only 11 were from outside of this local region; seven from other rural areas in South Kivu and four from Bukavu.

The insertion of these labour mobilisation logics has been forged over many years of negotiation through the Community Forum, founded and chaired by the Mwamikazi of Luhwindja (and which, as mentioned earlier, brings Banro representatives together with local government and community leaders). It can be traced back to a Memorandum of Understanding signed between Twangiza Mining and the Luhwindja Collectivity in June 2010, which stated 'recruitment priority at the mine will be accorded to community members who respond to the qualification and experience criteria for the concerned posts'.²⁸⁵ The Memorandum put in place an employment subcommittee to facilitate the process and ensure this priority was given. Over time, an agreement was reached between collectivity authorities whereby 66 percent of positions were to be given to Luhwindja and the rest shared between the neighbouring Bashi collectivities of Burinhyi, Kaziba and Ngweshe.²⁸⁶

²⁷⁹ Interview with Diphil Head of Personnel, Bukavu, October 3rd 2016.

²⁸⁰ Interview with Zuki Site Manager, Burinhyi, October 12th 2016.

²⁸¹ Letter from Employment Subcommittee Moderator to CODELU President, February 25th 2016. Author translation.

²⁸² Interview with Utralu Executive Secretary, Luhwindja, October 12th 2016.

²⁸³ Interview with Assodec President, Cinjira, October 10th 2016.

²⁸⁴ Interviews with G4S and ATS managers, Twangiza, June 7th 2017 and Bukavu, June 17th 2017.

²⁸⁵ Twangiza Mining and Luhwindja Collectivity Memorandum of Understanding, June 5th 2010. Author translation.

²⁸⁶ Conversation with Community Forum Employment Subcommittee member, Luhwindja, June 11th 2017.

Bami and local government authorities have, then, managed to retain control over who is mobilised from their respective collectivities at these lower levels of the labour hierarchy. Stories of subcontractor workers and unskilled Twangiza Mining workers hired after local Bami or other state agents got their name on the recruitment lists are commonplace. One Zuki worker reported that his grandfather was very close to a former Mwami and received a lot of land and livestock as a result. Today, their family name is well known locally and this helped him get his name on the list which the Mwami of Burinhyi gave to Twangiza Mining.²⁸⁷ Similarly, many people were observed coming to local government offices to ask if they could add their name to the list. In such instances at Luhwindja, the enquirer was told by local agents to arrange a meeting with the Mwami to ask him personally. Many people reported having been asked by local state agents or recruiting firms to pay anything from \$50 to \$400 to have their name added to the lists, with no guarantee this would result in their recruitment.

Yet those outside these social structures and without money or connections to Bami or other local political elites were generally excluded from Twangiza's labour regime (although some internal migrants had negotiated their inclusion as local workers, despite not being from the area). The following story is typical of those who find themselves locked outside of the regime:

I tried to get work with Cinamula but they asked for \$200, which neither myself nor my family has. I have many friends who went directly through the Mwamikazi to get work with the subcontractors. If the Mwami or Mwamikazi are in Luhwindja, you have to go the Royal Palace with a small gift such as a goat or a crate of drinks and request an audience. You then hope to see them and plead your case. If you're poor, you don't have the opportunity to go there and see him, as you can't get an audience without bringing a gift of some value. I tried to get a meeting once to ask them to pay my final year of school fees after my father died, but I was refused as I had no gift or money to offer. I was told to go to the government office the next day instead. I went and waited all day but was not seen.²⁸⁸

Thus, through the collection and provision of candidate lists, local political elites have monopolised control over who is included in (and excluded from) the lowest strata of the mine's labour regime. As a result, the vast majority of workers at these levels, including those surveyed, herald from herder-farmer families, often with some connection to local elite groups.

Only Twangiza Mining's skilled workers, representing 26 percent of all workers at the mine, had a more heterogenous and non-local composition. This is a result, in part, of the fact that a university degree is required to access this level of employment which, to recall from the previous section, contains the categories of worker that are paid up to four times more than site and shaft workers at Kadumwa or unskilled workers at Twangiza. This university degree requirement is a barrier to entry for most rural inhabitants in Luhwindja, who only attended primary or secondary school. For example, among the 291 surveyed site and shaft workers in Kadumwa, only 29 (or ten percent) had finished secondary school, and only two had a university degree.

As a result, there was a greater representation among Twangiza Mining's skilled workers of people heralding from urban families (particularly from Bukavu) whose parents were wage earners (in

²⁸⁷ Conversation with Zuki worker, Bukavu, December 12th 2016.

²⁸⁸ Interview with unemployed youth, Luhwindja, October 13th 2016.

mines or plantations), state agents, teachers, clerks and traders. There was also a greater representation of workers heralding from local, rural families but whose parents were also wage earners, members of the professional ranks or successful traders, including informal gold traders, such as this skilled Twangiza Mining worker:

His older brother is a gold trader who had migrated from Luhwindja to Bukavu. When he was ten years old, he moved to Bukavu to live with his brother. His brother supported his education, and in 2003 he completed his undergraduate degree. In 2009, he obtained his Masters. In 2010, he began working as an assistant professor in Bukavu. Two years later, he started in his current job as a dispatcher for Twangiza Mining.²⁸⁹

The social backgrounds of the managerial class at Twangiza are also highly heterogenous, in part a result of the variety of managerial positions at the mine, from hired labour supervisors to Twangiza Mining senior directors (Table 8.4). The first category of labour hire managers, deriving from the three labour hire companies of Cinamula, Diphil and Zuki, is the least significant, both in terms of size and wages, with manager wages aligned with those received by Twangiza Mining workers.²⁹⁰ These positions are generally occupied by local elites with connections to state-customary authorities who – in the case of Cinamula and Zuki – are the founding members of and minority shareholders in the companies.²⁹¹

Table 8.4 Twangiza Mining managerial class, units of managers

Category	Supervisors		Managers		Directors		TOTAL
	National	Foreign	National	Foreign	National	Foreign	
Hired Labour	12	0	3	0	3	0	18
Subcontractor	27	8	6	9	2	6	58
Twangiza Mining	72	14	20	32	1	2	141
TOTAL	111	22	29	41	6	8	217

Source: Table 8.2, above.

For example, the Head of Personnel at Cinamula was a Bashi from the Idudwe grouping in Luhwindja. His father owned a large amount of land and a dozen cows, obtained via *kalinzi* from the Mwami. He's a philosophy graduate who worked at the Ministry of Transport in Bukavu before joining Cinamula in 2009.²⁹² The Director of Zuki was a Bashi entrepreneur from the neighbouring collectivity of Burinhyi and was close to the Mwami of Burinhyi, who was himself an elected Deputy in the National Assembly. The Zuki director had three children studying at university in the US and lived in a two-storey home in the centre of Bukavu, where he ran one of the city's largest pharmacies.²⁹³

²⁸⁹ Interview with Twangiza Mining worker, Luhwindja, October 15th 2016.

²⁹⁰ Assodec and Utralu are not considered here, as the date used is from 2013, before either organisation had been founded.

²⁹¹ Company statutes obtained from the commercial court at Bukavu.

²⁹² Interview with Cinamula Head of Personnel, Luhwindja, October 13th 2016.

²⁹³ Interview with Zuki director, Bukavu, February 16th 2017.

The second category of subcontractor managers derives from two domestic firms (Group Rubuye and Premium) and eight foreign firm subsidiaries (Aggreko, Civicon, COMEXAS Group, G4S, Savannah, Simba Logistics, Société Générale de Surveillance and Tsebo Outsourcing Group). Here, wages were more comparable with those received by Twangiza Mining supervisors and managers. Congolese managers at Premium, where the Mwamikazi of Luhwindja was a minority shareholder,²⁹⁴ were recruited along the same logics as those described for labour hire firms, with the company director a Bashi from Luhwindja.

Congolese managers at foreign subcontractors generally came from the urban educated and professional classes, often the mining sector. One operations director, for example, was the son of a former SOMINKI manager. His father used his earnings at SOMINKI to put him through university in Kinshasa.²⁹⁵ Another foreign firm director and senior manager were brothers whose father was also a former SOMINKI manager, and who paid for their university education in Canada, where they trained as engineers and remained for 20 years after completing their studies. They entered into contact with Banro while living in Toronto and returned to the DRC in the 2000s to set up and run a subsidiary of the Tanzanian firm Simba Logistics.²⁹⁶ Fifteen of the 23 managers and directors from this category, however, were foreign. Primarily from South Africa, Ghana, Kenya and Tanzania, this group and their families were based overseas, and they constituted the lower stratum of Twangiza's 'fly-in fly-out' managerial class, flown to and from the DRC before and after time off, and rarely leaving the mine site during six- to nine-week shifts.

The third and final category of Twangiza Mining managers is the most important, measured by size and total wages. While the lower stratum consisting of the subsidiary's supervisors was predominantly Congolese, the upper strata of managers and directors were predominantly foreign. As with Congolese subcontractor managers, the parents of Twangiza Mining managers were generally from the professional classes, from clerks and teachers to politicians and wealthy traders. The following background summaries of three Twangiza Mining managers are illustrative:

She is from North Kivu, where her grandfather was part of the royal family and very close to the Belgians. He was educated under the colonial system, which was rare back then. Her father was a university professor working in Kinshasa and overseas. Sometimes, he worked at the Ministry of Social Affairs and the Independent National Election Commission in Kinshasa. She received her primary and secondary education in the DRC, Burundi and Rwanda, and then studied Business Management at a university in Kampala, Uganda. She finished her studies in 2008 and began working for Banro that same year. She began as a *travailleur qualifié* (skilled worker) but today is a *maitrise* (supervisor), working as an administrative assistant in the human resources department.²⁹⁷

He was a *cadre* (manager) at Banro, before leaving in 2013. He was raised by his grandmother and her second husband, a Belgian who owned palm oil and rice plantations in Maniema Province and a tea plantation in Walungu Territory in South Kivu, and had been a military commander supporting President Mobutu in his early years. He completed his undergraduate degree in Bukavu around 2005. Following

²⁹⁴ Company statute obtained from the commercial court at Bukavu.

²⁹⁵ Interview with Operations Director, Luhwindja, October 9th 2016.

²⁹⁶ Interviews with Simba Logistics director and senior manager, Bukavu, February 17th and 22nd 2017.

²⁹⁷ Interview with Twangiza Mining supervisor, Bukavu, September 29th 2016.

this, he went to work for a Congolese aviation company in Kinshasa. In 2007, he moved to Goma to work for Vodacom, and in 2010 he began working at Banro.²⁹⁸

Her grandfather owned some large concessions in Ngweshe and Kaziba, and worked as a distributor for Bralima [a brewery]. He was a big trader, and his name well known. Her father was a farmer who owned a lot of land in the Ruzizi Plain, and her mother continued the work of her grandfather as a Bralima distributor. She grew up in Bukavu, only leaving to Uganda to complete her undergraduate degree in Kampala. She worked as a Marketing Manager for a company in Bukavu for several years, before being recruited by Banro.²⁹⁹

The General Director of Twangiza Mining was a Congolese from the mining town of Likasi in Haut Katanga. He obtained a Masters in Chemical Engineering from the University of Lubumbashi and an MBA from the University of Pretoria in South Africa. At the outbreak of the First Congo War in 1996, he moved to South Africa and worked for a number of gold mining corporations as a metallurgist. He began working for Twangiza Mining in 2010 and was promoted to the position of General Director in 2015, becoming the first Congolese to occupy such a position for Banro.³⁰⁰ He was replaced by a South African, however, in 2018, following the arrival of the new CEO.

Generally, however, international recruitments are automatically run for senior positions considered 'sensitive'.³⁰¹ The Senior Finance Manager, for instance, was South African. In part as a result of this practice, Congolese managers were over-represented in the unproductive departments – human resources, community relations, health and safety – and under-represented in the mining and processing departments that oversee productive activity (Figure 8.1).³⁰² This recalls the symbolic Africanisation process at SOMINKI and Gécamines in the 1970s and 1980s observed in Chapter 3, and highlights the structural durability of foreign control over productive activity in the Congolese mining sector.

Managerial labour was mobilised through a mixture of professional networks and the same social structures of kinship and territorial origin observed as influencing worker mobilisation. Many of the Congolese managers in the mining and processing departments are graduates of mining engineering or geology programmes at the University of Lubumbashi, while supervisors generally herald from these programmes or one of the few geology courses offered by less prestigious universities in Bukavu. The General Director brought in a number of South African managers he had worked with during his time in South Africa. Human Resources senior management were from Kinshasa as were a number of other managers at the subsidiary. While most of the workers at Twangiza had been recruited locally, the Community Relations Manager was the only head of department at Twangiza Mining from Luhwindja, with only a handful more observed among the lower managerial strata.

²⁹⁸ Interview with former Twangiza Mining manager, Goma, January 28th 2017.

²⁹⁹ Interview with Twangiza Mining manager, Bukavu, September 29th 2016.

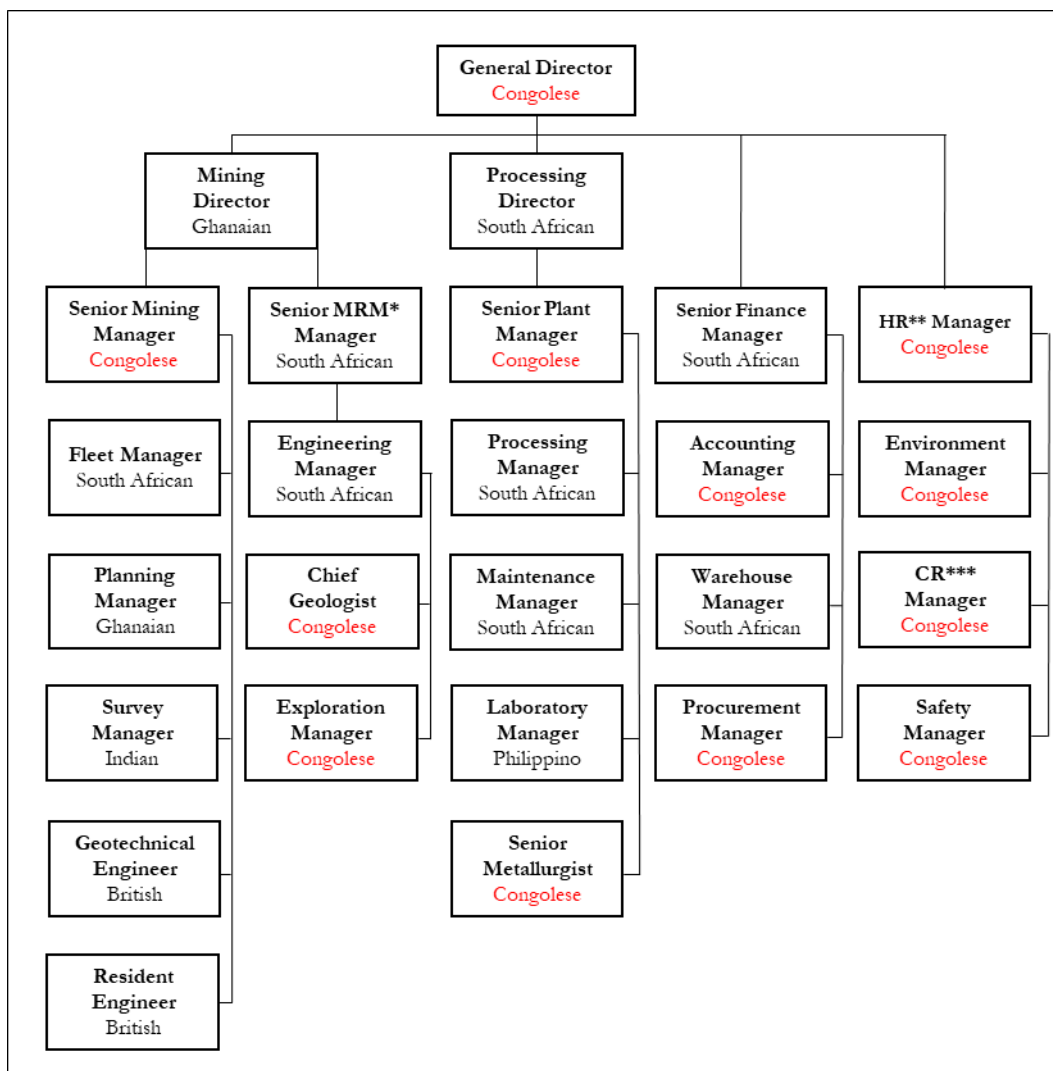
³⁰⁰ Interview with Twangiza Mining General Director, Twangiza, June 6th 2017.

³⁰¹ Interview with Twangiza Mining Senior Human Resources Officer, Twangiza, June 6th 2017.

³⁰² Since compiling the data provided in Figure 8.1, the Congolese General Director has been replaced by a South African.

Thus, while the same social structures observed at Kadumwa continued to influence labour mobilisation and organisation logics at Twangiza, the effect has been quite different. While at Kadumwa, the trader-manager class was composed entirely of Bashi from Luhwindja or (in the case of traders) neighbouring collectivities, these same groups were restricted to the lowest levels of Twangiza’s labour regime. This inversion inflicted a degree of cultural humiliation and shame locally, captured by a shopkeeper and his friends who, discussing the changes induced by Banro’s arrival in Luhwindja, lamented the fact that the brother of the former Mwami of Luhwindja now works as a guard for the British security TNC G4S.³⁰³

Figure 8.1 Twangiza Mining senior management structure



Notes: * Minerals and Resource Management; **Human Resources; *** Community Relations; The representation is incomplete as the following posts were vacant at the time of data collection: Mining Manager, Financial Accounting Manager and IT Manager. Source: Twangiza Mining Company Organigramme.

The inversion of pre-existing labour mobilisation and organisation logics also led to conflict and tension between Banro and local inhabitants. In 2015, the newly-formed *Union des habitants de Luchiga* (UHLU) – the Union of Luchiga Inhabitants (the grouping in which the Twangiza mine is

³⁰³ Conversation with local shopkeeper, Luhwindja, November 27th 2016.

located) – demanded the removal of Twangiza Mining’s senior human resource managers on the grounds that they ‘promote the exclusion of people from Luhwindja from access to managerial positions to the benefit of agents coming from elsewhere’.³⁰⁴ Many local workers were equally frustrated, such as this subcontractor worker:

You know that the company operates in Luhwindja, but in terms of managers, I don’t think that we even have one senior manager at the company. At the most we have one. At a certain point, that frustrates our leaders. I just told you I’m a university lecturer, but it’s been nearly seven years that I’m in this situation with a subcontractor. It’s the same treatment up until today. And at a certain point I can also ask myself, what’s going on?³⁰⁵

In 2014, a workshop held in Luhwindja with Banro and local government and civil society representatives asked ‘...why the marginalisation of community members? Why do we not respect the Memorandum of Understanding which stipulates that employment priority is accorded to community members?’. It concluded by requesting that the Memorandum be respected, and that ten senior positions be given to people from Luhwindja along with all currently open positions.³⁰⁶ This request was not followed and, by 2017, efforts such as these to increase the number of local people in Twangiza’s managerial class had made little progress.

To summarise, the lower strata of Twangiza’s labour regime – where the remuneration of labour is similar to that of shaft workers at Kadumwa – were predominantly occupied by local people from Luhwindja and the surrounding area. Once at the level of skilled workers directly employed by Twangiza Mining, and in part a function of the requirement from this level upwards to have a university degree, the social composition of workers shifts to urban families from the professional or state bureaucratic classes. Local people were almost entirely excluded from the managerial strata employed by Twangiza Mining, in part as most do not meet the employment criteria, and in part because, in the cases where local people are qualified, they do not meet the social identity criteria defined by ideas of kinship and territorial origin that continue to retain influence at these levels. As a result of these dynamics, people from the local area who do gain access to Twangiza’s labour regime are generally restricted to labouring at the lowest and least remunerative levels. Further, and as demonstrated in the next section, the collective power of these workers to negotiate higher wages or improved terms of incorporation has been weakened by the organisational fragmentation of labour resulting from Banro’s corporate outsourcing.

8.3 Corporate Outsourcing and the Weakening of Worker Power

The practice of corporate outsourcing at Twangiza, discussed in Chapter 6, has led to the workforce at the mine encompassing 13 different organisations (12 subcontractors and Twangiza Mining).³⁰⁷ This contrasts historically to the time of MGL and SOMINKI, when all workers were

³⁰⁴ Letter from UHLU to Twangiza Mining Director General, ‘Reclamations of the Luchiga Population’, May 12th 2015. Author translation.

³⁰⁵ Interview with subcontractor worker, Twangiza, June 7th 2017.

³⁰⁶ Final Workshop Report, Luhwindja, February 3rd 2014.

³⁰⁷ Excluding the three firms not directly involved in productive activities at the mine (COMEXAS Group, Engen and Rand Refinery).

contracted by the Belgian subsidiaries and from the 1940s onwards mostly lived in mining towns, the largest of which was at Kamituga where two to three thousand workers lived with their families in the same neighbourhoods and in close proximity to the mine (Athanasé 2013). This high level of organisational fragmentation has weakened the position of Congolese workers and erected new barriers to labour organisation and collective action.

First, corporate outsourcing has weakened the position and strength of labour by expanding worker informality, as labour itself has been outsourced. Of Twangiza's 1,149 workers in 2013, 323 (or 28 per cent) worked across the hired labour organisations. During the mine construction phase around 2010, this number was much higher. While Assodec and Utralu had not been founded at this point, Cinamula, Diphil and Zuki management reported having around 800, 700 and 600 workers respectively, around 1,800 more than worked for labour hire organisations in 2013. In 2017, these workers continued to be engaged as informal day labourers, with no form of contract, no paid holiday and limited medical insurance. This was despite the fact that many had spent several years working for the same subcontractor or for several different subcontractors and were legally entitled to a contract according to Congolese labour law, having repeatedly worked more than 22 days over a two-month period (Mushagalusa 2018).³⁰⁸ The situation was the same for an additional 127 workers at the subcontractor firms Groupe Rubuye, Premium, Simba Logistics and Tsebo Outsourcing Group. This results in around 40 per cent of the mine's workforce labouring informally.

By rendering them more easily disposable, their informal status discourages collective action. Most of the approximately 2,100 labour hire workers involved in mine construction were simply and easily made redundant overnight once construction was complete and the mine moved to production (Geenen and Radley 2014: 62). Similarly, during the course of the fieldwork dozens of day labourers were let go due to the seasonal nature of their labour, or simply because it was no longer required. Day labourers were, unsurprisingly, fully cognisant of their precarity: 'When you work for several years without having a contract, it worries you. Everyone wants to have a work contract but unfortunately, it's not the case for all of us. We pray to God though that perhaps one day we will also have a contract'.³⁰⁹

Many informal day labourers bemoaned their conditions but were fearful of engaging in any form of labour militancy or negotiation given their informal status. According to the President of the trade union confederation in Bukavu, informal day labourers at Twangiza Mining who had attempted to claim their contractual rights had simply been let go (Mushagalusa 2018). In 2017, the Congolese state intervened to address the twin issue of labour informality and low worker wages by passing a law forbidding subcontractors from engaging in 'the illegal lending of labour...: a fraudulent operation that removes the status of the employee...in order to profit from the price that should have been paid for the same work'.³¹⁰ By mid-2018, this had yet to take effect at Twangiza.

³⁰⁸ DRC Labour Code, Article 40.

³⁰⁹ Life history with Zuki worker, Luhwindja, April 12th 2017.

³¹⁰ Law 17/001 of February 8th 2017. Author translation.

Second, corporate outsourcing has further weakened the collective power of labour by heightening the spatial separation between workers. Most hired labour, subcontractor and unskilled Twangiza Mining workers among the lower strata heralded from local herder-farmer families (as noted in the previous section) and their subsistence wages more or less maintain them in this class position (discussed more fully in the next section). Skilled Twangiza Mining workers herald mostly, by contrast, from wealthier and often urban families, and their higher wages allow them and their families to live a commensurate urban lifestyle in the nearby city of Bukavu. While rural-based hired labour, subcontractor and unskilled Twangiza Mining workers live locally in areas around the mine, urban-based skilled Twangiza Mining workers lodge on-site during their shifts and return to Bukavu afterwards.

Critically, the Twangiza Mining workers' union, established following a 2013 decree from the Congolese Labour Minister requiring all companies to hold union elections by June 2014,³¹¹ is exclusively led by skilled Twangiza Mining workers. By mid-2017, these urban-based union delegates had shown no signs of engagement with or interest in the experiences and struggles of the predominantly rural-based workers. The following exchange with the Vice-President of the Twangiza Mining union is illustrative:

Author: How many Twangiza Mining union delegates are there?

Respondent: There are 18 delegates.

Author: And how many union members are there?

Respondent: Union members, as in the workers themselves, around 350.

Author: What about the subcontractor workers at Aggreko, G4S and so on?

Respondent: No, that's separate, they can't be represented by our union.

Author: For example, the hired labour at Zuki, Diphil, Cinamula?

Respondent: They are separate organisations.

Author: So, you only concern yourself with the problems of workers from Twangiza Mining?

Respondent: From Twangiza Mining.

Author: And the subcontractor workers?

Respondent: They don't concern us.³¹²

At the local level, corporate outsourcing had also fostered further spatial separation and division among different groups of rural workers, feeding into and accentuating the pre-existing social structures foregrounded above as central to Twangiza's labour mobilisation logics among the lower strata of the mine's workers. There is, in the first instance, the demarcation between 'locals' (perceived as Bashi from Luhwindja or neighbouring collectivities) and 'non-locals' (those outside of this definition). One G4S worker noted the difficulties he encountered as an ethnic Warega, commenting 'there's always conflict, as someone who's not from here...it's like a cold war between the locals and people who aren't from here'.³¹³ A Zuki worker from Rutshuru in North Kivu Province, who negotiated his recruitment as a local worker from Burinhyi, reported (alongside his

³¹¹ Circulate note No. 39/CAB/MIN/ETPS/MBL/NMC/pkg/2013 of July 24th 2013.

³¹² Interview with Twangiza Mining union Vice-President, Twangiza, June 7th 2017.

³¹³ Conversation with G4S worker, Luhwindja, November 30th 2016.

wife, who was from Kasai) feeling a tension between his family and local people, and that they had been the victim of numerous burglaries and aggressions since arriving in Luhwindja.³¹⁴

In the second instance, the demarcation exists between different groups of local people. An anecdote told by a senior human resources manager at the subsidiary Banro Congo reveals the primacy of local political borders. A few years ago, he noted the imbalance in the number of workers between the different labour hire companies Cinamula, Diphil and Zuki. He decided to impose an approximately equal number of workers across the three companies, and to do so he requested that a number of Cinamula workers (generally from Luhwindja) be affected to Zuki (representing Burinhyi). When he spoke to the Cinamula director to request this change, he was told ‘my people will never cross that river [from Luhwindja into Burinhyi] to collect their money’. It was with much difficulty, he recalled, that the adjustments were made.³¹⁵

Pre-existing social divisions are, then, reproduced and further entrenched by the spatial separation induced by corporate outsourcing, hindering worker organisation and unity. Cumulatively, this has contributed to the near total absence of labour militancy at the mine, despite the fact that nearly half of the mine’s workers experience informal status, subsistence or near-subsistence and stagnant wages, and poor access to benefits. Only two strikes have occurred at Twangiza since mine construction began in 2010. The first was a sit-in staged by security workers in 2011 during the visit of Banro’s board of directors from Canada, resulting in a small wage increase.³¹⁶ The second was an impromptu six-hour strike in 2014 of around two dozen machine operators in the mining department over proposed changes to overtime remuneration.³¹⁷

The general acquiescence of labour at Twangiza contrasts to the militancy of MGL and SOMINKI workers, particularly in the 1980s and early 1990s, who themselves earned subsistence wages but were contracted with more comprehensive access to benefits.³¹⁸ Yet whereas SOMINKI workers were contracted directly by the Belgian subsidiary and many lived together with their families in mining towns, by facilitating worker informality and spatial separation, the organisational fragmentation of labour resulting from corporate outsourcing at Twangiza has heightened the adverse incorporation of many of the mine’s workers and undermined their collective strength to counteract their marginality. Partly as a result of these trends, most worker wages remain too low to enable savings or investment, while the narrow managerial class, capturing around half of all wages accruing to labour at Twangiza, mainly consume and invest these wages outside of the DRC.

8.4 Where Did the Wages Go?

As was the case for site and shaft workers at Kadumwa – and as would be expected given their similar earnings – hired labour workers reported using their wages on rent, food, school fees and medical expenses, with little left over to save or invest. As one noted:

³¹⁴ Conversation with Zuki worker, Luhwindja, April 11th 2017.

³¹⁵ Conversation with Banro Congo senior human resources officer, Bukavu, February 22nd 2017.

³¹⁶ Conversation with Twangiza Mining senior human resources officer, Twangiza, June 6th 2017.

³¹⁷ Conversation with Twangiza Mining union President, Twangiza, June 10th 2017.

³¹⁸ Interviews with former SOMINKI workers and union leaders, Kamituga, April 22nd 2017; SOMINKI correspondence to Ministry of Labour, October 30th 1992; SOMINKI Annual Report, 1979.

I earned something [when cultivating my land] and was able to make some small savings, as I didn't need to buy many things, such as manioc flour, sweet potatoes and so on. Today I have to buy all that because I no longer have time to farm. The money I earn allows me just to survive. When I get paid, it goes straight to clearing debts accumulated to buy flour and other things.³¹⁹

Similar testimonies were given by subcontractor workers who earn equivalent wages to hired labour workers, such as guards at the security corporation G4S, who earn \$185 per month. One G4S guard encountered in 2016 decided to leave his job in 2017 after two years of service, having failed to make any savings.³²⁰

Yet the investment patterns of some local subcontractor workers, earning higher wages than most, showed more diversified and significant local investments across construction, land and livestock. The following two summaries, both from Bashi natives of Luhwindja, provide insight into these patterns:

He works as a laboratory assistant for SGS. He is using his wages to build a brick house in Luhwindja. Last year he bought 1.2 hectares of land for \$1,800, but he doesn't yet have a state title. He grows manioc, beans and sweet potatoes for sale to the local market, and hires four or five agricultural day labourers. He has also bought seven cows, 15 goats and around 30 sheep, and is supporting his uncle through university in Bukavu.³²¹

He works as a waiter for ATS and spent \$1,500 buying land in Luhwindja under a customary agreement. He is currently building a brick house and hopes to have it finished soon. He thinks he will spend around \$1,800 on the construction. He also bought half a hectare of land on which he grows beans and vegetables for his family. He has two people that come and work the land from time to time.³²²

Considering all strata of workers, including unskilled and skilled workers at Twangiza Mining, the labour survey – in which 90 hired labour, subcontractor workers and unskilled workers and 36 skilled workers participated – noted a quantitative increase from the lower to the upper levels in the percentage of workers making investments from their wages (Figure 8.2). Yet accounts of these investments also reveal a qualitative difference in their nature. Broadly, and a function largely of their differentiated social backgrounds, while the lower strata of workers consumed and invested their wages locally, skilled Twangiza Mining workers – whether from the local area or outside – tended to do so elsewhere, primarily in Bukavu.

For example, while construction investments by the lower strata consisted of a few hundred dollars on wooden or clay housing locally, in the upper stratum of skilled Twangiza Mining workers, many reported having invested in housing in Panzi, the same suburb to which Luhwindja's class of artisanal gold trader-managers were observed to be migrating in Chapter 5. Around 30 percent of surveyed skilled workers also reported having invested in commerce alongside construction, land and livestock. This was generally an investment in petty trade or opening a store, although there

³¹⁹ Life history with Utralu worker, Luhwindja, April 12th 2017.

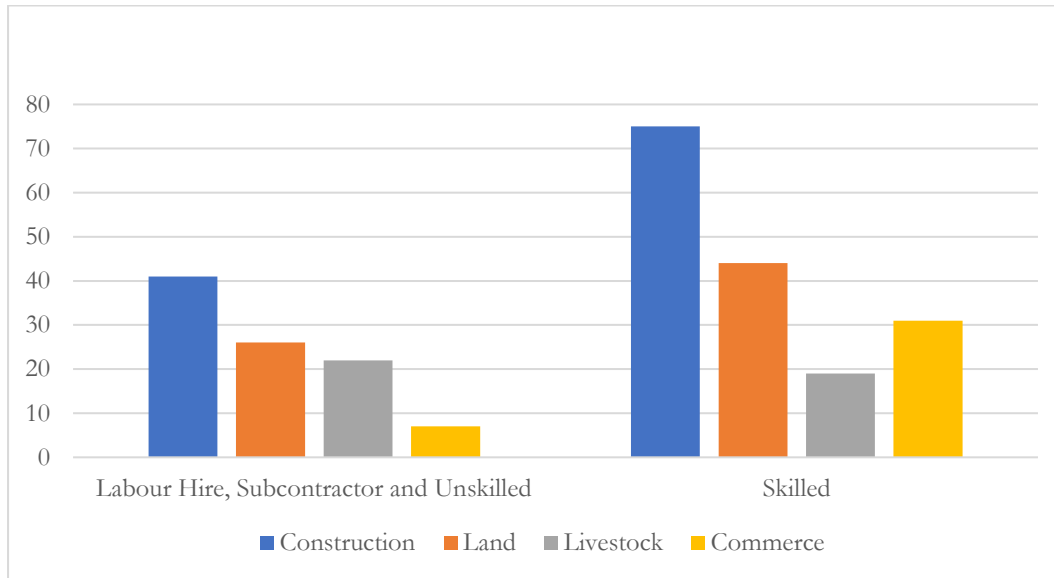
³²⁰ Interview with G4S worker, Luhwindja, April 14th 2017.

³²¹ Interview with SGS worker, Luhwindja, October 9th 2016.

³²² Interview with ATS worker, Luhwindja, October 9th 2016.

was some investment in productive activity, such as a skilled Twangiza Mining worker from Luhwindja who invested in capital and opened a welding workshop in the Kabalole grouping.

Figure 8.2 Twangiza worker investments (expressed as a percentage of total respondents)



Source: Calculations based on author labour surveys.

This particular case seemed an exception to the general observed trend, however, which was for skilled Twangiza Mining workers from the local area to migrate their families to Bukavu. Although once these families had migrated, as with absentee shaft managers at Kadumwa, there was still some expenditure and investment that was oriented locally. The following account from a skilled worker at Twangiza Mining, who had migrated with his family from Luhwindja to Bukavu, is typical:

I supported my father with a small trading business that he started in 2014, with an extra \$200 on top of what he already had. I also helped him finish building his house, by buying some tiles for the roofing. I helped my younger brother by giving him \$250 to relaunch his small trading activity which had collapsed a few years ago. I supported my younger sister in secondary school, which she finished last year. This year she said she wants to take some professional training before beginning university after that.... The most important investment is perhaps the land I bought in Bukavu in 2015 for \$2,200, on which I'm currently building a house. I also bought some land near my father's village for \$450 where I planted some trees.... I have five children. Three are at school, and I support others. My sister-in-law, my cousin, my nephew.... I earn around \$700 a month from which I can easily save \$100 each month. It's just the rent and school fees that are expensive.³²³

The outward migration of rural workers was facilitated by two factors. First, while hired labour are paid locally in cash, all Twangiza Mining workers are paid directly into bank accounts in Bukavu. With no formal bank branches locally, this forces them to travel to the city at least once a month to access their wages. Second, and probably of more importance, Twangiza Mining provided free transportation for all its workers to and from Bukavu in-between rotations. The most common

³²³ Interview with Twangiza Mining worker, Twangiza, June 9th 2017.

rotation cycle for these workers was to work four days and four nights followed by four days off, which they generally spent at their homes in Bukavu, making use of the free transport to make the three- to four-hour journey to and from the city.³²⁴

In addition, and in contrast to the lower strata of workers who lodge locally outside the camp, most skilled Twangiza Mining workers are lodged and fed on-site, meaning (as with the ‘fly-in fly-out’ managerial class) they rarely set foot outside of the mine during their time in Luhwindja. Thus, the consumption and investment patterns of skilled Twangiza Mining workers, who capture 54 percent of the total value accruing to workers and 20 percent of the total value accruing to workers and managers at the mine, are generally directed away from the local economy and towards Bukavu.

This reflects the situation at the managerial level, although on a different geographical scale, as around two-thirds of total wages accruing to the managerial class is consumed and invested outside of the DRC, despite the fact that Congolese make up around two-thirds of this group. Managers and directors at both Twangiza Mining and subcontractors work on a rotation of seven weeks on-site followed by three weeks holiday (with some variation). When on-site, they work eight- to twelve-hour days, six days a week. Foreign managers and Congolese managers who are not from South Kivu form the ‘fly-in fly-out’ stratum of labour at the mine, with Banro and subcontractors covering the transport costs to and from their overseas family residence in-between rotations. Similarly, Congolese managers living in Bukavu are transported to and from the mine by road, along with the workers.

Once on-site, and as with Bukavu-based workers, Twangiza Mining’s managerial class (including supervisors) eat and drink at company restaurants and bars and rarely leave the compound. As one subcontractor manager said, ‘I’m not familiar with the locals. I come for one month then after one month I fly back to Tanzania’.³²⁵ As a result, their local wage consumption is restricted to the food and alcohol consumed on-site (some of which, as noted in Chapter 6, is sourced locally). On the whole, managerial consumption and investment takes place outside of Luhwindja, and for foreign and some Congolese managers, almost exclusively outside of the DRC. As two foreign subcontractor managers explained:

When we stay on site, we spend very little. The highest thing that consumes us is communication with family, that is what we spend mostly.... I’m investing back home [in Kenya] because first thing accommodation is paramount for the family and also education for the children. And I’ve done some investment with the family through a business venture. We opened a business that my wife is running back home, a hardware shop because that’s my field. An electrical shop. Most of it though goes on education for the children and protection for my parents.³²⁶

I’m investing in cocoa farming [in Ghana]. That’s where my salary goes, to build up a farm. Currently I have two farms and I’m building another one. That’s what I’m doing with my salary, and I’m also setting

³²⁴ Yet many subcontractor workers worked six-day weeks or a shift cycle of two days and two nights followed by two days off, rendering regular travel to and from Bukavu less feasible.

³²⁵ Interview with SGS manager, Twangiza, June 6th 2017.

³²⁶ Interview with Aggreko manager, Twangiza, June 6th 2017.

up a company to do catering. A small catering company if one day I want to retire and do my own things. I have that ambition also, that can maybe join with the farms. I also have animals, like I have goats, so those are the investments that I do.... Locally no, as the duration is unpredictable. You can't predict, tomorrow you might be leaving.³²⁷

Some Congolese managers have similarly oriented external investment patterns, as their families are based overseas, predominantly in South Africa but also in the US, Canada and Europe. Others aspire to join this group, such as one manager whose ultimate goal was to buy a house in South Africa and have his children live and study there.³²⁸

Some, however, direct their investments domestically (albeit far from Luhwindja) into construction, agriculture and business, as the following three accounts from Congolese Twangiza Mining managers testify:

I can say that I supported at least 20 family members at university in Goma, Bukavu and Kinshasa. Honestly, around 20 people. The children of uncles, aunts and so on. Amongst us Africans, when you have revenue, all the medical expenses, that's on you. There is first of all this aspect of African culture, this mutual assistance. Nevertheless, I bought land here in Goma on which I built a house. I also bought land in Bukavu, but I haven't yet constructed a property there. Lastly, I bought some land in Kinshasa, on which there's a house under construction. I also thought of my childhood passions and bought a 100-hectare concession around 180 kilometres from Kindu. I think one day I will also practice agriculture and animal husbandry like my grandfather.³²⁹

First, I've invested in land. You know in Bukavu land is very, very expensive. I would say it's even crazy, so I said I will not buy land in town because the prices are crazy, but outside of town. So, when I have the opportunity to buy more, I buy for construction here in Bukavu and for agriculture in the Ruzizi Plain. I told you my Dad is a farmer so I also acquired some hectares because you never know, if we've been able to grow up because of what he's been doing, then my children can also grow up with the same business. So, I have some land... and I acquired a tractor, I had to get a driver for the tractor... I know I'm supporting other families. The driver has a family, then there's the three other guys working on my land... [We grow] maize and cassava. I sell it to the local market. I've also purchased land in a place called Kalambo... I may not go to live there, but I just wanted to buy the land and keep it.³³⁰

My work here at Banro doesn't only benefit me but a lot of people, because there are people whose studies I support and there are other people [who work at my home]. I also opened a butchery and three people work there, just nearby at Mulamba. It's called Mikado. We also sell a lot of alcohol there.... We first started in Goma in 2013 with a small butchery and we saw that it was working well, so we said why not try in Bukavu and we started here this year.... We built a house in Goma and we've already bought land here but it's still empty.... We've also bought some cars that we didn't have when we were students.... I can plan holidays with the children. Last year we went to Dubai and after Dubai to Belgium.³³¹

³²⁷ Interview with ATS manager, Bukavu, June 17th 2017.

³²⁸ Interview with Twangiza Mining manager, June 8th 2017.

³²⁹ Interview with former Twangiza Mining manager, Goma, January 28th 2017.

³³⁰ Interview with Twangiza Mining manager, Bukavu, September 29th 2016.

³³¹ Interview with Twangiza Mining manager, Bukavu, September 30th 2016.

These investment patterns demonstrate some signs of increasing productivity and capital accumulation, such as the acquisition by one manager of a tractor. However, the major constraint on the potential wider impact of this managerial group is its narrowness. The above three testimonies are taken from a group of only 26 members of the Congolese managerial class commanding sufficient wages for these kinds of investments, with the rest earning inferior wages to the profits earned by artisanal shaft managers at Kadumwa (Table 8.5).

Table 8.5 Kadumwa and Congolese Twangiza manager net wage/profits

Site	Category	Group	Units of Managers	Monthly Net Wage/Profits per Unit (\$)	Annual Net Wage/Profits per Unit (\$)
Kadumwa	Shaft Managers		44	1,674	20,083
Twangiza	Hired Labour	Supervisors	12	330	3,960
		Managers	3	543	6,510
		Directors	3	2,025	24,300
	Subcontractors	Supervisors	27	628	7,533
		Managers	6	1,067	12,798
		Directors	2	3,375	40,500
	Twangiza Mining	Supervisors	72	1,308	15,696
		Managers	20	3,907	46,879
		Directors	1	16,284	195,403

Source: Author data presented above.

Considered collectively, managerial investment patterns are both internally and externally oriented, and are a function primarily of the country of origin and family location of the manager. Yet as the data presented in Table 8.2 in the opening section to this chapter demonstrated, of the \$8.4 million accruing to Twangiza's managerial class, \$2.8 million was captured by Congolese managers and \$5.6 million by foreign managers, or 33 percent and 67 percent of the total value captured by the managerial class respectively. Considering the additional external orientation of some Congolese managers with families living outside of the DRC, the general flow of managerial wages at Twangiza – which to recall constituted 51 percent of the total wages accruing to workers and managers at the mine – was outside of the country, at a ratio of around two-thirds external to one-third internal.

This is perhaps surprising when recalling that foreigners only account for five percent of all workers and managers at the mine, and that Congolese managers outnumber foreign managers by more than two to one (146 to 71). Two factors help explain this finding. First, nearly half of the Congolese managers at Twangiza Mining were at the lowest managerial level of supervisor, where wages were inferior to profits made by artisanal shaft managers. Second, foreign managers at Twangiza Mining earned a 'double salary' and only paid a 10 percent tax rate, compared to the 30 to 50 percent rate paid by most of the Congolese managerial class on a 'single salary'. The 'double salary' was mentioned by a former financial manager at the subsidiary, who explained:

...take a Congolese and an expatriate director. The difference is the expatriate has two salaries. They have one in Congo and one overseas. When I left Banro I was earning around \$4,000 net per month. An expatriate at the same level also had \$4,000, but the difference if he is South African or Ghanaian is that he'll have another \$4,000 in his overseas account, so he has \$8,000.... It was only us in accounting who knew that the expatriates had two salaries.³³²

This account was confirmed by company payrolls from 2012. Thus, foreigners effectively earn more than double their Congolese counterparts (when accounting for both their 'double salary' and their lower tax rate).

To summarise, hired labour workers and most subcontractor and unskilled Twangiza Mining workers reported, as with workers at Kadumwa, little left over from their wages to save or invest. Skilled Twangiza Mining workers, however, had made more significant investments, although mostly outside of Luhwindja (such as in construction in Bukavu), and many of those from the local area had – as with Kadumwa's trader-manager class – migrated their families to Bukavu. While Congolese managerial investments demonstrated some signs of increasing productivity and capital accumulation, the extreme narrowness of this group (comprising just 26 employees) limits any meaningful, wider impact. Taken together with foreign managers, the general flow and orientation of managerial wages was outside of the country, despite the managerial class at Twangiza being around two-thirds Congolese in composition. Cumulatively, then, the dynamics of wage distribution result in most of the value accruing to workers and managers at Twangiza being drained outside of Luhwindja, a significant proportion of which goes on to leave the country.

To conclude, the findings presented in this chapter provide further grounds to rethink the theoretical and empirical foundations sustaining the African Minerals Consensus, and its proponents' belief in the ability of TNC-led mining (re)industrialisation to raise wages and stimulate consumption- and investment-driven capital accumulation and structural transformation. First, Banro's adoption of the new industry practice of corporate outsourcing provides further reason to be doubtful of, rather than enthusiastic for, the transformative potential of corporate outsourcing based on its ability 'to provide a considerable impetus to industrialisation' (Morris et al. 2012: 414). While the limited nature of this 'impetus to industrialisation' was foregrounded in Chapter 6, the high degree of organisational fragmentation resulting from corporate outsourcing at Twangiza has helped to instil a generally passive and quiescent labour regime at the mine, despite low and stagnant wages to most of the mine's workers.

Second, the findings demonstrate the broad comparability between artisanal and industrial worker wages, questioning the World Gold Council's claim, based on corporate reports, that industrial gold mining drives significant wage increases, even for the lowest paid industrial workers. This might apply in Luhwindja if considering the lowest paid forms of wage work locally, such as agricultural day labour (remunerated, to recall from Chapter 5, at a daily rate of around one dollar per worker). Yet when considering local artisanal mining labour, the claim fails to hold up to scrutiny, as the lowest paid workers at Twangiza in fact earn less than those working in the informal artisanal economy. Meanwhile, Banro's narrow managerial class has been the main beneficiary of

³³² Former Twangiza Mining financial manager, Bukavu, January 28th 2017.

the increased wage inequality induced by the corporation's arrival, capturing around half of the total wages accruing to labour at Twangiza, most of which is consumed and invested overseas. This evidence greatly problematises the belief held by AMC proponents that mining (re)industrialisation can raise wages and drive improved living standards among the local population.

Further, the wages that are captured and consumed locally by the lower strata of workers at Twangiza don't represent the arrival of fresh income, serving to stimulate the local economy. On the contrary, and related to the low labour absorption of industrial mining and the embeddedness of Banro's wage setting logics in the informal artisanal mining economy, the corporation's arrival appears to have led to an overall decrease in mining employment and wages in Luhwindja as a result of the ensuing displacement and shrinking of artisanal mining locally, while also suppressing artisanal mechanisation in Kamituga. The marginalisation of ASM has, in turn, given rise to new and increasingly violent forms of resistance, manifested through a series of armed attacks against Banro's mines between 2016 and 2018. These recent patterns of protest, resistance and violence suggest the corporation's arrival has reproduced and, in some instances, intensified historical forms of local-level conflict, rather than – as theorised by AMC proponents and claimed by some in the case of Banro – led to its alleviation. It is to a consideration of these dynamics, that the next chapter now turns.

9. Displacement, Suppression and Conflict

The purpose of this final empirical chapter is to document processes of displacement, suppression and resistance associated with Banro's arrival, drawing on original data collected during the course of the fieldwork, including: a labour survey; individual and group interviews and conversations; life history interviews, and; direct observation from time spent on-site, in Luhwindja and in Bukavu. The chapter's main argument is that, once again contrary to the expectations of certain AMC proponents, the return of foreign-led industrial mining in South Kivu has led to an intensification of local conflict, rather than its alleviation.

Chapter 4 discussed recent efforts to sever the link between ASM and conflict financing in the province, through a raft of primarily Western legislative and policy measures designed to pressure Northern TNCs to conduct due diligence in their global supply chains, to ensure the minerals they source are not funding conflict in the DRC. Under these measures, and as of early 2019, Banro was the only entity in South Kivu that could legally export its gold production to Northern markets, as it was seen to have fulfilled the due diligence requirements to declare its production 'conflict-free'. The US advocacy NGO the Enough Project (2015: 3) has been a strong advocate of the due diligence approach, arguing that 'industrial mining companies can help limit revenues for armed actors operating in the informal market. For example, gold mines in South Kivu that were previously occupied by rebels are now certified conflict-free mines operated by the Canadian company Banro. The gold from those mines does not go to armed groups any longer'. The falsehood of the latter claim – that armed groups haven't profited from Banro's gold production – is demonstrated in this chapter, and it is argued that, on the contrary, Banro's arrival has fed into and accentuated pre-existing conflict dynamics in the region, placing them on new and potentially explosive trajectories.

The first section opens by showing how artisanal displacement following Banro's arrival in Luhwindja decreased the overall availability of local mining employment (owing to the low level of industrial labour absorption), while also decreasing the total amount of mining wages and profits consumed and invested locally (owing to low industrial worker wages and their uneven distribution). It then highlights Banro's open hostility to artisanal mechanisation in its Kamituga concession, represented by the locally-led process of increasing sectoral productivity and capital accumulation foregrounded in Chapter 5. Artisanal mechanisation allows for the informal exploitation of previously inaccessible areas of Banro's deposits, diminishing the value of these deposits at a faster rate than under purely artisanal techniques. Banro has responded by calling on the state's legal and security apparatus to suppress the process, recalling state-TNC suppression of the informal artisanal sector during the previous century (discussed in Chapter 4).

The second section considers how local people have responded to these various processes of marginalisation. While strategies to resist and adapt have met with some success, Banro's alliance with political elites limits their effectiveness. More recently, resistance strategies have increasingly begun to reproduce historical processes of violence and conflict, leading to several temporary mine closures in 2017 following armed attacks, casting further doubt (in addition to Banro's financial difficulties) on the corporation's long-term future in the region. Moreover, Banro's presence appears to have led to the financing of non-state armed groups operating in the region. Banro has

perpetuated, then, and in some areas intensified, the same conflict dynamics for which artisanal mining has been so heavily criticised in the past.

9.1 Disrupted Development

In 2010, the Memorandum of Understanding signed between local government authorities in Luhwindja and Banro prohibited all artisanal gold mining at Luhwindja's major sites of Mbwega, Kadumwa and Lukunguri,³³³ all of which Banro considered to be located on its main Twangiza deposit where it wanted to begin construction. As the most important site for Banro, Mbwega was the first to be appropriated. Before its closure, Mbwega was a much larger site than either Kadumwa or Lukunguri. In 2008, a census of Mbwega estimated the presence of 500 shaft managers and at least 5,000 workers (OGP 2008: 27). The site was located at the heart of Banro's primary deposit, and its appropriation also displaced an estimated two-and-a-half thousand villagers to the nearby hilltop of Cinjira (Geenen and Honke 2014). Shortly after Mbwega's closure, two artisanal miners were found on the site, arrested and sent to central prison in Bukavu.³³⁴ In March 2015, local government authorities forcibly closed down several shafts that Banro deemed to have been constructed in too close proximity to its Twangiza mine.³³⁵

In response, following the lifting of the Presidential prohibition on artisanal mining in March 2011 (noted in Chapter 4), hundreds of artisanal miners forcibly reoccupied Kadumwa and Lukunguri, located around two kilometres down the hillside from the Twangiza mine, barricading the road to Banro's Twangiza construction site for three days (Geenen and Radley 2014: 62).³³⁶ As one of Kadumwa's shaft managers described: 'Kadumwa was threatened with closure, so many people stood up. Kadumwa was the only site that allowed a lot of people to find some revenue, small as it might be, to survive. You can't close it without providing other employment'.³³⁷

Yet the closure of Mbwega led to a loss of wages, profits and assets for many former shaft workers and managers and their families, as the following three testimony summaries detail, from a former Mbwega shaft manager, farmer and shaft worker respectively:

He was a shaft manager at Mbwega and owned two shafts. His family owned maize and manioc fields near to the mine, along with five cows. When they were displaced to Cinjira they received \$500 in compensation for their land. He used the money to construct two shafts at the new mine at Cinjira but both are now closed as they only led to a very small amount of gold. They sold all of their cows to generate some income, and today his two wives work as agricultural day labourers. He is looking for work.³³⁸

³³³ Twangiza Mining and Luhwindja Collectivity Memorandum of Understanding, June 5th 2010.

³³⁴ Conversation with former Mbwega shaft worker, Bukavu, May 16th 2017.

³³⁵ Letter from the Luhwindja Head of Collectivity to the Twangiza Mining Director General and the Mwenga Territorial Administrator, 'The closure of underground shafts used by illegal artisanal miners in Twangiza Mining's site', March 24th 2015.

³³⁶ Interview with community leader, Luhwindja, September 16th 2016.

³³⁷ Interview with Kadumwa shaft manager, Luhwindja, April 9th 2017.

³³⁸ Interview with former Mbwega shaft manager, Cinjira, April 7th 2017.

Life was very good at Mbwega. They owned three fields totalling around one hectare of land. She grew maize, beans and manioc and sold it at the local market. Her husband was a shaft worker at the site. They received \$500 in compensation when they were displaced. Her husband worked for a while at the new site in Cinjira but stopped shortly after as production was too low. Life in Cinjira is difficult. They are hungry, and struggle to keep their children in school. They sold all of their livestock – four cows and some goats and chickens – to survive. Today, they are growing potatoes on the land of a friend to get by.³³⁹

He was a shaft worker at Mbwega. His family had around three hectares of land where they grew maize and potatoes. They didn't want to leave but they were forced to by armed police who came to their home. They were compensated with \$2,500 for their land. They had five cows, four goats and five chickens but today they have nothing left as they sold them all to keep the family going. He tried working in artisanal mining at Cinjira for a while but didn't find anything. He managed to borrow some money from a friend. He used this money to start his business and today he bakes bread to sell to others at Cinjira.³⁴⁰

Author site visits and data provided by CCALU, an informal, elected committee representing artisanal miners in Luhwindja, suggest there were an estimated 2,000 artisanal workers and managers across seven sites in Luhwindja in 2017, a considerable decrease from the estimated 6,000 prior to the closure of Mbwega (Table 9.1).³⁴¹ Three of the artisanal sites in Luhwindja – Cinjira, Lumpumpu and Ntagare – were opened after the closure of Mbwega but had proved unproductive, while the productivity of Kadumwa itself was in decline (as discussed later in the chapter). The testimony of a Bukavu-based trader buying gold from Luhwindja supports this impression. He noted that 'it's become very difficult. I have very little work since Banro arrived and closed Mbwega. Even if I spend my days here at my office, it's become very complicated'.³⁴² Luhwindja's artisanal mining sector, then, appears to have been pushed to more marginal and less productive spaces within the local gold economy as a result of Banro's arrival.

Table 9.1 Artisanal gold mine sites in Luhwindja, selected years

Site	Units of Workers & Managers	
	2010	2017
Mbwega	5,500	0
Kadumwa	200	800
Lulimbowe	100	100
Lungunkuri	100	400
Mwana	100	275
Cinjira	0	225
Lumpumpu	0	100
Ntagare	0	100
TOTAL	6,000	2,000

Source: CCALU board members and author site visits.

³³⁹ Interview with former Mbwega farmer, Cinjira, April 7th 2017.

³⁴⁰ Interview with former Mbwega shaft worker, Cinjira, April 7th 2017.

³⁴¹ Estimates provided by CCALU board members and author site visits.

³⁴² Interview with gold trader, Bukavu, April 18th 2017.

Drawing on the labour and distributional wage data presented in previous chapters, it's possible to make a very broad and generalised comparison between the mining wages and profits earned, consumed and invested locally prior to and after Banro's arrival in Luhwindja. While not too much should be read into the exact figures generated, given the level of generalisation, the comparison nonetheless suggests it's not only the total number employed in mining locally that has decreased since Banro's arrival. Owing to low industrial worker wages and their uneven distribution between local (unskilled) workers, non-local (skilled) workers and managers, the total annual wages (and profits, in the case of shaft managers) accruing to groups of mining workers and managers who consume and invest their wages locally has also decreased (Table 9.2).³⁴³

Table 9.2 Mining wages before and after Banro's arrival, Luhwindja

Time Period	Group	Units of Workers & Managers	Total Annual Wages / Profits (\$)	Expenditure Orientation
Pre-2010	Artisanal Site Workers	1,496	846,772	Local
	Artisanal Shaft Workers	4,157	8,132,031	Local
	Artisanal Shaft Managers	346	6,957,890	Local/Non-Local
TOTAL PRE-BANRO		6,000	15,936,693	-
2017	Artisanal Site Workers	499	297,717	Local
	Artisanal Shaft Workers	1,386	2,710,677	Local
	Artisanal Shaft Managers	115	2,319,897	Local/Non-Local
	Industrial Workers (Unskilled)	846	2,168,108	Local
	Industrial Workers (Skilled)	303	2,579,806	Local/Non-Local
TOTAL POST-BANRO		3,149	10,075,604	-

Notes: To determine the units of workers and managers across each category in artisanal mining, the same weighting was used as observed between the three categories at Kadumwa; To determine the total annual wages of site workers, the wages earned by water carriers, ore carriers and ore washers were likewise weighted as observed at Kadumwa.

Source: Author data presented above and in Chapter 8.

While approximate, the general trend identified by these quantitative estimates is nonetheless supported by local teachers, traders, farmers and youth, who in conversation consistently foregrounded the relative strength of the local economy prior to Banro's arrival. The following three statements, from a young woman, a young man and a hired labour worker at Twangiza respectively, are illustrative:

I think that artisanal mining is very important for us. All of us grew up in this system and made progress in this way. Our parents had a market thanks to the work of artisanal miners. When a miner comes from work, he buys something, and this something allows me to study. Since Banro has arrived, you see parents saying "I don't have money to pay school fees" and children staying at home... We hadn't experienced that before.³⁴⁴

³⁴³ Industrial managers are not included in the calculation because, to recall from Chapter 8, the wage expenditure of this group was demonstrated to take place almost exclusively outside of Luhwindja.

³⁴⁴ Luhwindja parish youth focus group discussant, Luhwindja, November 27th 2016.

Someone who digs, once he's found some gold, the money he earns at least circulates locally. Even those who sell flour, or something else, are going to benefit. Even those who sell *fretins* [local fish]. If we compare now with Banro, you will see that the company pays its workers in Bukavu, even a native from here is paid in Bukavu. All the money goes there, while we have our commerce here, but who can now buy from us?³⁴⁵

I've found that no Twangiza Mining workers come into town with their money, not even to buy a beer. I ask myself why? It's because everyone gets paid in Bukavu, and no-one can earn money in Bukavu and bring it back to spend here. You can buy everything in Bukavu. Which is why Kadumwa has such an impact here. When artisanal miners come home from Kadumwa, they contribute a lot to local development here. They buy flour for example, far more than the workers at Banro. I've seen that all the contracted workers at Banro, the majority, live in Bukavu with their families. So, what do they have to do with Luhwindja now? They have nothing to do with the people of Luhwindja. They won't even buy their cooking oil here. Banro gives them food and soap. What can they buy here? That's the difficulty we have.³⁴⁶

Banro's arrival, then, has displaced and appears to have shrunk the pre-existing local mining economy in Luhwindja, depriving some of the area's asset-poor rural households of a vital source of off-farm revenue, and appearing to induce an overall decrease in the total level of mining employment and mining income consumed and invested locally.

In addition, the locally-led artisanal mechanisation efforts underway in Kamituga (discussed in Chapter 5) have been suppressed by Banro. Recalling the state-TNC suppression of artisanal mining in South Kivu throughout the twentieth century (documented in Chapter 3), this has taken place with the support of the Congolese state, disrupting the growth and trajectory of a prosperous local class of artisanal trader-managers. As a result of the increased artisanal productivity and extraction of previously unprofitable ore, Banro's strategic deposits were being exploited and exhausted at a much faster rate than had been the case under more purely artisanal techniques. Banro's former CEO, John Clarke, explained in 2017 that the corporation's strategy was to have the Kamituga and Lugushwa mines in the production phase in the next ten years.³⁴⁷ Artisanal mechanisation in Kamituga posed a direct threat to this longer-term vision, by more rapidly depleting the value of the corporation's deposits in the area.

The Public Relations Manager of Banro's subsidiary Kamituga Mining succinctly articulated the crux of the problem for the corporation:

For us, it is about the mechanisation of mining exploitation. Thus, we decided to cut down electricity in D3, Bipasi and Calvaire...we continue to tolerate the presence of miners up to now, but under the condition that they remain in artisanal mining only (cited in Buraye et al. 2017: 361-362).

The 2013 Annual Report of the state's South Kivu Provincial Mining Division noted 'the invasion of sites conceded by artisanal miners, coupled with the arrival of ball mills in some cases, has made

³⁴⁵ Luhwindja parish youth focus group discussant, Luhwindja, November 27th 2016.

³⁴⁶ Interview with Zuki worker, Luhwindja, December 12th 2016.

³⁴⁷ Interview with former Banro CEO, John Clarke, UK, October 26th 2017.

cohabitation between the artisanal and industrial miners concerned even more delicate'.³⁴⁸ In early 2013, Banro opened legal proceedings against the mill owners, informing them that the mills would be appropriated by the Congolese state if they were not moved off the Mobale deposit (the site of SOMINKI's most industrialised gold mine during the twentieth century). In September 2013, after owners failed to heed this warning, around 30 mills were appropriated by state agents with the support of local military and police, and transferred to state custody in Bukavu. According to one of the local policemen involved in the operation, 'police officers and soldiers were instructed to clear all the ball mills at Mobale. This was difficult for us, but we had to follow orders'.³⁴⁹ Following this appropriation, mill owners formed and registered the cooperative Kamituga Development to represent and defend their own interests.³⁵⁰

By 2017, in part as a result of mill owner negotiations locally, while mills were no longer present at Mobale, they continued to operate at Calvaire, a site of less strategic value to Banro. Yet no judgement had been passed on the court case opened by Banro against the mill owners, and as a result their future remained uncertain. As the president of a miners' association in Kamituga reflected:

Since 2012, artisanal miners have been leading a life of uncertainty. They continue in their work, not knowing what day their enemy will surprise them, inciting local authorities, police and military to appropriate their machinery.³⁵¹

This testimony proved somewhat prescient, as in April 2018 a letter was sent by the General Prosecutor in Bukavu to state mining police in Kamituga. The letter informed the mining police that the case against mill owners at Calvaire was still open, and that a visit would soon be undertaken by the court 'to proceed with the suspension of all related [ball mill] activity'.³⁵² While as of early 2019 this visit had yet to take place, the letter nonetheless demonstrates that for Banro and the Congolese government the matter is not yet settled. As long as Banro has exploitation permits in and around Kamituga, state-led efforts to suppress artisanal mechanisation in the area seem likely to continue.

Shaft managers at Kadumwa were well aware of the use of mills at Kamituga, as well as the state's response. In addition, as previously mentioned, conversations and interviews with workers, managers and traders at Kadumwa indicated the site faces a similar context of declining production, following a high production period after Mbwege's closure. According to these testimonies, around the time that Kadumwa was occupied following its closure in 2011, the gold was nearer to the surface, plentiful, and relatively easy to access. Yet by 2017, the site was nearing the extractive limits of artisanal production methods.

³⁴⁸ South Kivu Ministry of Mines, Mining Division Annual Report, 2013. Author translation.

³⁴⁹ Interview with local policeman, Kamituga, April 22nd 2017.

³⁵⁰ Interview with Kamituga Development founder and President, Kamituga, April 24th 2017.

³⁵¹ Interview with the President of the miners' association *Cadre de dialogue et de concertation des exploitants miniers artisanaux de Mwenga*, Kamituga, April 24th 2017.

³⁵² Letter from the General Prosecutor in Bukavu to state mining police in Kamituga, 'For the state against the Calvaire ball mills', April 14th 2018. Author translation.

An ore grinder captured this context, when asked what he was treating: ‘That’s just gravel. Before we would throw it away, it wasn’t sold. When there was a lot of gold, we didn’t sell that. But given there’s no longer much gold around, it’s now being sold’.³⁵³ A conversation with Bukavu-based gold traders buying from Luhwindja further illustrates the site’s decline:

Trader 1: Before, there was a lot of gold [at Kadumwa]. There was really a lot.

Trader 2: It’s true that at the beginning, production levels were high when Kadumwa started.

Author: And today?

Trader 1: They no longer have the means to reach the veins.³⁵⁴

Shaft managers explained the problem is that in many places they have reached the level of rock, and so can no longer descend any deeper. To do so, they would need the same explosives and ball mills used in Kamituga. Yet they were doubtful the company would tolerate mechanisation at the site, and were reluctant to invest in mechanising production given Banro’s response in Kamituga. Their reluctance also stemmed from the perception that Banro would soon force them off the site, discussed further in the next section.

To summarise, Banro’s arrival has induced two major changes at the local level. In Luhwindja, it has led to the forced displacement of people from the land to construct the Twangiza mine, and has decreased the overall level of mining employment and mining income available and circulating locally. In Kamituga, it has resulted in the suppression of locally-led and owned processes of artisanal gold mechanisation, which has in turn made Kadumwa’s trader-manager class wary of making similar investments. In other words, Banro’s arrival has led to the marginalisation of surplus rural populations, local mining labour and a mechanising artisanal mining sector. In response, affected groups have generally adopted non-violent strategies of protest and resistance. Yet Banro’s co-optation of local and national political leaders has limited the effectiveness of these strategies, and more recently, resistance and protest have taken on increasingly violent dimensions.

9.2 From Peaceful Protest to Violent Rebellion?

While artisanal miners successfully reoccupied Kadumwa and Lukunguri in 2011, the two sites were once again threatened with closure in 2013 when Désiré Sangara, Banro’s Vice-President, Government Relations, wrote to the Congolese Minister of Mines requesting action be taken against ‘the proliferation of illegal artisanal mining in the concessions belonging to Twangiza Mining, which is facing difficulties in its exploration activities considered a priority for extending the life of the mine’.³⁵⁵ In response, the *Comité de développement de Luhwindja* (CODELU) – Luhwindja Development Committee – a political group of Luhwindja elites based in Bukavu, and CCALU, the elected committee representing artisanal miner interests in Luhwindja, wrote a letter, which was then signed by 679 of Luhwindja’s artisanal miners. Addressed to the Minister, with a number of Banro representatives in copy, the letter informed him ‘...we resist any attempt to displace us for the second time from this site which supports our families today.... We denounce this latest

³⁵³ Interview with ore grinder, Kadumwa, July 13th 2017.

³⁵⁴ Conversation with gold traders, Bukavu, December 14th 2017.

³⁵⁵ Letter from Banro’s Vice-President, Government Relations to the Minister of Mines, May 28th 2013. Author translation.

attempt at displacement; our peaceful and pacifist attitude should not be mistaken for naivety'.³⁵⁶ While in early 2014, military and police descended upon Kadumwa and attempted to close the site, reportedly using tear gas,³⁵⁷ CODELU and local government authorities contacted the Ministry of Mines in Kinshasa to plead the case of Kadumwa, which eventually led to the site being left open to artisanal miners.³⁵⁸

Yet while artisanal miners have, until early 2019, successfully resisted the closure of Kadumwa and Lukunguri, this strategy seems unsustainable. When Banro appropriated the Mbwege mine, around 80 families resisted. The household heads of resisting families were imprisoned locally, which led to most relenting, but after one week six people who continued to resist were sent to prison in Bukavu. While in prison, their fields were taken and their houses destroyed. Upon their eventual release, there was nothing left of where they used to live to return to.³⁵⁹ More recently, Banro targeted a fresh closure date for Kadumwa of September 2017.³⁶⁰ According to the Luhwindja Head of Collectivity, the second most senior local government position after the Mwami, this timeline was not met because local government insisted that before the site is closed the Ministry of Mines establish an official ZEA (artisanal exploitation zone) where Kadumwa's artisanal miners could work legally.³⁶¹ While CCALU is resistant to any displacement, Banro has accepted the proposition to establish a ZEA in principle, but the corporation's position is that regardless of whether a ZEA is set up or not, it must have access to the site by 2020 at the latest.³⁶² The earlier experience at Mbwege suggests that, when Kadumwa becomes a financial imperative for Banro, a similar process of forced displacement is likely to follow.

Banro's ability to continue production and plan for expansion in Luhwindja, regardless of the social costs, is largely due to the state support it receives at the local, provincial and national level. This support was evident from the very outset, as Banro's arrival was facilitated by President Kabila, the Mwamikazi of Luhwindja and the national army, which in 2005 launched a successful operation to clear the non-state armed group *Forces démocratiques pour la libération du Rwanda* – Democratic Forces for the Liberation of Rwanda – from the area and protect Banro's infrastructure and personnel. According to Geenen (2014a: 134):

In his search for a new legitimate intermediary between the company and the local population, [President Joseph] Kabila contacted [the former Mwami] Philemon's widow, Espérance Barahanyi, who bore the title of "Mwamikazi". At that moment, she was residing in Belgium with her children. The President reasoned that if she were able to win legitimacy in the eyes of the population, she could facilitate Banro's instalment.

³⁵⁶ Letter from artisanal miners at Kadumwa to the Minister of Mines, June 21st 2013. Author translation.

³⁵⁷ Interview with CODELU member, Bukavu, June 15th 2017.

³⁵⁸ Interview with Luhwindja Head of Collectivity, Luhwindja, February 9th 2017.

³⁵⁹ Conversations with local residents, Luhwindja, July 2017.

³⁶⁰ Interview with Banro Congo Vice-President of External Relations, September 14th 2016.

³⁶¹ Interview with Luhwindja Head of Collectivity, Luhwindja, February 9th 2017.

³⁶² Interview with Banro Congo Vice-President of External Relations, September 14th 2016; Interview with civil society leader, Bukavu, February 14th 2017.

Banro has continued to cultivate this support, likely under pressure from the local political elites around the Twangiza mine to do so. As has been shown in previous chapters, the Mwami, the Mwamikazi and senior state authorities in Luhwindja and neighbouring collectivities have been given subcontracts to provide labour, productive activities and food produce to the Twangiza mine. In addition, according to the subsidiary Banro Congo's 2011 ledger report, they also receive direct monetary payments. In 2011, these included \$4,000 per month to the Mwamikazi of Luhwindja (logged either as a community relations payment or consulting fees), as well as a \$6,000 scholarship contribution logged as a donation; more than \$50,000 of payments across the year. That same year, there were also numerous other payments to local Bami in neighbouring collectivities across Banro's concessions in South Kivu, including \$2,000 as a marriage donation, \$3,100 for 'room hire and cocktails', \$3,000 for medical assistance, and regular \$200 per diems, alongside fuel, transport and accommodation payments.³⁶³ These benefits perhaps partly explain Mwami Chibwire V of Luhwindja's admittance that while he is trying to keep Kadumwa open for artisanal miners, the land ultimately belongs to Banro, 'and if they want it, they will take it'.³⁶⁴

The importance of the compliance and support these payments and subcontracts have bought Banro can be seen at critical moments of local mobilisation and agitation against the corporation. In 2015, a three-day protest and blockade of Twangiza's supply routes took place. At the beginning of the year, UHLU was founded, bringing together people from the grouping of Luchiga, the largest grouping in Luhwindja by size and population, and in which both the Twangiza mine and nearly all of Luhwindja's artisanal mines are located. UHLU established sub-committees in each of its six villages, and determined to hold Banro accountable for the commitments it had made in the 2010 Memorandum of Understanding. In May 2015, UHLU wrote a letter to the General Director of Twangiza Mining, copying the Provincial Minister of Mines, requesting, among other things, appropriate compensation for those who had been displaced, more and better job opportunities for local people at the mine, and for Twangiza Mining employees to be paid locally in Luhwindja, 'to allow for the circulation of money here and not elsewhere'.³⁶⁵ The letter stated that if their demands were not met by June, protests would be organised.

No response was received to the letters, so on Friday June 12th, three road blocks were set up and occupied by a few hundred people to disrupt the movement of workers and goods to and from the Twangiza mine. A total of around \$250 was raised locally to provide food and drink to support the protestors. The following day, the Mwami and Mwamikazi travelled to Luhwindja from Bukavu, but failed to convince protestors to remove the road blocks, despite negotiations long into the night with protest leaders at the local government office. On Sunday morning, the Mwamikazi called one of the protest leaders to communicate that Banro was missing cyanide and other materials to continue production, and warned them if the protest continued, she would be compelled to resort to force. At midday, three police vehicles arrived from Bukavu, firing live

³⁶³ Banro Congo Ledger Report, 2011.

³⁶⁴ Interview with Mwami Chibwire V, Kinshasa, October 20th 2016.

³⁶⁵ Letter from UHLU to Twangiza Mining Director General, 'Reclamations of the Luchiga Population', May 12th 2015. Author translation.

bullets in the air, using teargas and throwing stones into people's homes and stores to disperse protestors.³⁶⁶

This brought the protest to an end, following which Utralu was established by the Mwami as a new labour hire subcontractor, contracted to provide road maintenance support and build a local football stadium, providing around 150 local workers with \$110 monthly wages, at the very bottom of Twangiza's labour hierarchy (as documented in the previous chapter).³⁶⁷ In a letter written by UHLU to Twangiza Mining in August, these new jobs were dismissed as not having 'responded to our preoccupation' of securing 'decent work', and the same demands laid down prior to the protest were repeated.³⁶⁸ The episode demonstrates how the alliance between Banro, local political elites (with the backing of the Presidency) and the state's security apparatus severely constrains the effectiveness of any local protest or resistance against the corporation.

Yet the Mwami and the Mwamikazi's general support of Banro and role in repressing local dissent against the corporation while appearing to profit from its presence has fermented local tension and hostility towards them. A shaft manager at Kadumwa captured the general sentiment commonly heard in conversation with many across the area:

The people of Luchiga, and across the collectivity, haven't had their interests protected since the Mwamikazi came back here. She is the one who brought Banro here and defends them to the detriment of the interests of the local community. It's the Mwamikazi who should defend the local population, but she only sees her personal interest. The population is no longer defended. That's the heart of the problem.³⁶⁹

Back in 2012, this situation led to a petition, circulated with support from CODELU and a local NGO, asking for the Mwamikazi's removal. As Geenen and Claessens (2013: 105) documented at the time, this was part of a broader dynamic in which different local elite groups were vying for power and influence, including 'old pretenders to the throne who use this new situation to revive their claims'. This was precisely what was to occur when a few years later, on the night of July 9th 2015, just one month after the state-led repression of local protest, there was an armed attack on the Royal Palace in Luhwindja. This appears to have been made by members of the Ruvura clan who claim an historical right to the throne, seven of whom were sentenced to life in prison following the attack.³⁷⁰ In 2016, UHLU communicated to Banro that it was withdrawing its support for the Community Forum founded and moderated by the Mwamikazi to facilitate dialogue with the corporation,³⁷¹ and in 2016 and 2017 CODELU was continuing to criticise the forum's functioning and the Mwamikazi's control over it.³⁷²

³⁶⁶ Interviews with UHLU members and protestors, Luhwindja, November to December 2016.

³⁶⁷ Interviews with UHLU members and protestors, Luhwindja, November to December 2016.

³⁶⁸ Letter from UHLU to Twangiza Mining Director General, 'Contestation', August 15th 2015. Author translation.

³⁶⁹ Life history with Kadumwa manager, Luhwindja, April 9th 2017.

³⁷⁰ Interview with CODELU member, Bukavu, February 21st 2017.

³⁷¹ Conversation with UHLU President, Luhwindja, December 1st 2016.

³⁷² Letter from CODELU to Mwami of Luhwindja, 'Misfunctioning of the Community Forum', February 16th 2016; Letter from CODELU to Mwami of Luhwindja, 'Functioning of the Community Forum', February 6th 2017.

Yet likely in part due to her position as Provincial Deputy and reportedly close relations with the (now former) Governor of South Kivu, Marcelin Cishambo, and the Kabila family, the Mwamikazi and her son have maintained their political positions and economic control over local subcontracts and labour mobilisation. Two of CODELU's leaders were arrested following the 2012 petition, and in late 2017, a court judgement invalidated the Ruvura claim to the throne, bringing a formal end to the legality of their challenge, and the main protagonists behind the attack remain in prison.

In February 2017, however, the Twangiza mine faced an altogether new form of resistance. At around one o'clock in the morning of Tuesday February 7th, a few dozen armed attackers broke into the mine through the main entrance to the camp where Twangiza Mining's workers and managers lodge. Three state police and one attacker were killed by gunfire, and one of G4S's security guards was shot but survived. Sources suggested the attackers were not locals, but had come from Luvungi, around 60 kilometres away across the mountain range of the Ruzizi Plain. Some attributed them to a local militia group from the area, although this was unconfirmed.³⁷³ Following the attack, Banro increased the military and police protection at the mine, securing the perimeter with extra weaponry and with the addition of the military battalion from the tenth division, bringing military personnel up to around 100 alongside around 40 police. As of early 2019, this armed attack remained an isolated incident in Luhwindja. Nevertheless, it highlights the future potential – particularly if, as seems likely, Banro eventually appropriates Kadumwa – for artisanal miners to enter violent alliances of resistance with local militia and other armed actors operating in the region.

Indeed, in 2016 and 2017, this is precisely what took place at Banro's Namoya mine in neighbouring Maniema Province where, according to a civil society organisation from the area, 'since 2013, the central government's decision to force the artisanal miners to leave Banro's concession led to a wave of protest and discontent at the heart of the surrounding community, a discontent that amplified with the displacement of artisanal miners'.³⁷⁴ Discontent was further amplified in January 2016, following the killing by a senior police officer of a local activist during a peaceful march against, among other issues, artisanal displacement.³⁷⁵

The first signs of violent resistance began to emerge in September 2016, when six convoy trucks delivering goods to the mine were burned and 13 Kenyan and Tanzanian drivers were taken hostage, all of whom were later released following the intervention of the national army.³⁷⁶ Next, in March 2017, an armed attack was launched against Namoya. Two Congolese, one Tanzanian and one Frenchman were kidnapped. Attacks continued from May to September, resulting in the deaths of Congolese military and police and the temporary suspension of production throughout this period.³⁷⁷ Most recently, in August 2018, another attack on trucks belonging to Banro carried

³⁷³ Conversations with Twangiza Mining employees and local and state authorities in Luhwindja and Bukavu, February and March 2017.

³⁷⁴ Memo from Maniema Libertés to NGOs, February 16th 2016. Author translation.

³⁷⁵ Idem.

³⁷⁶ Bloomberg, 'Banro Trucks Targeted in Attack, Kidnappings in Eastern Congo', September 19th 2016. www.bloomberg.com/news/articles/2016-09-19/banro-trucks-targeted-in-attack-kidnappings-in-eastern-congo, accessed August 10th 2018.

³⁷⁷ Banro press statements, 2017. sedar.com, accessed August 10th 2018.

out by the militia Mai Malaika led to two passengers being killed and four people being kidnapped.³⁷⁸

Analysing these events, Verweijen (2017) and Geenen and Verweijen (2017) have highlighted how the increased violence has stemmed from shifting and uneasy alliances between artisanal miners, local militia and national army leaders, all of whom profit from the artisanal gold trade and stand to lose out from continued artisanal displacement. More recently, a report from the US-based Congo Research Group (2019: 9) supported these conclusions, connecting the violence around the Namoya mine to an alliance between displaced artisanal miners, local militia leaders, and the non-state armed group Mai-Mai Malaika.

The attacks throughout 2017 and the lost revenue from the resultant production suspensions were no doubt an important short-term catalyst that drove Banro to enter creditor protection in December 2017. The most recent attack, in late 2018, also casts doubt over Banro's future, especially in light of the corporation's financial precarity, and suggests that previously peaceful resistance strategies are increasingly morphing into a reproduction of historical patterns of violence, rebellion and conflict in the region.

The situation has also revealed Banro's contribution to conflict financing, contra the claim of the Enough Project cited in the chapter opening, via two channels. First, all those kidnapped were eventually released unharmed, and it seems plausible that in at least some instances their release was negotiated in exchange for a ransom. The same report cited above by the Congo Research Group (Ibid.) documents that in 2016, a Tanzanian hostage was allegedly released in exchange for a ransom payment. In 2017, a senior manager at Banro Congo divulged that an initial ransom of \$1 million was requested in exchange for the kidnapped Frenchman, and that the corporation brought in a South African negotiation team to secure the Frenchman's release, which eventually took place a few months later.³⁷⁹ Through the likely payments of ransom, then, Banro would be financing the activities of the non-state armed groups linked to the kidnappings, such as Mai-Mai Malaika.

Second, a subcontracting firm providing transport and logistics services to Banro's Namoya mine appears to have made regular payments to another non-state armed group, Mai-Mai Yakutumba, over an extended period of time. Mai-Mai Yakutumba operates at the southernmost point of South Kivu Province, bordering with and crossing over into Maniema Province. Its territory includes part of the transport route running from the city of Uvira in South Kivu down to Namoya, through which convoys carrying goods and inputs to the mine regularly travel. The claim that a subcontractor has been financing this armed group first came to light in 2011, when a report by the UN Group of Experts on the DRC (2011: 97) noted 'a Banro representative informed the Group...that some transporters contracted by Banro had made small payments to armed groups on the route between Bukavu and Namoya'. This claim was repeated in an article published by the

³⁷⁸ Reuters, 'Banro gold mine trucks attacked in eastern Congo, two dead', August 11th 2018. [uk.reuters.com/article/uk-banro-congo-violence/banro-gold-mine-trucks-attacked-in-eastern-congo-two-dead-army-idUKKBN1KW0J1](https://www.uk.reuters.com/article/uk-banro-congo-violence/banro-gold-mine-trucks-attacked-in-eastern-congo-two-dead-army-idUKKBN1KW0J1), accessed August 14th 2018.

³⁷⁹ Conversation with Banro Congo senior manager, Bukavu, May 2017 (exact date mislaid).

Wall Street Journal in 2015,³⁸⁰ and one interviewee claimed the subcontractor paid \$20 per truck to Mai-Mai Yakutumba when using the Uvira-Namoya transport route, with two other respondents saying they had seen money change hands between the convoys and militia members waiting on the side of the road.³⁸¹

To conclude, the literature cited on ‘blood diamonds’ in West Africa and ‘conflict minerals’ in Central Africa in the opening chapter has, directly or indirectly, strengthened the African Minerals Consensus by pointing to the superiority of TNC-managed industrial mining over local artisanal production, given its ability to exclude armed groups from a share of the profits. Yet the findings presented in this chapter complicate this perspective, as well as the assumption – legally enshrined through Banro’s status as the only entity in South Kivu in 2019 (and potentially beyond) allowed to export its supposedly ‘conflict-free’ gold to Northern markets – that Banro’s presence is isolated from conflict dynamics in the region. On the contrary, and reminiscent of the TNC-state-led suppression of artisanal mining in South Kivu in the previous century, the multiple processes of marginalisation unleashed by Banro’s arrival have reproduced historical patterns of local conflict along new and increasingly violent trajectories.

Through forced displacement, decreasing the availability of mining labour and income, and suppressing artisanal mechanisation, Banro has marginalised and come into conflict with various local groups. This has ignited forms of protest and resistance in Luhwindja against both the corporation and the local political elites who help sustain its presence in the region, including an armed attack on the Twangiza mine in 2017, which led to several deaths. At its Namoya mine in Maniema province, armed attacks became a regular occurrence between 2016 and 2018, resulting once again in numerous deaths and regular kidnappings of Banro or subcontractor employees. In addition, Banro appears to have contributed to conflict financing by making ransom payments to armed groups and, through one of its subcontractors, making regular payments to an armed group to secure its transport route to the Namoya mine.

A re-examination of the AMC literatures on ‘blood diamonds’ and ‘conflict minerals’ is, then, required. By highlighting the link between ASM and conflict financing in Africa, the literature implicitly or explicitly extolls the comparative virtues of TNC-led industrial mining, assumed to operate in isolation from conflict dynamics. Yet the evidence presented in the chapter problematises this assumption, as the belief that Banro’s mines are ‘conflict-free’ (Enough Project 2015: 3) fails to hold up to scrutiny. The evidence presented suggests TNC-led industrial mining is no more immune to perpetuating local conflict dynamics than artisanal mining. Arguably, in the case of Banro, the corporation’s arrival has intensified these dynamics by introducing new processes of local marginalisation via the displacement, shrinking and suppression of a locally-embedded and mechanising artisanal mining economy which have, in turn, given rise to new forms of protest, violence and killings as people seek to resist and counteract their newfound marginality.

³⁸⁰ Wall Street Journal, ‘How a BlackRock Bet on African Gold Lost Its Luster’, November 3rd 2015. www.wsj.com/articles/how-a-blackrock-bet-on-african-gold-lost-its-luster-1446602000?mod=videorelated, accessed February 16th 2019.

³⁸¹ Interviews with respondents who requested full anonymity, July 2016.

10. Conclusion: The Unravelling of Neoliberal Logics in the DRC

The opening chapter identified an African Minerals Consensus uniting IFIs, international and African development agencies, African governments, Western advocacy organisations, and various strands of the academic literature. To recall, the consensus holds that by driving productivity growth, TNC-led mining (re)industrialisation can raise living standards and stimulate the structural transformation of local and national economies in African LICs. A case study of gold mining in South Kivu was selected to explore the validity of these claims, and the main research question guiding the investigation was how has the entry of foreign corporations into South Kivu's mining economy influenced labour relations and local and national processes of capital accumulation and structural transformation?³⁸²

Within this line of enquiry, and taking inspiration from some of the classic critiques of peripheral development in the mid- to late twentieth century, capital accumulation and structural transformation were conceptualised as taking place through economic development, understood as, to paraphrase Fischer (2014: 14), an increasing amount of value-added per person, achieved by increasing labour productivity and sustained by the accumulation of the produced means of production. It was then argued, through the presentation and analysis of original empirical data, that during the twentieth century, Belgian-led formal gold mining in South Kivu initiated processes of polarisation and marginalisation, including the suppression of a more locally-controlled form of informal, artisanal mining. The return of industrial mining to South Kivu in the 2010s, led by the Canadian TNC Banro, revived these past tendencies and practices. Banro's arrival led, among other factors, to the displacement, shrinking and suppression of a locally-embedded and mechanising artisanal gold sector, replacing it with an externally-oriented and disarticulated mining economy. This, in turn, has given rise to new forms of protest and violence.

Located in this line of argument, this concluding chapter considers the empirical and theoretical contribution of the thesis, and is organised across three sections. In the first section, and grounded in the extended exploration of gold mining in South Kivu, a brief reflection on development in the African periphery is offered, which cautions against an overreliance on TNC-led forms of industrialisation. In the second section, three interconnected critiques of the African Minerals Consensus are made. These relate to the consensus wisdom of overlooking the potential of artisanal mining, the claim by consensus proponents that new mining industry practices render enclave concerns obsolete, and the consensus assumption that modern corporations will be more efficient and effective at leading mining industrialisation than the state-owned enterprises that preceded them, or existing artisanal alternatives. The section closes by considering the limitations to the thesis, which provide potentially fruitful avenues for future research.

While remaining cognisant of the gold sector's structural limitations, there is nevertheless a more promising path for GALIC mineral sector development to follow than the one envisaged by AMC proponents. This alternative path forms the focus of the third and final section. The artisanal gold sector provides a higher level of domestic value retention and rural labour absorption than the low

³⁸² The sub-question was: what were the pre-existing labour relations and trajectories of capital accumulation and structural transformation (or lack thereof) associated with South Kivu's mining economy, prior to TNC arrival?

levels of employment and overseas rerouting of value offered by the TNC-led model, and appears to incubate long-term processes of (proto-)capitalist class formation, increasing productivity, and capital accumulation. In light of these advantages, supporting artisanal efforts to move towards a semi-mechanised form of production offers a more suitable mining industrialisation strategy for GALIC governments to follow than the TNC-led model that has been so heavily favoured during the opening decades of the twenty-first century.

10.1 Development in the African Periphery

Two of the key aspirations of the African Union's (2015: 3) *Agenda 2063* are that, by 2063, 'African people have a high standard of living...[and]...economies are structurally transformed to create shared growth, decent jobs and economic opportunities for all'. Yet the structural constraints observed through the case study of South Kivu – namely, the volatility of external prices and the thinness, technologically-advanced and highly specialised nature of the sector's capital requirements – suggest that relying upon mineral-led national development strategies to achieve these aspirations is likely to be insufficient. What, then, is to be done?

The expansive literature on late development and industrialisation draws attention to the singular importance of an active and interventionist state to guide structural change, through the development and implementation of strategic industrial policy (Evans 1995, Mkandawire 2001, Chang 2004, Chang et al. 2016, Haggard 2018, Ovadia and Wolf 2018), which incorporates an appreciation of the required synchronicity between agricultural and industrial development (Kay 2002, 2009). This scholarship builds primarily on earlier insights from the East Asian experience in the latter half of the twentieth century (cf. Amsden 1989, Wade 1990), when a number of East Asian countries underwent precisely the process of sustained raised living standards via structural transformation aspired to in the African Union's *Agenda 2063*.

Such an approach would require African LIC governments to think beyond leveraging static comparative advantage in minerals (or other primary commodities), moving away from the market-led, neoliberal logics underpinning the African Minerals Consensus, and towards nurturing dynamic comparative advantage in strategic sectors of the economy and developing domestic and regional markets. Yet while there has been some recent revival of industrial policy discussions among African governments, linked to developing regional common markets and the African Continental Free Trade Area, these discussions remain heavily centred on foreign investors and investment (Behuria 2019). This, in a context where (as detailed in Chapter 2) the weight of FDI in the national economies of African LICs has been rapidly growing, and was greater in the 2010s relative to other country groups and regions. Moreover, in the mid-2010s, UNCTAD (2015: x) forecast the possibility of FDI stock to African LDCs quadrupling by 2030. The continued deference to foreign investment overlooks, however, the tendencies of TNCs operating in peripheral economies (and as seen through the case of Banro) to marginalise domestic firms and emergent capitalist classes, and to retain strict control over value flows, much of which is redirected overseas.

One of the key insights to emerge from the East Asian experience was the critical role played by domestic capitalists. State-business alliances, 'whereby the state implements a series of incentives

and rewards to persuade domestic capitalists to undertake investments in targeted sectors in the economy' (Singh and Ovadia 2018: 1038), were central to the sustained gains in social and economic development achieved during this period. Most of the successful East Asian industrialisers, such as South Korea and Taiwan, were cautious of foreign investment during early industrialisation, favouring instead the provision of supports and incentives to local business groups to develop targeted industries, including (during the initial stages) insulation from foreign competition (Evans 1995).

By continuing to favour FDI-led industrialisation, and the very different state-TNC alliances this gives rise to, African LIC governments would be pursuing a markedly divergent approach. As seen through the preceding analysis of mining reindustrialisation in South Kivu, such an approach could lead to any combination of three outcomes, each of which would undermine the pursuit of late development and industrialisation. First, the suppression of emerging domestic capitalist classes in conflict with TNC interests. Second, the exclusion of domestic firms from TNC-led value chains, or – for the more fortunate among them – their inclusion at and restriction to the lower end of value-added activities. Third, low value capture and retention domestically, as most of the value created by TNC-controlled production flows to overseas shareholders, senior company directors and firms. In light of these observed tendencies, TNC dominance in key industries might prove less of a means to overcome African peripherality, than an explanatory cause. The welcome renewal of discussion around the use of industrial policy by African governments in recent years would do well, then, to temper its enthusiasm for foreign investment, with an appreciation for the multiple associated risks.

10.2 The Fragile Foundations of the African Minerals Consensus

Based on the findings presented in this thesis, three critiques of the African Minerals Consensus are made. First, consensus wisdom of overlooking the potential of ASM based on assumptions about its low productivity, inefficiency and links to conflict financing is challenged. While artisanal productivity might be low, the evidence presented indicates this doesn't mean it is static. In South Kivu, artisanal gold mining was shown to be embedded in a capital-labour social relation that was associated with increasing sectoral productivity via technological assimilation and capital formation, led by a proto-capitalist class of dynamic and relatively prosperous rural Congolese, also making commercial investments in other, non-mining sectors. The trajectory of this class calls to mind the earlier reflection of Bezy et al. (1981: 35) from Chapter 3, that had such classes and initiatives not faced state suppression under Belgian colonial rule, the Congolese economy might have achieved a 'more diversified and certainly less concentrated accumulation profile'. Artisanal trader-managers raise finance to make the initial investment to fund shaft construction, mobilise and organise labour, own the means of production, and reinvest profits, including in mechanisation. It's along these dimensions that this class might be considered as representing and advancing a domestically-embedded form of peripheral capitalism.

This confirms, then, the clues provided by the social science literature reviewed in the opening chapter, that GALIC artisanal gold mining might be supporting the creation of a domestic capitalist class raising productivity through investment in mining and other sectors. Yet it also extends the insights generated by this literature, by challenging one of its recurring arguments and

policy recommendations, namely that local artisanal mining can or should ‘coexist’ with TNC-led industrial mining. This line of thinking can be seen in both the DRC scholarship (Geenen 2011b, Kamundala 2012) and the broader African literature (Hilson 2002a, Hilson 2002b, Hilson and Yakovleva 2007, Nyame and Blocher 2010). This perspective is based on the perception that industrial and artisanal miners are usually not in competition for the same deposits, as industrial mining targets deeper veins while artisanal mining targets more easily accessible surface deposits.

Yet if artisanal mining is conceptualised not as a pre-capitalist or non-capitalist, low-productivity activity, but as a proto-capitalist and mechanising form of production, it can be understood that artisanal miners and industrial mining corporations are in fact in direct competition for the same deposits. What a mining TNC exploits industrially today is nothing but the riches that, over a longer time frame, a mechanising artisanal sector could exploit tomorrow (or, more prosaically, many decades from now). This invites a reconsideration of the merits and consequences of the ‘coexistence’ argument, which might serve to further reinforce the marginalisation of artisanal mining, by negotiating its existence on the same terms as Banro in South Kivu (to recall from Chapter 9): ‘We continue to tolerate the presence of artisanal miners up to now, but under the condition that they remain in artisanal mining only’.

In addition, Banro has been as susceptible to reproducing local conflict in and around its mines as artisanal mining. This suggests that conflict financing is less related to the form of production, and more a consequence of operating in a conflict or post-conflict environment where state and non-state armed groups attempt to claim a share in the value generated by productive activity, both in mining and – as the work of Laudati (2013) has shown in the case of the eastern DRC – other economic activities. In addition, the data from Kadumwa, supported by previous studies (UNEP-MONUSCO-OSESG 2015, Kamundala 2015), demonstrated the share of value accruing to armed groups from artisanal production to be negligible.

The second critique is that the disarticulation of industrial mining operations from the local and national economy provides little support to the argument advanced by the GVC literature, that global mining industry restructuring away from vertical integration and towards corporate outsourcing means ‘the enclave mentality to diversification in low-income [African] economies is an anachronism’ (Kaplinsky et al. 2011: 29). Rather, this restructuring appears to have contributed to instilling an accentuated version of Prebisch and Singer’s original enclave thesis, whereby resource extraction under TNC tutelage in the periphery has few domestic linkages and is generally disarticulated from local and national economies due to the periphery’s dependence upon industrial, technological and financial dissemination from the centre.

Moreover, far from supporting the emergence of a Congolese private sector, Banro’s arrival has facilitated the entry of additional foreign firm subsidiaries, some of whom were shown to be in the process of expanding and consolidating their presence in the Congolese economy. This is reminiscent of the process described by Sunkel (1972: 518) for 1960s Latin America, whereby:

...industry was taken over to a large extent by foreign subsidiaries, with the result that much of the benefit expected from industrialisation has gone abroad in payment for capital equipment and in a transfer of profits, royalties and other financial payments. This has effectively denationalised and eroded

the local entrepreneurial class. Although the massive penetration of foreign firms has accelerated growth rates, especially industrial, it has also accentuated the uneven nature of development.

In a similar manner, while helping to drive GDP growth, the entry of foreign subsidiaries in South Kivu has marginalised and undermined the strength of domestic firms in the region.

The claim that Banro's Twangiza mine represents an accentuated version of historical industrial mining in South Kivu enclaves derives from three observations. First, from the 1940s onwards, the Congolese Central Bank bought a percentage of the gold produced in the country at a fixed price, providing the state with a source of foreign exchange for development financing. In addition, archives suggest that during two distinct periods the Belgian-owned subsidiaries MGL and SOMINKI paid profit tax rates of up to 50 percent to the Congolese state, which in turn supported expansionary periods of state investment and social service provisioning at the national level, first in the 1950s and then again during the first decade of Mobutu's presidency (1965 to 1974). Today, Banro sells all of its gold overseas, has yet to pay the already low four percent Congolese profit tax, and its financial ill-health and use of various accounting techniques cast doubt over whether and how it will be in a position to pay the 30 percent tax rate when its current exemption expires in 2022 (if, indeed, the corporation is still active at this point).

Second, the artisanal and small-scale techniques underpinning Belgian-led formal gold mining in its infancy – and that continued to be used in many areas, including Luhwindja, up until the latter part of the twentieth century – allowed for the productive techniques to be assimilated and reproduced by Congolese in the parallel informal gold economy. Yet gold mining in the twenty-first century has become a highly capital-intensive, technologically advanced and specialised activity, with gold mining at Banro's Twangiza mine an estimated eight times more productive than it was at SOMINKI in the 1980s. This restricts the potential for the local assimilation and mimicry of productive techniques, as occurred in the previous century, particularly within a neoliberal regulatory framework where state industrial policy to guide such a process is entirely absent.

Third, and as highlighted in the opening chapter, Prebisch's (1950) original enclave formulation related not only to the externally-oriented and disarticulated form of resource extraction in the periphery, but also (among other factors) to the marginalisation of local populations. This included through increased wage polarisation, the scale of which has continued to widen under Banro, compared to the previous century. The wage inequality ratio between the lowest paid workers and the highest paid directors at Twangiza was shown to be 134:1, up from 74:1 at SOMINKI in the 1980s and 37:1 at Kadumwa in 2017. The degree of stratification between local Congolese workers and non-local Congolese directors had also grown significantly, from 21:1 at SOMINKI in the 1980s to 106:1 at Twangiza in the 2010s. Compounding this situation, and an important theoretical counterpoint to the general enthusiasm for corporate outsourcing found in the GVC literature, the organisational fragmentation induced by corporate outsourcing had weakened the collective power and strength of the predominantly local industrial workers to negotiate higher wages or improved terms of incorporation.

In addition, thousands of miners and residents in Luhwindja were forcibly displaced to make way for Banro's Twangiza mine, which the incorporation of local people as mostly informal industrial workers earning broadly comparable wages to those in the artisanal sector failed to compensate for. That Banro's arrival approximately halved the availability of mining labour in Luhwindja between 2010 and 2017, leading to an overall decrease in the total amount of mining income consumed and invested locally, casts serious doubt over the consensus position that TNC-led industrial mining can raise local wages and improve living standards in the African periphery. Together, these three observations support the DRC and African mining literatures reviewed in the opening chapter which suggested that, while driving high GDP growth rates, TNC-led mining (re)industrialisation might be reproducing similar processes of peripheral polarisation and marginalisation to those identified by earlier structuralist thinkers.

The third and final critique is a questioning of the consensus assumption that modern corporations will be more efficient and effective at leading mining industrialisation than the state-owned enterprises that preceded them (or existing artisanal alternatives). In South Kivu, the corporate-led model has twice proved ineffective in delivering sustained economic development, and principally for the same reason. The Belgian subsidiary SOMINKI went into liquidation in 1997, and exactly 20 years later, in 2017, the Canadian corporation Banro went into Canadian government creditor protection to save it from bankruptcy. In both cases, the corporations failed to control costs in the face of severe price volatility. For SOMINKI, the tin price halved in 1985 and failed to recover. For Banro, the gold price dropped by one-third between 2012 and 2014 and, as of early 2019, had yet to recover. In the case of Banro, internal mismanagement and inefficiencies were found to have contributed to this failure, including continued corporate rent-seeking as it descended ever closer to the verge of bankruptcy. These trajectories highlight how severe price volatility and the resultant corporate failure to control costs critically undermine the ability of TNC-led mining industrialisation to drive broader processes of capital accumulation and structural transformation in the African periphery.

While this problematises the belief held by AMC proponents in superior corporate efficiency, it also suggests the external structural constraint of price volatility functions to limit the sector's transformative potential, irrespective of whether the sector is under state, foreign corporate, or domestic firm ownership and control. In a similar vein, the narrow, technologically advanced, and highly specialised nature of the industrial machinery required at Banro's Twangiza mine constrains the space for Congolese firms and actors within the chain. While this further dampens the enthusiasm from the GVC literature that corporate outsourcing might provide an impetus to industrialisation in African LICs (Kaplinsky et al. 2011, Morris et al. 2012), it also suggests the limited industrial requirements of gold mining place an additional structural constraint on its ability to stimulate broader economic development, irrespective of ownership and management structures.

The African Minerals Consensus has been constructed, then, on fragile theoretical foundations. Before elaborating on an alternative and more suitable strategy for GALIC gold sector development in the next section, several limitations to the study must first be noted, each of which highlights possible avenues for future research. First, the focus has been on the gold sector. Replicatory research focusing on other minerals would be illuminating to the extent that it might

confirm or refute the findings presented here for gold, particularly in the case of iron ore and copper, which the World Bank (2010: 26) has argued are well-suited to stimulating broader industrialisation and structural transformation due to their demands for large amounts of infrastructure that can be used for other purposes. This being said, and as mentioned in the opening chapter, given African LICs demonstrate broadly similar demographic characteristics and are at broadly comparable stages of economic development, it seems plausible that the structural critiques of gold industrialisation generated by the thesis might apply to other minerals. The role for replicatory research for other minerals remains, nonetheless, evident.

Second, and returning to the gold sector, gold jewellery accounts for around 50 percent of total global gold demand.³⁸³ Yet the thesis hasn't considered the beneficiation of gold, namely its transformation into jewellery, and the value-added and distributional dynamics associated with this process. Extending the analysis to incorporate the jewellery industry would provide valuable insight into the functioning of the global gold value chain at these levels. On this point, both Bukavu in South Kivu and Bujumbura in neighbouring Burundi have vibrant but largely informal jewellery industries, thus presenting an opportunity to develop an integrated domestic and regional gold value chain, refining gold domestically and producing jewellery for national, regional and international markets. Yet at present, most Congolese gold – whether artisanal or industrial in production – is exported as bullion, with further refinement and transformation taking place overseas.

Third, Chapter 7 identified three financial accounting strategies that might be contributing to the rerouting of value outside of the DRC and towards predominantly Northern financial centres: overreporting investment, underreporting production value, and a complex web of intra-company and shareholder loans and transfers. Further research in this area could shed more light on these and possibly other financial techniques and strategies used by TNCs. While accessing Banro's subsidiary financials was a challenge, this ultimately proved only half of the work. As important is the ability to analyse and interpret the complex level of financial detail they contain, with an important role here for forensic accountants, to help further our understanding in this area.

Fourth, the research didn't explore the impact of price fluctuations on the distribution of value across the chain. If the gold price falls or rises, how does this impact the share of wages and profits between different groups? Fifth, and similarly, the research left the important issue of the altered distributional dynamics associated with artisanal mechanisation unaddressed. While recent research by Mulonda et al. (2019) made an initial exploration of this issue in Kamituga, finding women at the bottom of the labour hierarchy to have been the most negatively affected, there remains plenty of scope and need to investigate these dynamics further. Particularly because, as argued in the next section, following this path towards a formalised and semi-mechanised gold sector appears the mining industrialisation model best-suited to the specific needs and challenges faced in the African periphery.

³⁸³ World Gold Council, www.gold.org/about-gold/gold-demand/sectors-of-demand, accessed March 3rd 2019.

10.3 Forging an Alternative Path

State policy, however well-designed, would be relatively impotent to address the structural limitations to national gold-based development strategies in the African periphery highlighted in the previous section, regardless of whether these are led by foreign corporate, state or domestic firm models of management and ownership. This being said, the currently favoured TNC-led model exacerbates these constraints, through processes of domestic firm and (proto-)capitalist class marginalisation and the overseas rerouting of value highlighted in Chapters 5, 6 and 7. Pro-labour and industrial policy certainly have an important role to play in alleviating these tendencies. In the case of the DRC, some steps have recently been made in this direction, as noted in Chapter 6, through the 2014 local content decree, the 2017 subcontracting law, and the increased tax and royalty rates enshrined in the 2018 mining code.

Yet while the transformational potential of gold mining in GALICs appears limited, there is nonetheless, within the confines of its constraints, a more suitable model for gold sector industrialisation to follow, from the perspective of this country group. Looking for signs of tension and contradiction within the 1960s and 1970s Latin American development model that depended – as across GALICs in the 2010s – upon FDI and foreign firms to deliver high GDP growth rates, Vaitos (1973) identified the potential of the rise of social structures and local business groups not dependent on or in conflict with foreign interests to provide a viable alternative. The data presented in Chapters 4 and 5 identified precisely such an emergent class of artisanal gold trader-managers which, as discussed in Chapter 9, has fallen into conflict with Banro since the corporation's arrival in South Kivu. This class represents a source of tension at the heart of TNC-led mining (re)industrialisation, and carries precisely the required potential to forge an alternate path.

To generalise from the findings at Kadumwa, which are supported by the earlier work of Geenen (2014a) and Kamundala et al. (2015), of critical importance is the observation that around 95 percent of the end value generated by the mine in 2017 was captured by and distributed between Congolese groups, and around 80 percent went directly to different groups of Congolese workers and managers directly involved in production. Given the challenges inherent to the domestic capture and retention of value in the African periphery, as foregrounded by the study of Banro, this is a significantly advantageous starting point from which to develop sectoral policy.

In addition, the sector provides a crucial source of revenue to landless or asset-poor rural families, at greater remuneration than local alternatives, and with a lower degree of wage inequality than was observed at Twangiza. Alongside the benefits of labour absorption, the sector appears to support the emergence of a dynamic and prosperous proto-capitalist class of trader-managers, investing its own capital to generate profits from the sector, migrating families from rural hinterlands to urban centres, and crucially driving increasing sector productivity by reinvesting a portion of its profits in capital formation and mechanisation. Despite Banro calling upon the Congolese state's legal and security apparatus to suppress these efforts, the process continues, albeit stifled and disrupted, on the margins of the corporation's main deposits.

A further advantage of supporting artisanal mechanisation is its relatively slower rate of extraction, which offers more time for the incubation of the long-term, domestically-driven processes of capitalist class formation, capital accumulation and mechanisation observed across different regions of South Kivu to take place. In 1984, SOMINKI produced 436 kilogrammes of gold, Kadumwa produced 60 kilogrammes of gold in 2017, and in 2013, Twangiza produced 2,565 kilogrammes of gold (Table 10.1). Banro's rate of extraction, then, is around six times greater than SOMINKI's and more than 40 times greater than at Kadumwa. Thus, Banro's arrival in South Kivu means the region's gold deposits are being depleted at a significantly faster rate than ever before.

Table 10.1 Annual value creation and labour productivity (based on average 2017 gold price)

Company/Site	Year	Gold Production (kg) (a)	End Value Created (\$) (b)	Units of Labour (c)	Productivity (\$) (b/c)	Ratio to Artisanal Productivity	Units of Labour per kg of Production (c/a)
Kadumwa	2017	59.7	2,341,772	762	3,073	1:1	12.8
SOMINKI	1984	435.5	17,602,039	2,100	8,382	3:1	4.8
Twangiza	2013	2,564.9	103,668,128	1,366	75,892	25:1	0.5

Source: Data presented in Chapter 6.

In addition, the comparative productivity data presented in Table 10.1 above suggests that approximately five units of labour were employed per kilogram of gold produced by SOMINKI in the 1980s, and at Kadumwa in 2017 this figure rose to thirteen. At Banro in 2013, however, it took just half a unit of labour to extract one gold kilogram. The development of increasingly automated industrial gold mines, including in the DRC where the Kibali project opened a fully automated underground mine in 2018,³⁸⁴ looks set to further reduce the already low level of labour absorption by highly capital-intensive, industrial gold mining as we advance towards the mid-twenty-first century.

From the perspective of state policy, then, GALIC gold sector development should not necessarily seek to immediately arrive at the technological frontier of highly capitalised industrial production, as this will not only encumber the sector with the sorts of problems and constraints associated with the TNC-led model discussed in the previous section, but it will also rapidly deplete deposits while using little labour in the process. Rather, a longer-term perspective should be adopted, which prioritises domestic value retention and labour absorption by formalising and mechanising locally-managed artisanal production (and thus, incubating technological assimilation and progress in synchronicity with, rather than disconnected from, the surrounding economy, as was seen to be taking place organically at Kamituga in Chapter 5). Importantly, and as discussed above, the aim should not be to generate the conditions for the peaceful coexistence of artisanal miners and transnational mining corporations, as advocated by many ASM scholars. Rather, it must be to limit

³⁸⁴ Randgold Resources, 'Commissioning of Automated Underground Mine Drives Production Growth at Kibali', April 23rd 2018. www.randgoldresources.com/commissioning-automated-underground-mine-drives-production-growth-kibali, accessed October 4th 2018.

or exclude the TNC-led model while nurturing the development of a domestically-led artisanal mining sector to eventually access the deeper and more technologically complex deposits.

Such a nurturing would certainly be wrought with its own tensions and contradictions, inevitably creating winners and losers in the uneven and contingent process of (capitalist) economic development. Yet conflicts around how value is managed and distributed domestically are no doubt preferable to those associated with the TNC-led model exemplified by Banro, such as forced displacement, the shrinking of local labour markets and economies, domestic marginalisation, enclaved production, and the centripetal forces that drain value overseas.

So, what scope might there be for GALIC governments to pursue a strategy to formalise and mechanise the artisanal sector in the coming years and decades? Writing on artisanal gold mining in Africa, Bryceson and Geenen (2016: 315) consider the evidence to ‘point to the eventual subsidence of artisanal frontier mining, and the gradual demise of an era. The frontier fades as artisanal mining persists uneasily or covertly in the shadows of large-scale mining’. Indeed, in a context like the DRC, where in 2011, 83 percent of the country’s known gold reserves belonged to mining TNCs (Mupepele 2012: 57-58), it is difficult to see how such an agenda might be meaningfully advanced in the foreseeable future. The historical persistence of state-TNC suppression of and hostility towards informal, artisanal mining in South Kivu further cautions against any great enthusiasm that this continuity can be easily overturned.³⁸⁵

Yet while the World Bank remains committed to promoting the potential benefits of TNC-led industrial mining across Africa (Hilson 2019), African governments are beginning to depart from this prescription. As the 2010s draw to a close, we are living through what might be judged in time as the first generation of African mining sector reform since the 1980s that is seemingly focused on reversing the liberal excesses of the previous three, carried by a rising wave of resource nationalism (as a Bloomberg article proclaimed in February 2019, ‘The Fight Between Miners and African Governments is Just Getting Started’).³⁸⁶ As already mentioned, in 2018, the DRC updated its mining code, raising royalties, taxes and the level of state participation in new projects. In early 2019, Zambia introduced legislative changes affecting mining TNCs operating in the country. Tanzania has recently revived a number of state-owned mining enterprises, increasing their minority stakes in joint venture partnerships with foreign corporations (Pedersen and Jacob 2017). Several GALICs – including Liberia, Madagascar, Malawi, Togo and Uganda – are currently reviewing their existing mining legislation, with new codes and regulatory frameworks expected in the coming years.

Recent changes have also, in some instances, strengthened the position of ASM. In 2017, the gold smelter African Gold Refinery was constructed in Uganda, establishing a domestic gold refinery which – while foreign-owned and exporting significant amounts of gold smuggled out of the DRC

³⁸⁵ Nevertheless, with Félix Tshisekedi appointed as the new President of the DRC in December 2018, and Theo Ngwabidje Kasi – affiliated to Tshisekedi’s political coalition – as the new Governor of South Kivu in April 2019, such a reversal in the near future should not be discounted out of hand.

³⁸⁶ Bloomberg, ‘The Fight Between Miners and African Governments is Just Getting Started’, February 14th 2019. www.bloomberg.com/news/articles/2019-03-01/how-the-cobalt-market-fell-victim-to-the-allure-of-electric-cars, accessed March 2nd 2019.

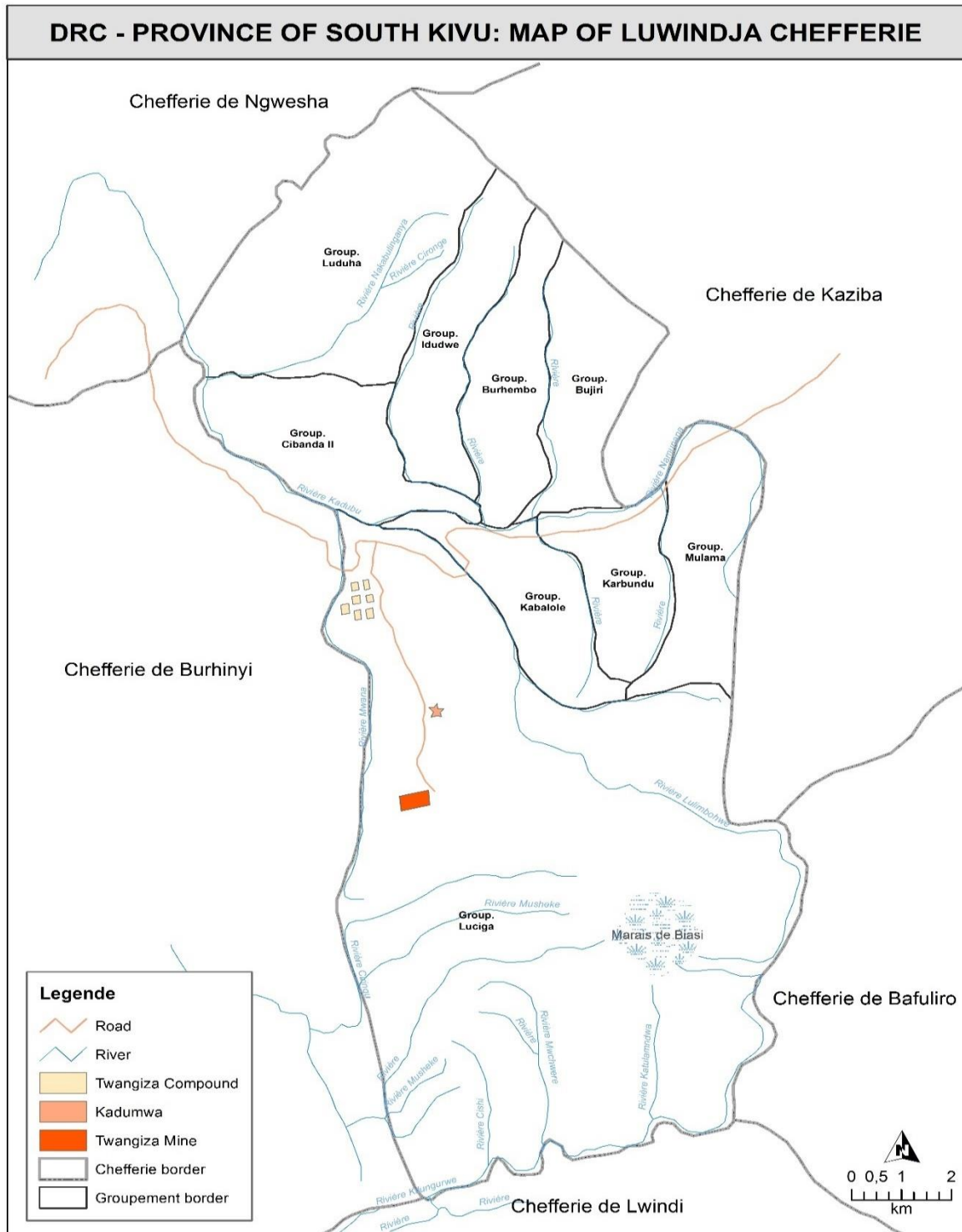
– contributed to a 23 percent increase in Uganda’s gold export earnings, recorded at \$514 million in 2018.³⁸⁷ The Tanzanian government has begun to revoke certain TNC concessions, returning them to artisanal miners (Jacob and Pedersen 2018: 290), and in 2019, it inaugurated East Africa’s first gold trading centre, as part of an effort to curb smuggling and increase official government revenue from its ASM sector.³⁸⁸ Based on the findings presented in this thesis, it is to be hoped that such developments continue to gain momentum in the years to come, and that a more locally-led and owned model of artisanal mining mechanisation can step out of the long shadows cast by foreign corporations, to deliver a less enclaved and more inclusive process of peripheral mining industrialisation than the currently dominant but disarticulated and disruptive TNC-led model.

³⁸⁷ Reuters, ‘Uganda Probes Refinery over Alleged Smuggling of Gold’, March 13th 2019. af.reuters.com/article/drcNews/idAFL8N2106ID, accessed March 22nd 2019.

³⁸⁸ Ventures Africa, ‘Tanzania has Inaugurated the First International Gold Trading Centre in East Africa’, March 20th 2019. venturesafrica.com/zambia-bans-popular-energy-drink-found-to-contain-viagra/, accessed March 22nd 2019.

Appendices

Appendix A Map of Luhwindja



Source: Author creation with the technical assistance of the UN Office for the Coordination of Humanitarian Affairs (OCHA) in Kinshasa.

Appendix B Estimating value creation at Kadumwa

Table 11.1 Kadumwa shaft manager logbook Number 5, January to February 2017

Jan 30th to Feb 28th 2017	Bags of Ore				Grams of Gold			
	Shaft Production (a)	Worker Payment	Shaft Expenses	Kept by Shaft Manager	Shaft Manager	Shaft Manager Grams per Bag (b)	Wash Basin (c)	Total Shaft Production (a x b + c)
Mon	30	12	7	11	0.0	-	0.0	-
Tues	36	13	9	14	0.0	-	0.0	-
Wed	29	10	6	13	0.0	-	0.0	-
Thurs	31	11	9	11	0.0	-	0.0	-
Fri	40	18	10	12	0.0	-	0.0	-
Sat	0	0	0	0	0.0	-	0.0	-
Sun	0	0	0	0	5.7	-	0.0	-
WEEK 1	166	64	41	61	5.7	0.09	0	15.5
Mon	19	6	4	9	0.0	-	0.0	-
Tues	23	9	5	9	0.0	-	0.0	-
Wed	23	9	5	9	0.0	-	0.0	-
Thurs	20	7	6	7	0.0	-	0.0	-
Fri	21	6	5	10	0.0	-	0.0	-
Sat	22	9	5	8	0.0	-	0.0	-
Sun	22	9	4	9	7.8	-	0.0	-
WEEK 2	150	55	34	61	7.8	0.13	0	19.2
Mon	30	18	3	9	0.0	-	0.0	-
Tues	30	17	2	11	0.0	-	0.0	-
Wed	24	13	1	10	0.0	-	0.0	-
Thurs	26	14	6	6	0.0	-	0.0	-
Fri	25	14	2	9	0.0	-	0.0	-
Sat	40	20	4	16	0.0	-	0.0	-
Sun	0	0	0	0	8.5	-	0.0	-
WEEK 3	175	96	18	61	8.5	0.14	0	24.5
Mon	0	0	0	0	0.0	-	0.0	-
Tues	41	20	0	21	0.0	-	0.0	-
Wed	38	17	3	18	0.0	-	0.0	-
Thurs	26	10	3	13	0.0	-	0.0	-
Fri	30	14	2	14	0.0	-	0.0	-
Sat	39	16	3	20	0.0	-	12.8	-
Sun	0	0	0	0	7.8	-	0.0	-
WEEK 4	174	77	11	86	7.8	0.09	12.8	28.6
Mon	31	13	0	18	0.0	-	0.0	-
Tues	34	14	0	20	0.0	-	0.0	-
TOTAL	730	319	104	307	29.9	0.10	12.8	83.9

Source: Calculations based on author data.

To estimate the annual value created at Kadumwa, production data taken from shaft manager logbooks (and from additional production arising from the ‘waste’ treated by ore washers) was combined with a shaft census. As an example of how the monthly logs can be used to determine production and, from here, value creation, Table 11.1 provides a daily summary of a shaft manager logbook. Beginning at the far left-hand column, total shaft production was recorded as bags of ore produced, with each bag uniform in size, containing approximately 25 kilograms of ore. During the 30-day period, the shaft produced a total of 730 bags of ore. From this production, the 14 workers received 319 bags as payment-in-kind, and 104 bags were used to cover shaft expenses, including worker provisions, shaft extension and shaft repair. The remaining 307 bags were retained by the shaft manager, from which he produced and sold 29.9 grams of gold. He also sold 9.4 grams that had collected in his basin over the preceding four to six weeks, from his workers’ sieving of the shaft’s ore.

Table 11.2 Kadumwa shaft manager production data, 2016 to 2017

Monthly Log Number	Bags of Ore		Grams of Gold			
	Shaft Production (a)	Kept by Shaft Manager	Shaft Manager Bags	Shaft Manager Grams per Bag (b)	Basin Production (c)	Total Shaft Production ((a x b) + c)
1	354	285	154.0	0.54	13.4	204.4
2	543	310	61.7	0.20	7.7	116.0
3	197	87	11.4	0.13	1.8	27.6
4	944	479	56.9	0.12	18.5	130.7
5	730	307	29.9	0.10	12.8	83.9
6	196	97	20.6	0.21	8.5	50.2
7	385	131	27.9	0.21	40.6	122.7
8	495	193	32.9	0.17	40.6	125.1
9	280	6	1.7	0.26	21.3	94.3
10	287	103	45.4	0.44	22.8	149.3
11	252	99	25.3	0.26	0.0	64.5
12	272	103	33.6	0.33	41.3	130.0
Average monthly shaft production, grams						108.2
Total annual shaft production, grams (108.2 grams x 44 shafts x 12 months)						57,135.8
Total annual waste production, grams (216 grams x 12 months)						2,592.0
Total annual site production, grams						59,727.8
ESTIMATED ANNUAL VALUE (97% of 59,727.8 grams x \$40.42)						\$2,341,772

Note: One logbook has been excluded as bag production was not adequately recorded.

Source: Calculations based on author data.

From this data, by dividing the shaft manager’s bag production (29.9 grams) by the number of bags he kept (307), it can be deduced that he extracted an average of 0.097 grams per bag. It is reasonable (albeit imprecise) to assume the same ratio of gold to ore in the remaining 423 bags, given that they were produced from the same shaft during the same time period. Thus, multiplying the shaft manager’s average grams per bag by the total number of bags produced by the shaft, and

adding the basin production, total monthly shaft production can be estimated at 83.9 grams. Following the same procedure across the 12 monthly logbooks indicates an estimated average monthly shaft production at the site of 108.2 grams (one logbook was excluded as bag production was not adequately recorded) (Table 11.2).

A shaft census recorded the presence of 44 operational shafts at the mine. Multiplying the average monthly shaft production (108.2 grams) by the number of operational shafts (44), and multiplying this figure by 12 months, obtains an estimated annual shaft production at Kadumwa of 57,135.8 grams (or 57.1 kilograms). Lastly, gold produced from the leftover ore purchased off shaft managers by ore washers must be considered. There were approximately 80 ore washers at Kadumwa, and conversations with this labour group demonstrated an estimated average daily production of 0.1 grams per ore washer, or approximately 2.7 grams per month (assuming their six-day working week is followed throughout). This equates to an additional 216 grams of production per month (2.7 grams multiplied by 80 ore washers), or 2,592 grams annually, giving a total annual site production of 59,727.8 grams. From here, the value of the annual site production is determined by calculating production as a percentage of the gold's purity (in the case of Luhwindja, for reasons explained in the corresponding chapter, 97 percent) multiplied by the average 2017 London Gold Fixing price of \$40.42, which gives an estimated \$2,341,772 of value created in 2017.

Appendix C Estimating the distribution of value at Kadumwa

A ‘bottom-up’ methodology was used to determine the distribution of value between different groups of workers and managers at Kadumwa, which involved estimating their respective average annual wages and profits. As noted in Chapter 4, miners at Kadumwa can be divided into three main groups: site workers (composed of water carriers, ore carriers and ore washers), shaft workers (composed of workers and team leaders), and shaft managers. Beginning with site workers, water carriers earned 250 Congolese Francs (or \$0.2) per 20-litre can of water carried, with each worker carrying between four and six cans a day. Taking five cans, then, as the average daily labour performed by a water carrier, a water carrier’s daily wage can be estimated as one dollar. Ore carriers earned 500FC (\$0.4) for each bag of ore carried, with each worker carrying between five to six bags a day. Taking five bags, then, as the average daily labour performed by an ore carrier, an ore carrier’s daily wage can be estimated as two dollars. Ore washer wages were more variable, as it depends upon the availability and quality of the leftover ore, but interviews and conversations with this group reported daily wages of between one to five thousand Congolese Francs (around one to four dollars) a day per worker. From this, an average daily wage of \$2.5 was taken. Based on Kadumwa’s six-day working week (or 27 days per month), the average gross monthly wages of water carriers, ore carriers and ore washers can be estimated as \$27, \$54 and \$67.5 respectively.

While neither water carriers nor shaft workers paid taxes (taxies were levied per shaft and were paid by managers), ore carriers and ore washers did. Ore carriers made weekly payments amounting to \$3.6 per month to CCALU, the committee that represents the interests of artisanal mining locally and at the provincial level. Ore washers paid \$4.5 per month to CCALU, \$3.1 per month to the local government and \$2.3 per month to the police. Net monthly wages, then, were \$27 for a water carrier, \$50.4 for an ore carrier and \$57.6 for an ore washer (Table 11.3).

Table 11.3 Kadumwa site worker net monthly wages (USD)

Worker Category	Gross Wages (a)	Taxes (b)	Net Wages (a - b)
Water Carriers	27	0	27
Ore Carriers	54	3.6	50.4
Ore Washers	67.5	9.9	57.6

Source: Calculations based on author data.

All shaft workers were paid by shaft managers, each according to different logics but with remuneration always dependent upon production. To determine shaft worker wages, shaft manager production and financial logs were used. The logs recorded the monetary and in-kind payments made by managers to shaft workers. Combining the data across the 13 monthly logs generated an estimated average monthly wage of \$163 per worker, or \$1,956 per year. While during five of the 13 recorded months, shaft worker wages were similar to those of ore carriers and ore washers (ranging between \$48 and \$88), during another five months they were at least three times greater. Thus, their wages demonstrate considerable variation, yet appear on average significantly greater than those earned by site workers.

To estimate shaft manager profits, expenditure on worker wages, rent and taxes must be subtracted from the total value created by their shafts (here, the focus is on the value accruing to shaft managers as a result of the labour and production process; their full profits, including trading activity, are considered in Chapter 5). The value created by each shaft can be determined by combining the shaft production data presented in Appendix B with the corresponding average recording selling price obtained by labour at Kadumwa of \$31.21 per gram (calculated in Appendix D below).

Table 11.4 Kadumwa shaft worker net monthly wages

Monthly Log Number	Payment-in-Kind (\$)	Monetary Payment (\$)	Total Wages (\$) (a)	Workers (b)	Wages per Unit (\$) (a/b)
1	932	3,460	4,392	9	488
2	1,355	1,511	2,866	9	318
3	419	236	655	9	73
4	1,051	0	1,051	12	88
5	934	0	934	14	67
6	575	0	575	12	48
7	1,061	808	1,868	10	187
8	1,083	0	1,083	8	135
9	1,714	510	2,224	12	185
10	1,834	560	2,394	12	200
11	938	0	938	12	78
12	1,267	543	1,809	12	151
13	0	834	834	8	104
AVERAGE MONTHLY WAGES					163
AVERAGE ANNUAL WAGES					1,956

Notes: The far left-hand column records the monetary value of the share of production received by the shaft workers in bags, based on the grams per bag data presented in Table 11.2 above and the recorded buying price offered by the shaft manager, who buys the gold off his workers. The next column along records the total wages received by shaft workers, and the final column on the far right-hand side the wages received per worker (dividing the total wages by the number of workers).

Source: Calculations based on author data.

While worker wages have been estimated above, the rent accruing to local landowners was calculated from a combination of the monthly logs and extended conversations with shaft managers upon their completion. For taxes, local government authorities collected 3,600FC (three dollars) per shaft per week in official taxation, and analysis of Luhwindja's 2016 annual budget confirmed the entrance of this tax into the official finances of the local treasury. In addition, every Wednesday, two or three policemen came to collect 1,000FC (\$0.8) per shaft for the Congolese National Police division stationed in Luhwindja. Every Friday, a battalion of the Congolese National Army stationed in Luhwindja came to collect 3,000FC (\$2.5) per shaft, and CCALU collected the same amount. The resultant calculation gives estimated average monthly profits for shaft managers of \$1,379, or \$16,549 per year (Table 11.5). Collating this data for shaft managers with the data presented for site and shaft workers above allows for an estimation of the value accruing to different groups at Kadumwa. These data are presented in Table 4.4 of Chapter 4.

Table 11.5 Kadumwa shaft manager profits (excluding trade), November 2016 to June 2017 (USD)

Monthly Log Number	Value Created (a)	Wages to Workers (\$) (b)	Rent (c)	Taxes (d)				Profits (a - b - c - d)
				Govt.	Army	Police	CCALU	
1	6,379	4,566	128	14	11	4	11	1,645
2	3,620	2,994	73	14	11	4	11	514
3	861	740	0	14	11	4	11	82
4	4,079	1,194	0	14	11	4	11	2,845
5	2,619	1,009	0	14	11	4	11	1,570
6	1,567	687	0	14	11	4	11	840
7	3,829	2,023	192	14	11	4	11	1,575
8	3,904	1,231	195	14	11	4	11	2,438
9	2,943	2,368	147	14	11	4	11	388
10	4,660	2,488	233	14	11	4	11	1,899
11	2,013	1,029	101	14	11	4	11	844
12	4,057	1,906	203	14	11	4	11	1,908
AVERAGE MONTHLY PROFITS								1,379
AVERAGE ANNUAL PROFITS								16,549

Notes: Wages were taken from a combination of the shaft worker wage data presented in Table 11.4 and the wages paid by shaft managers to water and ore carriers, as recorded in the monthly logs.

Source: Calculations based on author data.

Appendix D Estimating the distribution of value to traders in Kadumwa's chain

While built off original data collected following the trading network connected to Kadumwa, what follows owes a debt of gratitude to Geenen's (2014: 232) doctoral thesis, as part of which she conducted a similar exercise based on a generic example of South Kivu's gold value chain. The data presented here was collected through interviews with Luhwindja and Bukavu traders buying from Kadumwa and with management at *Mines Propres*, the Bukavu-based smelter to whom these traders sold a portion of their gold. *Mines Propres* also discussed how they calculate their selling price to the Dubai-based Golden and Jewellery Refinery. These interviews were then complemented by data collected either directly from traders' financial bookkeeping records or, for those who didn't keep comprehensive records of their transactions, from monthly financial logs developed in consultation with them and which recorded their buying and selling price. In total, from December 2016 to June 2017, three months of data were collected from two Bukavu traders and eleven months of data were collected from six Luhwindja traders. The results of this work are presented in Figure 11.1, and have been calculated using the same gold price of \$40.42 per gram that was used in Chapter 4 to calculate the estimated value created by Kadumwa in 2017.

Figure 11.1 Kadumwa production network, buying price formulas³⁸⁹

Based on London Gold Fixing of \$1,257 per troy ounce / \$40.42 per gram			
<u>Group</u>	<u>Buying Price (per gram)</u>		<u>Explanation</u>
Golden and Jewellery Refinery, UAE	$\$1,257 \div 6$	$= \$1,251$	Convention using London Gold Fixing
	$\$1,251 \div 31.1035$	$= \$40.22$	1 troy ounce = 31.1035 grams
	$\$40.22 \times 0.97$	$= \mathbf{\$39.01 \text{ buying price}}$	Luhwindja gold = 97% purity
Mines Propres Refinery, DRC	$\$1,257 \div 2.845$	$= \$441.83$	Convention using London Gold Fixing
	$\$441.83 \div 95.5$	$= \$4.63$	Convention
	$\$4.63 \times 97$	$= \$448.77$	Luhwindja gold = 97% purity
	$\$448.77 \div 11.664$	$= \mathbf{\$38.47 \text{ buying price}}$	1 tola = 11.664 grams
Bukavu Traders, DRC	$\$1,257 \div 2.845$	$= \$441.83$	Convention using London Gold Fixing
	$\$441.83 \div 95.5$	$= \$4.63$	Convention
	$\$4.63 \times 97$	$= \$448.77$	Luhwindja gold = 97% purity
	$\$44.77 - 5\%$	$= \$426.33$	Factoring weight loss on sale
	$\$426.33 \div 11.664$	$= \mathbf{\$36.55 \text{ buying price}}$	1 tola = 11.664 grams
Luhwindja Traders, DRC	$\$1,257 \div 25.45$	$= \$49.39$	Convention using London Gold Fixing
	$\$49.39 \div 1.423$	$= \mathbf{\$34.71 \text{ buying price}}$	1 renge = 1.423 grams

Sources: Author calculations based on refinery and trader interviews; Trader bookkeeping records and financial logs.

³⁸⁹ The appearance of the tola in this figure requires explanation. As Geenen (2014a: 233) has explained, the tola 'was in use in British India, as well as in Zanzibar, from where it spread over the whole of eastern Africa to measure gold and silver. In Bukavu, the tola is the measure of reference and prices are usually expressed in USD per tola, which is equal to 11.664 grams (rounded)'. Here, buying prices have been converted into grams for the sake of comparative clarity.

While the data presented in Figure 11.1 are representative of gold trade calculations in Kadumwa's production network, and present the formulas in most common usage, they don't capture the nuances and variations inherent to this trade. Other, often less convoluted, formulas are used in Bukavu, but the final buying price arrived at only varies from the formula presented by a few percentage points (although of course, this is still significant when trading in large volumes).³⁹⁰ At Kadumwa, however, there is more variation, for three reasons. First, some local traders don't follow the London Gold Fixing at all, but the buying price they hear others using. Second, after running calculations based on the London Gold Fixing, some make a further reduction to account for expenses, where the basis for determining the amount to be reduced is unspecified and variable. Third, and as mentioned in Chapter 4, many described the commonly used system at Kadumwa known as 'the lottery', whereby the gold is bought from workers in such small quantities that it isn't measured at all, but an offer of a few or several dollars is made by a trader based on a visual assessment alone.

Table 11.6 Kadumwa gold trader buying and selling prices, November 2016 to June 2017

Monthly Log Number	Difference Between Buying and Selling Price	
	\$	%
1	4.75	14.7
2	5.80	16.5
3	2.87	9.1
4	3.33	10.3
5	7.82	20.7
6	6.73	17.1
7	7.39	18.4
8	4.03	11.5
9	3.51	10.0
10	6.25	17.7
11	5.26	15.0
AVERAGE	5.25	14.6

Source: Trader financial logs and bookkeeping records.

At this most local level of purchase, then, the general tendency is to arrive at a non-formulaic and non-standardised buying price. This suggests, first, the possibility for variance in the site-level buying price offered by different traders on the same day, and second, the possibility for a lower buying price than the one suggested by the calculation presented in Figure 11.1. Looking at the 11 monthly logs provided by Kadumwa traders confirms these impressions, as the average buying price was 14.6 percent lower than the average selling price at Bukavu (Table 11.6). This difference is significantly greater than the 5.1 percent difference resulting from the formula presented in Figure 11.1 (between a buying price of \$34.71 and a selling price of \$36.55).

³⁹⁰ For example, one Bukavu trader explained that to calculate his buying price for Luhwindja gold, which he knows to be of approximately 97 percent purity, he simply divides the London Fixing by 24 and then divides again by 1.423 (to convert the price from renge to grams). Based on the 2017 gold price of \$40.42 per gram (or \$1,257 per troy ounce) this gives a buying price of \$36.81, \$0.22 higher than the more commonly used formulas.

The buying price offered to miners by Kadumwa traders should, then, be adjusted down to reflect the average 14.6 percent difference recorded by the financial logs, which are more sensitive to the variation and nuances of site-level buying price practices than the formulaic expression. This gives a revised buying price of \$31.21 per gram. Supporting the downward adjustment, the revised estimated site-level buying price of \$31.21 per gram, which is based on the 2017 average gold price, correlates more closely than the formulaic buying price of \$34.71 per gram to the average buying price recorded across the 11 Kadumwa trader logs – collected across a similar period from November 2016 to June 2017 – of \$30.11 per gram. The data from these calculations are presented in Table 4.5 of Chapter 4.

Appendix E Twangiza Mining suppliers by firm and nationality, 2010 to 2013

Company	Nationality	Company	Nationality
A&C Cosmic Solutions	South Africa	Pumptron	South Africa
AccTech Systems	South Africa	SENET	South Africa
Apex Process and Archtech	South Africa	Shaw Controls and Softline	South Africa
Aviair Cargo	South Africa	Southern Mapping Company	South Africa
Bee Refractories	South Africa	TerraSolid	South Africa
Black & White Truck	South Africa	Three6Five Network Technologies	South Africa
CBI Electric	South Africa	Turnberry Projects	South Africa
CLM Positioning Solutions	South Africa	UTI	South Africa
Club Travel	South Africa	Waterlab	South Africa
Cochrane Products	South Africa	Freight Forwarders	Kenya
Composite Boards	South Africa	Logisol	Kenya
Consolidated Water Conditioning	South Africa	Neff Auto Spares	Kenya
Control Solutions	South Africa	Union Logistics	Kenya
DoseTech	South Africa	Amic Trading Services	UAE
Drill Equip	South Africa	Intermodal Freight Limited	UAE
Engineering Top Tech	South Africa	Sheridan	UAE
FLSmith Krebs	South Africa	Weir Solutions	UAE
G C Baars and Gemcom	South Africa	Far & Wide and H Logistics	UK
Geosearch International	South Africa	Norton Rose	UK
Geowater Applications	South Africa	Nowata Limited	UK
Goldfields Technical Security	South Africa	Como Engineers	Australia
HGF Plate Heat Exchangers	South Africa	Gekko	Australia
Jachris	South Africa	Runge Limited	Australia
Karcher	South Africa	AmiCongo	DRC
Kimtrac and Klatrade	South Africa	Forrest Group and Keyprint	DRC
Leonard Light Industries	South Africa	Comexas	Belgium
LHMartinhusen	South Africa	Promulec	Belgium
Liquid8 Internet	South Africa	IntDev	Canada
Longspear	South Africa	Knight Piesold Consulting	Canada
LTG Logistics Transport Globally	South Africa	Afriserve	Mauritius
Lumba Projects	South Africa	Resourcing for Africa	Mauritius
Macsteel Exports	South Africa	Neelkanth Lime	Tanzania
Metago Environmental Engineers	South Africa	Tata Afrique	Tanzania
Metskill	South Africa	PC World Computers	Uganda
ModelMaker Systems	South Africa	Stone Crushing	Uganda
Morgan AM&T	South Africa	Tatva Soft	India
Netsurit	South Africa	Infocus International	Malaysia
NTN Industrial	South Africa	PK Trucks	Netherlands
Onsite Services	South Africa	Easy Travel	Rwanda
ProVision IT	South Africa	Norm Import & Export Trading	Turkey

Source: Twangiza Mining procurement invoices, 2010 to 2013.

Appendix F Banro's financing history, 1996 to 2018

Year	Financing
1996	Sold 460,000 common shares (C\$5 per share), 400,000 units (C\$5.5 per unit) and 2 million special warrants (C\$9 per warrant) for gross proceeds of C\$19,540,000
1998	Sold 1.25 million special warrants (C\$7 per special warrant) for gross proceeds of C\$8,750,000
2001	Sold 1.2 million common shares (C\$0.5 per share) – of which 600,000 purchased by co-founder, Executive Vice President and Director of Banro Arnold Kondrat – for gross proceeds of C\$600,000
2002	Sold 350,000 units (C\$0.7 per unit) – of which 250,000 purchased by Arnold Kondrat – for gross proceeds of C\$245,000
2003	Kondrat exercises warrants to purchase a further 400,000 common shares, controlling 11.6 percent of issued and outstanding common shares of the corporation
2004	Sold 2 million common shares (C\$8 per share) for total gross proceeds of C\$16,000,000
2005	Raised C\$18.4 million through an investment fund managed by Capital Research and Management Company and institutional accounts managed by affiliates of Capital Group International; Raised C\$13 million through Canada Investment Fund for Africa, a Canadian government-financed investment fund managed by Actis Capital and Cordiant Capital
2006	Completed equity financing for total gross proceeds of C\$56,012,800
2008	Completed equity financing for total gross proceeds of \$21,000,000
2009	Sold 10 million common shares (\$1.4 per share) to complete equity financing for total gross proceeds of \$14,000,000; Sold 43,479,000 common shares (C\$2.3 per share) to complete equity financing for total gross proceeds of C\$100,001,700
2010	Sold 67.1 million common shares (C\$2.05 per share) to complete equity financing for total gross proceeds of C\$137,555,000
2011	Sold 17.5 million special warrants (C\$3.25 per warrant) to complete equity financing for total gross proceeds of C\$56,875,000
2012	Sold 175,000 units (\$1,000 per unit) for total gross proceeds of \$175 million, with a 10 percent interest rate and a maturity date of March 2017
2013	Secured \$30 million credit facilities from the Congolese bank Rawbank and the Nigerian bank Ecobank (\$15 million each) at interest rates of nine percent and 8.5 percent respectively; Sold 50.2 million common shares (C\$1.35 per share), 116,000 Series A preference shares (\$25 per share) and 2.4 million Series B shares (\$25 per share) to BlackRock World Mining Trust for total gross proceeds of C\$67,795,156 and \$32,900,000; Secured \$53 million in short-term loans from several lenders
2014	Sold preferred shares to Gramercy Funds Management for total gross proceeds of \$40 million; Signed a forward sale transaction with Gold Holding, involving the prepayment by Gold Holding of \$41 million in return for 40,500 ounces of gold from the Twangiza mine, deliverable over four years
2015	Signed two forward sale transactions, involving the prepayment by Gramercy of \$40 million in return for 44,496 ounces of gold from the Twangiza mine, deliverable over three years; Signed a streaming transaction, involving the prepayment by Gramercy of \$50 million in return for the 8.33 percent of the life-of-mine gold production from the Namoya mine at \$150 per ounce; Signed a forward sale transaction, involving the prepayment by the purchaser of \$10 million in return for 9,508 ounces of gold from the Twangiza mine, deliverable over two years; Closed a \$9 million loan facility with the Congolese bank Banque Commerciale du Congo (BCDC) at an interest rate of 9.5 percent; Signed a forward sale transaction, involving the prepayment by the purchaser of \$7 million in return for 8,481 ounces of gold from the Twangiza mine, deliverable over 33 months
2016	Signed a streaming transaction, involving the prepayment by Baiyin Nonferrous Group of \$67.5 million in return for 11 percent of the life-of-mine gold production from Twangiza at \$150 per ounce, reduced by 50 percent when total production at Twangiza reaches 1.14 million ounces;

	<p>Secured \$22.5 million loan facility from Baiyin Nonferrous Group and Gramercy at an interest rate of 8.5 percent;</p> <p>Sold 50 million common shares and 2.5 million purchase warrants to Baiyin Nonferrous Group for total gross proceeds of \$8.75 million;</p> <p>Entered a gold dore purchase agreement in connection with a \$10 million loan facility from Baiyin International at an interest rate of 10 percent, under which Baiyin will purchase – at market prices – 50 percent of the gold produced by Twangiza and Namoya until the loan is repaid</p>
2017	<p>Underwent recapitalisation to refinance \$207.5 million of debt;</p> <p>Signed a forward sale transaction, involving the prepayment by Baiyin and Gramercy of \$45 million in return for 51,880 ounces of gold from the Namoya mine over a 36-month period</p>
2018	<p>Entered creditor protection and went through a new recapitalisation with Gramercy and Baiyin, following which Banro is no longer publicly listed nor has any reporting obligations.</p>

Sources: Banro Annual Information Forms 1999-2016; Banro Press Releases 1998-2017; Banro Material Change Report, March 2016.

Appendix G Twangiza labour wage distribution

To determine the share of end value accruing to workers and managers at Twangiza, and the distribution of this value between different groups, employment at the mine was divided into three main categories: hired labour, subcontractor workers, and Twangiza Mining employees. The first category of hired labour comprises three Congolese labour hire firms: Cinamula, Diphil and Zuki. The second category of subcontractor workers comprises ten subcontractor hire firms, two of which are domestic (Premium, providing sand, and Group Rubuye, providing drilling activities) and eight foreign: Société Générale de Surveillance (gold certification), Savannah (aviation), COMEXAS Group (customs), Aggreko (power), Tsebo Outsourcing Group (catering), Civicon (road maintenance), G4S (security), Rubuye (drilling), and Simba Logistics (transportation).³⁹¹ The third category comprises Banro's subsidiary, Twangiza Mining.

Table 11.7 Twangiza Mining subcontractor employment, 2013 (revised)

Category	Company	Group				TOTAL
		Workers	Supervisors	Managers	Directors	
Hired Labour	Cinamula	108	5	1	1	115
	Zuki	104	4	1	1	110
	Diphil	99	3	1	1	104
SUBTOTAL LABOUR HIRE		311	12	3	3	329
Sub-contractor	G4S	125	10	3	1	139
	Tsebo Outsourcing Group	60	8	1	1	70
	Simba Logistics	48	9	2	1	60
	Civicon	20	1	2	1	24
	Groupe Rubuye	10	3	1	1	15
	Premium	12	1	1	1	15
	Société Générale de Surveillance	11	1	2	0	14
	COMEXAS Group	8	2	1	1	12
	Aggreko	3	0	1	1	5
Savannah	0	0	1	0	1	
SUBTOTAL SUBCONTRACTOR		297	35	15	8	355
TOTAL		608	47	18	11	684

Source: Subcontractor survey; Subcontractor manager and director interviews.

For Twangiza Mining, the subsidiary's 2013 financial accounts provided a detailed breakdown of the number of employees by category. For hired labour and subcontractor workers, a subcontractor survey and subcontractor manager and director interviews determined the total units of labour working across the 13 firms, along with the relative weighting between different groups (workers, supervisors, managers and directors). Taken together, the survey and interviews gave an estimated total of 724 employed as hired labour or subcontracted workers or managers at

³⁹¹ The subcontracting firms Rand Refinery and Engen, presented in the subcontractor overview in Chapter 6, are not included here as neither have staff assigned specifically to the Twangiza mine.

Twangiza Mining in 2017.³⁹² This aligns with the 693 subcontracted workers and managers documented by Banro at Twangiza Mining in 2016,³⁹³ but is nonetheless 40 more than the 684 recorded in the subsidiary's 2013 financials and used to determine the site's productivity in Chapter 6. To equate the two sets of data, the 724 employed in 2017 was revised down proportionally across each firm and group to reflect the 684 recorded in 2013 (Table 11.7).

Table 11.8 Twangiza gross wage distribution, 2013

Category	Group			Units	Gross Monthly Wage per Unit (\$)	Gross Annual Wage per Unit (\$)	Total Annual (\$)	Distribution (%)
Workers	Hired Labour			323	187	2,244	724,812	4.4
	Subcontractor Workers			285	274	3,288	937,080	5.7
	Twangiza Mining	Unskilled	I	214	319	3,824	818,293	5.0
			II	24	446	5,350	128,405	0.8
		Skilled	III	128	634	7,608	973,824	5.9
			IV	42	796	9,555	401,310	2.4
			V	133	1,281	15,369	2,044,077	12.4
SUBTOTAL WORKERS				1,149	-	-	6,027,801	36.6
Congolese Managers	Hired Labour	Supervisors	12	400	4,800	57,600	0.4	
		Managers	3	700	8,400	25,200	0.2	
		Directors	3	3,000	36,000	108,000	0.7	
	Sub-contractor	Supervisors	27	810	9,720	262,440	1.6	
		Managers	6	1,580	18,960	113,760	0.7	
		Directors	2	5,000	60,000	120,000	0.7	
	Twangiza Mining	Supervisors	72	2,491	29,898	2,152,632	13.1	
		Managers	20	5,297	63,564	1,271,287	7.7	
		Directors	1	22,080	264,955	264,955	1.6	
	SUBTOTAL CONGOLESE MANAGERS				146	-	-	4,375,874
Foreign Managers	Sub-contractor	Supervisors	8	810	9,720	77,760	0.5	
		Managers	9	1,580	18,960	170,640	1.0	
		Directors	6	5,000	60,000	360,000	2.2	
	Twangiza Mining	Supervisors	14	4,983	59,795	837,135	5.1	
		Managers	32	10,594	127,129	4,068,120	24.7	
		Directors	2	22,080	264,955	529,910	3.2	
SUBTOTAL FOREIGN MANAGERS				71	-	-	6,043,565	36.7
SUBTOTAL ALL MANAGERS				217	-	-	10,419,439	63.4
TOTAL				1,366	-	-	16,447,240	100.0

Sources: Subcontractor survey; subcontractor manager and director interviews; Twangiza Mining 2013 financial accounts; worker survey; worker interviews and conversations; Twangiza Mining wage classification documentation.

Note: Wage data includes overtime and allowances. On top of their base wage, workers and managers at Twangiza Mining received lodging, transport, and child and spouse allowances, with managers also receiving a responsibility allowance. Overtime makes a significant difference to worker wages, often as much as doubling the base wage in the case of subcontractor workers.

³⁹² Of course, as with artisanal mining, this number is not static, but fluctuates constantly as workers are let go by some companies and hired by others; it represents the best estimation at a given point in time.

³⁹³ 'Banro Employment Creation, Direct and Indirect', internal company documentation, 2016.

Next, with the employment data determined, the wages received by each group within and across each of the three categories was assessed. Twangiza Mining payrolls and worker and manager payslips from 2012 and 2013 corresponded precisely to an internal corporate document listing worker and manager classification and corresponding wages for 2016, and so this corporate document was used for assessing wage distribution. The classification includes multiple wage levels within each worker or manager group.³⁹⁴ As the exact distribution across these subgroupings was unknown, the median wage within each group was taken. Wages for foreign Twangiza Mining supervisors and managers were doubled, as these groups receive their salary payment twice; once in-country and once to an overseas bank account, most often in their home country (see the end of the third section of Chapter 8, for more detail). For director wages, which weren't included in the corporate document, the publicly available annual wage earned by an equivalent position – a director of the subsidiary Banro Congo – was taken.³⁹⁵ For hired labour and subcontracted employment, in the absence of company documentation, wage data was collected through a firm survey, firm manager and director interviews, a labour survey and interviews and conversations with workers. The data was then collated and triangulated to produce an average group wage for each category. From here, the share of end value captured by workers and managers at Twangiza can be estimated, along with the distribution of this value across the different groups (Table 11.8).

Table 11.9 Gross wage tax deductions

Monthly Wage (\$)	IPR Tax Rate (%)	INSS Tax Rate (%)	Total Tax Rate (%)
< 60	3	2.5	5.5
60.01-105	5	2.5	7.5
105.01-174	10	2.5	12.5
174.01-275	15	2.5	17.5
275.01-415	20	2.5	22.5
415.01-657	25	2.5	27.5
657.01-1,000	30	2.5	32.5
1,000.01-1,405	35	2.5	37.5
1,405.01-1,743	40	2.5	42.5
1,743.01-1,943	45	2.5	47.5
> 1,943	50	2.5	52.5

Sources: Twangiza Mining union archives; Twangiza Mining worker payslips.

To determine net wages, workers and managers across all three categories (hired labour, subcontractors and Twangiza Mining) pay three taxes. The first and most important was the *Impôts professionnels sur les rémunérations* (IPR) – Professional Taxes on Remuneration – paid to the *Direction générale des impôts* (DGI) – General Directorate of Taxation. The second, paid in part by the employer and in part by employees, was to the *Institut national de sécurité social* (INSS) – National Social Security Institute. The third, paid in full by the employer, was to the *Institut national de préparation professionnelle* (INPP) – National Professional Training Institute. The first two are presented in Table 11.9, with the exception that foreigners working in the mining sector pay a flat

³⁹⁴ For example, there are nine levels of manager and director classification and wage remuneration.

³⁹⁵ Morning Star, www.morningstar.com, accessed January 13th 2017.

10 percent IPR tax rate.³⁹⁶ These two tax rates were applied to the base salary and overtime earnings only; allowances, such as for transport or lodging, were not taxed. Deducting the taxes paid from the data presented in Table 11.9 above provides the final wage distribution data presented for Twangiza in Table 8.2 of Chapter 8.

³⁹⁶ DRC 2002 Mining Code, Article 260.

References

- African Centre for Economic Transformation (2014) 'African Transformation Report: Growth With Depth'. Accra and Washington: African Centre for Economic Transformation.
- Action pour la defense des droits humains (2017) 'Projet minier Kamoto Copper Company : qui en tire profit?'. Lubumbashi: Action pour la defense des droits humains.
- African Development Bank (2013) 'African Economic Outlook 2013: Structural Transformation and Natural Resources'. Paris: African Development Bank.
- Adriansen, H.K. (2012) 'Timeline Interviews: A Tool for Conducting Life History Research', *Qualitative Studies* 3(1): 40-55.
- Addison, T. and A. Roe (2018) *The Management of Resources as a Driver of Sustainable Development*. Oxford: Oxford University Press.
- African Union (2009) 'Africa Mining Vision'. Addis Ababa: African Union.
- African Union (2015) 'Agenda 2063: The Africa We Want'. Addis Ababa: African Union.
- Ake, C. (1981) *A Political Economy of Africa*. Essex: Longman.
- Akyüz, Y. (2012) 'The Staggering Rise of the South?', Research Paper No. 44. Geneva: South Centre.
- Akyüz, Y. (2015) 'Internationalization of Finance and Changing Vulnerabilities in Emerging and Developing Economies', Research Paper No. 60. Geneva: South Centre.
- Alobo Loison, S. (2015) 'Rural Livelihood Diversification in Sub-Saharan Africa: A Literature Review', *The Journal of Development Studies* 51:9 (1125-1138).
- Amin, S. (1972) 'Underdevelopment and Dependence in Black Africa: Origins and Contemporary Forms', *The Journal of Modern African Studies* 10(4): 503-524.
- Amsden, A. (1989) *Asia's Next Giant: South Korea and Late Industrialisation*. Oxford: Oxford University Press.
- Amsden, A. (2003) 'Comment: Good-Bye Dependency Theory, Hello Dependency Theory', *Studies in Comparative International Development* 38(1): 32-38.
- Ansoms, A. and W. Marivoet (2009) 'Profil socio-économique du Sud-Kivu et future pistes de recherche', in S. Marysse et al. (eds) *L'Afrique des Grands Lacs: Annuaire 2009-2010*, pp. 259-271. Paris: L'Harmattan.
- Arrighi, G. (2003) 'The African Crisis: World Systemic and Regional Aspects', *New Left Review* 15: 5-36.
- Athanase, K.W. (2013) 'SOMINKI en liquidation: Aide-memoire sur l'évolution de la société à Kamituga'. Unpublished report, Bukavu.
- Ayelazuno, J.A. (2014) 'The 'New Extractivism' in Ghana: A Critical Review of Its Development Prospects', *The Extractive Industries and Society* 1(2): 292-302.
- Banchirigah, S.M. (2006) 'How Have Reforms Fuelled the Expansion of Artisanal Mining? Evidence from Sub-Saharan Africa', *Resources Policy* 31: 165-171.
- Banchirigah, S.M. and G. Hilson (2010) 'De-Agrarianization, Re-Agrarianization and Local Economic Development: Re-Orientating Livelihoods in African Artisanal Mining Communities', *Policy Sciences* 43(2): 157-180.
- Banro Corporation (2016a) '2015 Sustainability Report: Creating Jobs & Economic Opportunities'. Toronto: Banro Corporation.
- Banro Corporation (2016b) 'Annual Information Form'. Toronto: Banro Corporation.
- Bates, R. (1981) *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies*. Berkeley and Los Angeles: University of California.
- Behuria, P. (2019) 'African Development and the Marginalisation of Domestic Capitalists', Working Paper No. 115. Manchester: Global Development Institute.
- Bernstein, H. (2007) 'Capitalism and Moral Economy: Land Questions for Sub-Saharan Africa', Global Poverty Research Group and Brooks World Poverty Institute Conference Paper. Manchester: University of Manchester.

- Berry, S. (2002) 'Debating the Land Question in Africa', *Society for Comparative Study of Society and History* 2: 638-668.
- Best, L. and K. Polanyi Levitt (2009) *Essays on the Theory of Plantation Economy: A Historical and Institutional Approach to Caribbean Economic Development*. Kingston: University of West Indies Press.
- Beuagrand, P. (1997) 'Zaire's Hyperinflation, 1990-96'. Washington: IMF.
- Bezuidenhout, A. and S. Buhlungu (2011) 'From Compounded to Fragmented Labour: Mineworkers and the Demise of Compounds in South Africa', *Antipode* 43(2): 237-63.
- Bezy, F. (1957) *Problèmes structurels de l'économie Congolaise*. Louvain: Editions E. Nauwelaerts.
- Bezy, F., J.P. Peemans and J.M. Wautelet (1981) *Accumulation et sous-développement au Zaïre 1960-1980*. Louvain-la-Neuve: Presses Universitaires de Louvain.
- Bishakabalya, K.B.P. (1995) 'La commercialisation de l'or à Bukavu et l'économie du Sud-Kivu', Masters Thesis. Bukavu: Université Catholique de Bukavu.
- Bisharhwa, M. (1982) 'Luhwindja, une chefferie agitée (1903-1969)', Masters Thesis. Bukavu: Institut supérieur pédagogique de Bukavu.
- Bloch, R. and G. Owusu (2012) 'Linkages in Ghana's Gold Mining Industry: Challenging the Enclave Thesis', *Resources Policy* 37(4): 434-442.
- Bokundu, G., J. Mpolesha and D. Tshimena (2015) 'Analyse et potentiel de croissance des revenus du secteur minier en RDC'. Kinshasa: Deutsche Gesellschaft für Internationale Zusammenarbeit.
- Bolt, M. and D. Rajak (2016) 'Introduction: Labour, Insecurity and Violence in South Africa', *Journal of Southern African Studies* 42(5): 797-813.
- Botin, J.A. (2009) *Sustainable Management of Mining Operations*. Littleton: Society for Mining, Metallurgy, and Exploration.
- Boyce, J.K. and L. Ndikumana (2014) 'Strategies for Addressing Capital Flight', Working Paper No. 361. Massachusetts: Political Economy Research Institute.
- Bridge, G. (2008) 'Global Production Networks and the Extractive Sector: Governing Resource-Based Development', *Journal of Economic Geography* 8(3): 389-419.
- Bryceson, D.F. (1996) 'Deagrarianisation and Rural Employment in Sub-Saharan Africa: A Sectoral Perspective', *World Development* 24(1): 97-111.
- Bryceson, D.F. (1999) 'African Rural Labour, Income Diversification and Livelihood Approaches: A Long-Term Development Perspective', *Review of African Political Economy* 26(80): 171-189.
- Bryceson, D.F. and S. Geenen (2016) 'Artisanal Frontier Mining of Gold in Africa: Labour Transformation in Tanzania and the Democratic Republic of Congo', *African Affairs* 115(459): 296-317.
- Bryceson, D.F. and J.B. Jönsson (2010) 'Gold Digging Careers in Rural East Africa: Small-Scale Miners' Livelihood Choices', *World Development* 38(3): 379-392.
- Bryceson, D.F. and J.B. Jönsson (2014) 'Mineralising Africa and Artisanal Mining's Democratising Influence', in D.F. Bryceson et al. (eds) *Mining and Social Transformation in Africa: Mineralising and Democratising Trends in Artisanal Production*, pp. 1-22. London: Routledge.
- Bulambo, A. (2002) *Capitalisme minier et droits de l'homme en RD Congo: la croisade des Nindja contre la Société Minière et Industrielle du Kivu*. Huy: Les éditions du trottoir.
- Buraye, J.K., N. Stoop and M. Verpoorten (2017) 'Defusing the Social Minefield of Gold Sites in Kamituga, South Kivu: From Legal Pluralism to the Re-Making of Institutions?', *Resources Policy* 53: 356-368.
- Burumwe, L. (1991) *Histoire six derniers règnes antérieurs à 1980 et culture des Bashi au Zaïre*. Kinshasa: Office national de la recherche et du développement.
- Bush, R. (2010) 'Conclusion: Mining, Dispossession and Transformation in Africa', in A. Fraser & M. Larmer (eds) *Zambia, Mining and Neoliberalism*, pp. 237-268. New York: Palgrave Macmillan.
- Bush, R. and G. Harrison (2014) 'New African Development?', *Review of African Political Economy* 41(1): 1-6.

- Byres, T.J. (1996) *Capitalism from Above and Capitalism from Below: An Essay in Comparative Political Economy*. Basingstoke: Macmillan.
- Cadre de concertation de la société civile de l'Ituri sur les ressources naturelles (2015) 'Projet Minier Kibali: Qui Perd Gagne'. Ituri: Cadre de concertation de la société civile de l'Ituri sur les ressources naturelles.
- Campbell, B. (2008) 'Regulation and Legitimacy in the Mining Industry in Africa: Where Does Canada Stand?', *Review of African Political Economy* 35(117): 367-385.
- Cantwell, J. (2013) 'The Theory of the Transnational Corporation at 50+: A Response to Grazia Ietto-Gillies'. Accessed March 29th 2019. <etdiscussion.worldeconomicassociation.org/wp-content/uploads/Theories-TNCs.pdf>.
- Cardoso, F.H. (1977) 'The Consumption of Dependency Theory in the United States', *Latin American Research Review* 12(3): 7-24.
- Cardoso, F.H. and E. Faletto (1979) *Dependency and Development in Latin America*. California: University of California Press.
- Carisch, E. (2014) 'Congo's Golden Web: Countries That Profit From the Illegal Trade in Congolese Gold'. Johannesburg: Southern Africa Resource Watch.
- Cartier, L.E. and M. Bürge (2011) 'Agriculture and Artisanal Gold Mining in Sierra Leone: Alternatives or Complements?', *Journal of International Development* 23: 1080-1099.
- Chang, H.J. (2004) 'The Market, the State and Institutions in Economic Development' in H.J. Chang (ed) *Rethinking Development Economics*, pp.41-60. London: Anthem Press.
- Chang, H.J., J. Løhr and M. Irfan (2016) 'Transformative Industrial Policy for Africa'. Addis Ababa: United Nations Economic Commission for Africa.
- Cheru, F. (1992) 'Structural Adjustment, Primary Resource Trade and Sustainable Development in Sub-Saharan Africa', *World Development* 20(4): 497-512.
- Chirishungu Chiza, D. (2008) *Renaissance de la République Démocratique du Congo et métamorphose économique et social du Sud-Kivu*. Kinshasa: Bushiru.
- Chrétien, J.P. (2006) *The Great Lakes of Africa: Two Thousand Years of History*. New York: Zone Books.
- Clausen, F., M.L. Barreto and A. Attaran (2011) 'Property Rights Theory and the Reform of Artisanal and Small-Scale Mining in Developing Countries', *Journal of Politics and Law* 4(1): 15-27.
- Coe, N.M. (2012) 'Geographies of Production II: A Global Production Network A-Z', *Progress in Human Geography* 36(3): 389-402.
- Colle, P. (1971) *Essai de monographie des Bashi*. Bukavu: Centre d'étude de langues Africaines.
- Collier, P. and A. Hoeffler (2002) 'Greed and Grievance in Civil War', World Bank Policy Research Working Paper No. 2355. Washington: World Bank.
- Congo Research Group (2017) 'All the President's Wealth: The Kabila Family Business'. New York: Congo Research Group.
- Congo Research Group (2019) 'The CNPSC Rebellion: Social Marginalization and State Complicity in South Kivu'. New York: Congo Research Group.
- Cour des Comptes (2013) 'Audit des recettes à caractère national des régies financières (DGDA, DGI et DGRAD)'. Kinshasa: DRC Government.
- Cox, T.P. (2012) 'Farming the Battlefield: The Meanings of War, Cattle and Soil in South Kivu, Democratic Republic of the Congo', *Disasters* 36(2): 233-248.
- Cuvelier, J. (2010) 'The Complexity of Resource Governance in a Context of State Fragility: The Case of Eastern DRC'. Antwerp: International Peace Information Service and International Alert.
- Dawson, S. (2004) 'CMJ's Top 10 Canadian Junior Mining Companies', *Canadian Mining Journal* 125(1): 19.
- Deneault, A., D. Abadie and W. Sacher (2008) *Noir Canada: pillage, corruption et criminalité en Afrique*. Montréal: Editions ecosociété.
- De Putter, T. and S. Decrée (2013) 'Le potentiel minier de la RDC: mythes et composantes d'une

- “dynamique minière”, in S. Marysse & J. Omasombo Tshonda (eds) *Conjonctures Congolaises 2012: Politique, secteur minier et gestion des ressources naturelles en RD Congo*, pp. 47-62. Paris: L’Harmattan.
- De Witte, L. (2001) *The Assassination of Lumumba*. London; New York: Verso.
- Dicken, P. (2011) *Global Shift: Mapping the Changing Contours of the World Economy*. London: Sage Publications.
- DRC Ministry of Mines and World Bank (2017) 'Mining Sector Development Strategic Plan, 2017-2021'. Kinshasa: DRC Government.
- Dunning, J.H. and S.M. Lundan (2008) *Multinational Enterprises and the Global Economy*. Cheltenham and Northampton: Edward Elgar Publishing.
- Du Toit, A. (2004) 'Social Exclusion Discourse and Chronic Poverty: A South African Case Study', *Development and Change* 35(5): 987-1011.
- Ellis, F. (2006) 'Agrarian Change and Rising Vulnerability in Rural Sub-Saharan Africa', *New Political Economy* 11(3): 387-397.
- Englebert, P. (2014) 'Democratic Republic of Congo: Growth for All? Challenges and Opportunities for a New Economic Future', Working Paper No. 6. Johannesburg: The Brenthurst Foundation.
- Enough Project (2012) 'From Child Miner to Jewelry Store: The Six Steps of Congo’s Conflict Gold'. Washington: Enough Project.
- Evans, P. (1995) *Embedded Autonomy: States and Industrial Transformation*. Chichester: Princeton University Press.
- Extractive Industries Transparency Initiative (2011) 'Tanzania Extractive Industries Transparency Initiative, Final Report'. Thame: Extractive Industries Transparency Initiative.
- De Faily, D. (2001) 'Coltan: Pour Comprendre...', in S. Marysse & F. Reyntjens (eds) *L’Afrique des Grands Lacs. Annuaire 2000–2001*, pp. 279-306. Paris: L’Harmattan.
- Farole, T. and D. Winkler (2014) 'Making Foreign Direct Investment Work for Sub-Saharan Africa: Local Spillovers and Competitiveness in Global Value Chains'. Washington: World Bank.
- Fessehaie, J. (2011) 'Development and Knowledge Intensification in Industries Upstream of Zambia’s Copper Mining Sector', MMCP Discussion Paper No 3. Cape Town: University of Cape Town; Milton Keynes: Open University.
- Fine, B. (2008) 'The Minerals-Energy Complex is Dead: Long Live the MEC?', Paper presented to Amandla Colloquium. Cape Town: Amandla Colloquium.
- Fischer, A.M. (2011) 'Beware the Fallacy of Productivity Reductionism', *European Journal of Development Research* 23(4): 521-526.
- Fischer, A.M. (2014) *The Disempowered Development of Tibet in China: A Study in the Economics of Marginalization*. Plymouth: Lexington Books.
- Fischer, A.M. (2015) 'The End of Peripheries? On the Enduring Relevance of Structuralism for Understanding Contemporary Global Development', *Development and Change* 46(4): 700-732.
- Fischer, A.M. (2019) 'On the Origins and Legacies of Really Existing Capitalism: In Conversation with Kari Polanyi Levitt', *Development and Change* 50(2): 542-572.
- Fisher, E. (2007) 'Occupying the Margins: Labour Integration and Social Exclusion in Artisanal Mining in Tanzania' *Development and Change* 38(4): 735-760.
- Flyvbjerg, B. (2006) 'Five Misunderstandings About Case-Study Research', *Qualitative Inquiry* 12(2): 219-245.
- Frank, A.G. (1966) 'The Development of Underdevelopment', *Monthly Review* 18(4): 17-31.
- Free the Slaves (2011) 'Le rapport Congo: L’esclavage dans les minerais du conflit'. Washington: Free the Slaves.
- Freund, W. (2009) 'The Congolese Elite and the Fragmented City: The Struggle for the Emergence of a Dominant Class in Kinshasa', Working Paper No. 54. London: Crisis States Research Centre.

- Furtado, C. (1983) *Accumulation and Development: The Logic of Industrial Civilization*. Oxford: Martin Robertson.
- Garrett, N. and M. Lintzer (2010) 'Can Katanga's Mining Sector Drive Growth and Development in the DRC?', *Journal of Eastern African Studies* 4(3): 400-424.
- Garrett, N. and H. Mitchell (2009) 'Trading Conflict for Development: Utilising the Trade in Minerals from Eastern DR Congo for Development'. London: Resource Consulting Services.
- Geenen, S. (2011a) 'Relations and Regulations in Local Gold Trade Networks in South Kivu, Democratic Republic of Congo', *Journal of Eastern African Studies* 5(3): 427-446.
- Geenen, S. (2011b) 'Local Livelihoods, Global Interests and the State in the Congolese Mining Sector', in A. Ansoms & S. Marysse (eds) *Natural Resources and Local Livelihoods in the Great Lakes Region of Africa: A Political Economy Perspective*, pp.149-169. London: Palgrave Macmillan.
- Geenen, S. (2014a) 'The Political Economy of Access to Gold Mining and Trade in South Kivu, DRC', PhD Thesis. Antwerp: University of Antwerp.
- Geenen, S. (2014b) 'Dispossession, Displacement and Resistance: Artisanal Miners in a Gold Concession in South-Kivu, DRC', *Resources Policy* 40: 90-99.
- Geenen, S. and K. Claessens (2013) 'Disputed Access to the Gold Sites in Luhwindja, Eastern Democratic Republic of Congo', *The Journal of Modern African Studies* 51(01): 85-108.
- Geenen, S., D. Fahey and F.I. Mukotanyi (2013) 'The Future of Artisanal Gold Mining and Miners Under an Increasing Industrial Presence in South Kivu and Ituri, Eastern Democratic Republic of Congo', Discussion Paper 2013.03. Antwerp: Institute of Development Policy and Management, University of Antwerp.
- Geenen, S. and J. Honke (2014) 'Land Grabbing by Mining Companies: Local Contentions and State Reconfiguration in South Kivu (DRC)', in A. Ansoms & T. Hilhorst (eds) *Losing Your Land: Dispossession in the Great Lakes*, pp. 58-81. Oxford: James Currey.
- Geenen, S. and F.I. Mukotanyi, (2013) « Les grands poissons mangent les petits. » Les multiples aspects d'un conflit autour d'une concession minière au Sud-Kivu, République Démocratique du Congo', *Politique Africaine* 131(3): 121-141.
- Geenen, S. and B. Radley (2014) 'In the Face of Reform: What Future for ASM in the Eastern DRC?', *Futures* 62(A): 58-66.
- Geenen, S. and J. Verweijen (2017) 'Explaining Fragmented and Fluid Mobilization in Gold Mining Concessions in Eastern Democratic Republic of the Congo', *The Extractive Industries and Society* 4(4): 758-765.
- Gereffi, G. (1994) 'The Organization of Buyer-Driven Global Commodity Chains: How U.S. Retailers Shape Overseas Production Networks', in G. Gereffi & M. Korzeniewicz (eds) *Commodity Chains and Global Capitalism*, pp. 95-122. London: Praeger.
- Gereffi, G. (2014) 'Global Value Chains in a Post-Washington Consensus World', *Review of International Political Economy* 21(1): 9-37.
- Gereffi, G. and L. Joonkoo (2012) 'Why the World Suddenly Cares About Global Supply Chains', *Journal of Supply Chain Management* 48(3): 24-32.
- Gereffi, G., M. Korzeniewicz and R. Korzeniewicz (1994) 'Introduction: Global Commodity Chains', in G. Gereffi & M. Korzeniewicz (eds) *Commodity Chains and Global Capitalism*, pp. 95-122. London: Praeger.
- Gerring, J. (2007) *Case Study Research: Principles and Practices*. Cambridge: Cambridge University Press.
- Ghai, D. (1972) 'Perspectives on Future Economic Prospects and Problems in Africa', in J. Bhagwati (ed) *Economics and World Order: From the 1970s to the 1990s*, pp. 257-286. New York: Macmillan.
- Global Witness (2009) "'Face à un fusil, que peut-on faire?": La guerre et la militarisation du secteur minier dans l'est du Congo'. London: Global Witness.
- Global Witness (2017). 'Regime Cash Machine, A State Affair'. London: Global Witness.
- Group of Experts on the DRC (2005) 'Final Report of the Group of Experts on the Democratic

- Republic of the Congo'. New York: United Nations Security Council.
- Group of Experts on the DRC (2011) 'Final Report of the Group of Experts on the Democratic Republic of the Congo'. New York: United Nations Security Council.
- Group of Experts on the DRC (2012a) 'Final Report of the Group of Experts on the Democratic Republic of the Congo'. New York: United Nations Security Council.
- Group of Experts on the DRC (2012b) 'Interim Report of the Group of Experts on the Democratic Republic of the Congo'. New York: United Nations Security Council.
- Groupe de recherche sur les activités minières en Afrique (2001) 'Portrait de quelques sociétés minières canadiennes présentes in Afrique'. Montreal: University of Quebec.
- Gunton, T. (2003) 'Natural Resources and Regional Development: An Assessment of Dependency and Comparative Advantage Paradigms', *Economic Geography* 79(1): 67-94.
- Hanlin, R. and C. Hanlin (2012) 'The View From Below: "Lock-in" and Local Procurement in the African Gold Mining Sector', *Resources Policy* 37(4): 468-474.
- Harriss-White, B. (2003) *India Working: Essays on Society and Economy*. Cambridge: Cambridge University Press.
- Harvey, D. (2004) 'The 'New' Imperialism: Accumulation by Dispossession', *Socialist Register* 63-87.
- Hendriks, T. (2017) 'A Darker Shade of White: Expat Self-Making in a Congolese Rainforest Enclave', *Africa* 87(4): 683-701.
- Herzer, D. (2012) 'How Does Foreign Direct Investment Really Affect Developing Countries' Growth?', *Review of International Economics* 20(2): 396-414.
- Hesselbein, G. (2007) 'The Rise and Decline of the Congolese State: An Analytical Narrative on State-Making', Working Paper No. 21. London: Crisis States Research Centre.
- Hesselbein, G. (2009) 'The Economic Foundations of State-Building and State-Failure: A Political Economy of Sub-Saharan African States', PhD Thesis. Zurich: University of Zurich.
- Hill, P. (1963) *The Migrant Cocoa-Farmers of Southern Ghana. A Study in Rural Capitalism*. Cambridge: Cambridge University Press.
- Hilson, G. (2002a) 'An Overview of Land Use Conflicts in Mining Communities', *Land Use Policy* 19: 65-73.
- Hilson, G. (2002b) 'Land Use Competition Between Small- and Large-Scale Miners: A Case Study of Ghana', *Land Use Policy* 19: 149-156.
- Hilson, G. (2009) 'Small-Scale Mining, Poverty and Economic Development in Sub-Saharan Africa: An Overview', *Resources Policy* 34: 1-5.
- Hilson, G. (2011) 'Artisanal Mining, Smallholder Farming and Livelihood Diversification in Rural Sub-Saharan Africa: An Introduction', *Journal of International Development* 23: 1031-1041.
- Hilson, G. (2016) 'Farming, Small-Scale Mining and Rural Livelihoods in Sub-Saharan Africa: A Critical Overview', *The Extractive Industries and Society* 3: 547-563.
- Hilson, G. (2019) 'Why is There a Large-Scale Mining 'Bias' in Sub-Saharan Africa?', *Land Use Policy* 81: 852-861.
- Hilson, G. and N. Yakovleva (2007) 'Strained Relations: A Critical Analysis of the Mining Conflict in Prestea, Ghana', *Political Geography* 26: 98-119.
- Hoffmann, K., K. Vlassenroot and G. Marchais (2016) 'Taxation, Stateness and Armed Groups: Public Authority and Resource Extraction in Eastern Congo', *Development and Change* 47(6): 1434-1456.
- Hopkins, T. and I. Wallerstein (1986) 'Commodity Chains in the World Economy Prior to 1800', *Review* 10(1): 157-170.
- Huggins, C. (2010) 'Land, Power and Identity: Roots of Violent Conflict in Eastern DRC'. Brussels: International Alert.
- Hull, G. (1979) 'Zaire in the World System: In Search of Sovereignty', in G. Gran (ed.) *Zaire: The Political Economy of Underdevelopment*, pp. 263-282. New York: Praeger.
- Letto-Gillies, G. (2013) 'The Theory of the Transnational Corporation at 50+'. London: London

- South Bank University and Birkbeck University of London.
- Initiative bonne gouvernance et droits humains (2017) 'Mutanda Mining : Retrait qui fait gagner le géant'. Lubumbashi: Initiative bonne gouvernance et droits humains.
- International Bank for Reconstruction and Development (1957) 'The Economy of the Belgian Congo'. Washington: International Bank for Reconstruction and Development.
- International Bank for Reconstruction and Development (1970) 'The Congo's Economy: Evolution and Prospects, Volume I Main Report'. Washington: International Bank for Reconstruction and Development.
- International Bank for Reconstruction and Development (1973) 'Recent Economic Development and Prospects of the Republic of Zaire, Volume II: Annexes and Statistical Appendix'. Washington: International Bank for Reconstruction and Development.
- International Bank for Reconstruction and Development (1975) 'The Economy of Zaire, Volume III: Annexes and Statistical Appendix'. Washington: International Bank for Reconstruction and Development.
- International Council on Mining and Metals (2016) 'Role of Mining in National Economies'. London: International Council on Mining and Metals.
- International Labour Organisation (2017) 'Studies on Employment and Extractive Industry-Dominated African Countries'. Geneva: International Labour Organisation.
- International Monetary Fund (2010) 'Democratic Republic of the Congo: IMF Country Report No. 10/88'. Washington: International Monetary Fund.
- Jacob, T. and R.H. Pedersen (2018) 'New Resource Nationalism? Continuity and Change in Tanzania's Extractive Industries', *The Extractive Industries and Society* 5(2): 287-292.
- Jackson, J. (2002) 'Making a Killing: Criminality and Coping in the Kivu War Economy', *Review of African Political Economy* 29 (93/94): 517-536.
- Justice pour tous (2015) 'Impact socio économique et environnemental de l'exploitation minière industrielle sur les communautés locales au Sud-Kivu: Un regard analytique sur la filiale Twangiza Mining à Luhwindja'. Bukavu: Justice pour tous.
- Kabwit, G.C. (1979) 'Zaire: The Roots of the Continuing Crisis', *The Journal of Modern African Studies* 17(3): 381-407.
- Kamlongera, P.J. (2011) 'Making the Poor "Poorer" or Alleviating Poverty? Artisanal Mining Livelihoods in Rural Malawi', *Journal of International Development* 23: 1128-1139.
- Kamundala, G. (2012) 'Exploitation minière industrielle et artisanale au Sud-Kivu: Possibilités d'une cohabitation pacifique?'. Antwerp: International Peace Information Service.
- Kamundala, G., S. Marysse and F.M. Iragi (2015) 'Viabilité économique de l'exploitation artisanale de l'or au Sud-Kivu face à la compétition des entreprises minières internationales', in S. Marysse & J. Omasombo Tshonda (eds) *Conjonctures Congolaises 2014. Politiques, territoires et ressources naturelles : changements et continuités*, pp- 167-195. Paris: L'Harmattan.
- Kamuntu, K.. (1995) 'Luhwindja et ses transactions commerciales (1908-1982)', Masters Thesis. Bukavu: Institut supérieur pédagogique de Bukavu.
- Kaplinsky, R. and M. Morris (2002) 'A Handbook for Value Chain Research'. Brighton: Institute of Development Studies.
- Kaplinsky, R. and J. Readman (2001) 'Integrating SMEs in Global Value Chains: Towards Partnership for Development'. Vienna: UN Industrial Development Organization.
- Kaplinsky, R., M. Morris and D. Kaplan (2011) 'A Conceptual Overview to Understand Commodities, Linkages and Industrial Development in Africa'. London: Africa Export Import Bank.
- Kay, C. (2002) 'Why East Asia Overtook Latin America: Agrarian Reform, Industrialisation and Development', *Third World Quarterly* 23(6): 1073-1102.
- Kay, C. (2009) 'Development Strategies and Rural Development: Exploring Synergies, Eradicating Poverty', *Journal of Peasant Studies* 36(1): 103-137.
- Kelly, J.T. (2014) "'This Mine Has Become Our Farmland": Critical Perspectives on the

- Coevolution of Artisanal Mining and Conflict in the Democratic Republic of the Congo', *Resources Policy* 41(1): 100-108.
- Kennes, E. (2002) 'Footnotes to the Mining Story', *Review of African Political Economy* 29(93/94): 601-607.
- Kennes, E. (2005) 'The Mining Sector in Congo: The Victim or the Orphan of Globalization?', in S. Marysse & F. Reyntjens (eds) *The Political Economy of the Great Lakes Region in Africa: The Pitfalls of Enforced Democracy and Globalization*, pp. 152-189. Basingstoke: Palgrave Macmillan.
- Kibwe-Kasongo, V. (1994) 'Analyse financière de la société minière et industrielle du Kivu (SOMINKI) 1986-1990', Masters Thesis. Bukavu: Université Catholique de Bukavu.
- Knierzinger, J. (2014) 'The Socio-Political Implications of Bauxite Mining in Guinea: A Commodity Chain Perspective', *The Extractive Industries and Society* 1(1): 20-27.
- Kuediasala, F.K. (2012) 'Code minier, dix and déjà; quel avenir pour les mines de la RDC?', in S. Marysse & J. O. Tshonda (eds) *Conjonctures Congolaises 2011: Chroniques et analyses de la RD Congo*, pp. 75-96. Paris: L'Harmattan.
- Larmer, M., A. Laudati and J.F. Clark (2013) 'Neither War nor Peace in the Democratic Republic of Congo (DRC): Profiting and Coping amid Violence and Disorder', *Review of African Political Economy* 40(135): 1-12.
- Larsen, M.N., P. Yankson and N. Fold (2009) 'Does FDI Create Linkages in Mining? The Case of Gold Mining in Ghana', in E. Rugraff, D. Sanchez-Ancochea, & A. Sumner (eds) *Transnational Corporations and Development Policy: Critical Perspectives*, pp. 246-273. London: Palgrave Macmillan.
- Laudati, A. (2013) 'Beyond Minerals: Broadening 'Economies of Violence' in Eastern Democratic Republic of Congo', *Review of African Political Economy* 40(135): 32-50.
- Le Billon, P. and E. Good (2015) 'Responding to the Commodity Bust: Downturns, Policies and Poverty in Extractive Sector Dependent Countries', *The Extractive Industries and Society* 3(1): 204-216.
- Lee, J., G. Gereffi and S. Barrientos (2011) 'Capturing the Gains: Economic and Social Upgrading', Briefing Note No. 3. Manchester: University of Manchester.
- Lewis, A. (1954) 'Economic Development with Unlimited Supplies of Labour', *Manchester School of Economic and Social Studies* 22(2): 139-191.
- Lezhnev, S. (2016) 'A Criminal State: Understanding and Countering Institutionalized Corruption and Violence in the DRC'. Washington DC: Enough Project.
- Lujala, P., N.P. Gleditsch and E. Gilmore (2005) 'A Diamond Curse?: Civil War and a Lootable Resource', *Journal of Conflict Resolution* 49(4): 538-562.
- Lukusa, G. (2016) *L'économie congolaise de 2007 à 2016 : Persistance des facteurs d'enlèvement en RDC*. Paris: L'Harmattan.
- Luning, S. (2008) 'Liberalisation of the Gold Mining Sector in Burkina Faso', *Review of African Political Economy* 35(117): 387-401.
- MacGaffey, J. (1986) 'Fending-for-Yourself: The Organization of the Second Economy in Zaire', in Nzongola-Ntalaja (ed.) *The Crisis in Zaire: Myths and Realities*, pp. 141-156. New Jersey: Africa World Press.
- MacGaffey, J. (1987) *Entrepreneurs and Parasites: The Struggle for Indigenous Capitalism in Zaire*. Cambridge: Cambridge University Press.
- MacGaffey, J. (1991a) *Entrepreneurs and Parasites: The Struggle for Indigenous Capitalism in Zaire*. Cambridge: Cambridge University Press.
- MacGaffey, J. (1991b) 'Historical, Cultural and Structural Dimensions of Zaire's Unrecorded Trade', in J. MacGaffey et al. (eds) *The Real Economy of Zaire: The Contribution of Smuggling & Other Unofficial Activities to National Wealth*, pp. 26-39. London: James Currey.
- MacGaffey, J. (1992) 'Initiatives From Below: Zaire's Other Path to Social and Economic Restructuring', in G. Hyden & M. Bratton (eds) *Governance and Politics in Africa*, pp. 243-261. London: Lynne Rienner Publishers.

- MacGaffey, J. and R. Bazenguissa-Ganga (2000) *Congo-Paris: Transnational Traders on the Margins of the Law*. Oxford: James Currey.
- Mainguy, C. and S. Jeppesen (2009) 'Is the Impact of FDI Similar in All Developing Countries? South Africa and Mali Compared', in E. Rugraff, D. Sanchez-Ancochea & A. Sumner (eds) *Transnational Corporations and Development Policy: Critical Perspectives*, pp. 176-201. London: Palgrave Macmillan.
- Maison des mines du Kivu (2015) 'Evaluation des impacts des investissements miniers de Banro Corporation sur les droits humains en RDC'. Bukavu: Maison des mines du Kivu.
- Manky, O. (2018) 'Part-Time Miners: Labor Segmentation and Collective Action in the Peruvian Mining Industry', *Latin American Perspectives* 45(5): 120-135.
- Margeirsson, O. (2015) 'Foreign Direct Investment: A Focused Literature Review'. Working Paper No. 104. Ohio: Binzagr Institute for Sustainable Prosperity.
- Marivoet, W. and T. De Herdt (2014) 'Reliable, Challenging or Misleading? A Qualitative Account of the Most Recent National Surveys and Country Statistics in the DRC', *Canadian Journal of Development Studies/Revue canadienne d'études du développement* 35(1): 97-119.
- Marivoet, W. and T. De Herdt (2018) 'What Happens with Household Assets during Economic Collapse? The Case of the Democratic Republic of the Congo (1975–2010)', *Journal of Development Studies* 00(00): 1-22.
- Marshall, J. (2015) 'Contesting Big Mining from Canada to Mozambique'. Amsterdam: Transnational Institute.
- Marysse, S. (2005) 'Regress, War and Fragile Recovery: The Case of the DR Congo', in S. Marysse & F. Reyntjens (eds) *The Political Economy of the Great Lakes Region in Africa*, pp. 125-151. London: Palgrave Macmillan.
- Marysse, S. (2015) 'Croissance cloisonnée : note sur l'extraversion économique en RDC', in S. Marysse & J. Omasombo Tshonda (eds) *Conjonctures Congolaises 2014. Politiques, territoires et ressources naturelles : changements et continuités*, pp. 25-41. Paris: L'Harmattan.
- Marysse, S. and C. Tshimanga (2013) 'La renaissance spectaculaire du secteur minier en RDC: ou va la rente minière?', in S. Marysse & J. Omasombo Tshonda (eds) *Conjonctures Congolaises 2012: Politique, secteur minier et gestion des ressources naturelles en RD Congo*, pp. 11-46. Paris: L'Harmattan.
- Marysse, S. and C. Tshimanga (2014) 'Les "trous noirs" de la rente minière en RDC', in S. Marysse & J. O. Tshonda (eds) *Conjonctures Congolaises 2013: Percée sécuritaire, flottements politiques et essor économique*, pp. 131-168. Paris: L'Harmattan.
- Matata Ponyo, M. (2017) 'Qualité de l'ajustement budgétaire et croissance économique: Le cas de la RDC 1974-2015', PhD Thesis. Kinshasa: University of the Congo.
- Mazalto, M. (2008) 'La réforme du secteur minier en République Démocratique du Congo: enjeux de gouvernance et perspectives de reconstruction', *Afrique contemporaine* 3(227): 53-80.
- Meagher, K. (2016) 'The Scramble for Africans: Demography, Globalisation and Africa's Informal Labour Markets', *The Journal of Development Studies* 52(4): 483-497.
- Mkandawire, T. (2001) 'Thinking about Developmental States in Africa', *Cambridge Journal of Economics* 25(3): 289-314.
- Montes, M. (2014) 'Obstacles to Development in the Global Economic System'. Geneva: South Centre.
- Morris, M., R. Kaplinsky and D. Kaplan (2012) "'One Thing Leads to Another": Commodities, Linkages and Industrial Development', *Resources Policy* 37(4): 408-416.
- Morrissey, O. (2011) 'FDI in Sub-Saharan Africa: Few Linkages, Fewer Spillovers', *European Journal of Development Research* 24(1): 26-31.
- Moshonas, S. (2013) 'Looking beyond Reform Failure in the Democratic Republic of Congo', *Review of African Political Economy* 40(135): 132-140.
- Mosley, P. and J. Weeks (1993) 'Has Recovery Begun?: Africa's Adjustment in the 1980s Revisited', *World Development* 21(10): 1583-1606.

- Mthembu-Salter, G. (2009) 'Social and Economic Dynamics of Mining in Kalima, DRC', Working Paper No. 185. Pretoria: Institute for Security Studies.
- Mthembu-Salter, G. (2014) 'Etude de Base 2 : Mine d'or artisanale de Mukungwe, au Sud-Kivu, République Démocratique du Congo'. Paris: OECD.
- Mulonda, S. B., B. Radley and S. Geenen (2019) 'Arrêtez les concasseurs ! Transformation, quasi-dépossession et répression autour de la production de l'or à Kamituga', in S. Geenen, A. Nyenyezi Bisoka & A. Ansoms (eds) *Conjonctures de l'Afrique Centrale*, pp. 158-186. Paris: L'Harmattan.
- Mupepele Monti, L. (2012) *L'industrie minière Congolaise*. Kinshasa: L'Harmattan RDC.
- Mushagalusa, A. (2018) 'Etude portant sur le régime de protection des travailleurs prestant dans les entreprises de sous-traitance'. Unpublished report, Bukavu, DRC.
- Ndikumana, L. (2014) 'Savings, Capital Flight, and African Development', Working Paper No. 353. Massachusetts: Political Economy Research Institute.
- Ndikumana, L. (2015) 'Integrated Yet Marginalized: Implications of Globalization for African Development', Working Paper No. 381. Massachusetts: Political Economy Research Institute.
- Ndikumana, L. and J.K. Boyce (1998) 'Congo's Odious Debt: External Borrowing and Capital Flight in Zaire', *Development and Change* 29: 195-217.
- Ndikumana, L. and J.K. Boyce (2011) 'Capital Flight From Sub-Saharan Africa: Linkages With External Borrowing and Policy Options', *International Review of Applied Economics* 25(2): 149-170.
- Neilson, J. (2014) 'Value Chains, Neoliberalism and Development Practice: The Indonesian Experience', *Review of International Political Economy* 21(1): 38-69.
- Neilson, J., B. Pritchard and H.W. Yeung (2014) 'Global Value Chains and Global Production Networks in the Changing International Political Economy: An Introduction', *Review of International Political Economy* 21(1): 1-8.
- Newman, S. (2012) 'Financialisation and Transnational Supply Chains: Implications for Developing Countries'. Geneva: UNCTAD.
- Ngabo, N.Z. (1983) 'Les rapport missionnaires-autochtones: soubassement de l'action missionnaire et du développement à Luhwindja', Masters Thesis. Bukavu: Institut superier pedagogique de Bukavu.
- Ntampaka, K. (1978) 'De la legislation sur le travail: un essai d'interpretation des conditions des travailleurs sous le régime syndical au Kivu (1946-1960)', Masters Thesis. Bukavu: Institut superier pedagogique de Bukavu.
- Nyame, F.K. and J. Blocher, (2010) 'Influence of Land Tenure Practices on Artisanal Mining Activity in Ghana', *Resources Policy* 35(1): 47-53.
- Observatoire gouvernance et paix (2008) 'Potentialités des entités administratives decentralisés: collectivité chefferie de Luhwinja'. Bukavu: Observatoire gouvernance et paix.
- Observatoire gouvernance et paix (2010) 'Ressources minières et développement de la RD Congo: la gouvernance minière au Sud-Kivu'. Bukavu: Observatoire gouvernance et paix.
- Observatoire gouvernance et paix (2015) 'Profil socio-démographique des exploitants miniers artisanaux des sites de Kadumwa et Lukungurhi en chefferie de Luhwindja, territoire de Mwenga, Sud-Kivu: un essai empirique pour une économie de paix dans le secteur minier à l'Est de la RDC'. Bukavu: Observatoire gouvernance et paix.
- Ocampo, J.A. (2012) 'The Latin American Debt Crisis in Historical Perspective'. New York: Initiative for Policy Dialogue.
- Ocampo, J.A., C. Rada and L. Taylor (2009) *Growth and Policy in Developing Countries: A Structuralist Approach*. New York: Columbia University Press.
- OECD (2016) 'OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Third Edition'. Paris: OECD Publishing.
- Okoh, G. and G. Hilson (2011) 'Poverty and Livelihood Diversification: Exploring the Linkages

- between Smallholder Farming and Artisanal Mining in Rural Ghana', *Journal of International Development* 23: 1100-1114.
- Olsson, O. (2006) 'Diamonds Are a Rebel's Best Friend', *The World Economy* 29(8): 1133-1150.
- Otchia, C.S. (2015) 'Mining-Based Growth and Productive Transformation in the Democratic Republic of Congo: What Can an African Lion Learn From an Asian Tiger?', *Resources Policy* 45: 227-238.
- Ovadia, J.S. and C. Wolf (2018) 'Studying the Developmental State: Theory and Method in Research on Industrial Policy and State-Led Development in Africa', *Third World Quarterly* 39(6): 1056-1076.
- Owenga Odinga, E.L. (2014) *Droit minier, tome 1: régime minier général pour les mines et les carrières*. Kinshasa: Publications pour la promotion du droit congolais.
- Pact (2010) 'PROMINES Study: Artisanal Mining in the Democratic Republic of Congo'. Washington: Pact.
- Palma, G. (1978) 'Dependency: A Formal Theory of Underdevelopment or a Methodology for the Analysis of Concrete Situations of Underdevelopment?', *World Development* 6: 881-924.
- Panella, C. (2010) 'Orpillage artisanal et cotoniculture: économie, oecuménique et éthique sociale dans le basidibé (Mali)', in *Worlds of Debts: Interdisciplinary Perspectives on Gold Mining in West-Africa*, 49-78. Amsterdam: Rozenberg Publishers.
- Pedersen, R. and T. Jacob (2017) 'Reconfigured State-Community Relations in Africa's Extractive Sectors: Insights from Post-Liberalisation Tanzania', *Extractive Industries and Society* 4: 915-922.
- Peemans, J. (1975) 'The Social and Economic Development of Zaire since Independence: An Historical Outline', *African Affairs* 74(295): 148-179.
- Pegg, S. (2006) 'Mining and Poverty Reduction: Transforming Rhetoric into Reality', *Journal of Cleaner Production* 14(3-4): 376-87.
- Perks, R. (2011) "'Can I Go?'" Exiting the Artisanal Mining Sector in the Democratic Republic of the Congo', *Journal of International Development* 23: 1115-1127.
- Peyer, C., P. Feeney and F. Mercier (2014) 'PR or Progress? Glencore's Corporate Responsibility in the DRC'. Oxford: Bread for All, Rights and Accountability in Development, and Fastenopfer.
- Pijpers, R. (2014) 'Crops and Carats: Exploring the Interconnectedness of Mining and Agriculture in Sub-Saharan Africa', *Futures* 62: 32-39.
- Pirie, I. (2013) 'Globalisation and the Decline of the Developmental State', in B. Fine, J. Saraswati, & D. Tavasci (eds) *Beyond the Developmental State: Industrial Policy into the Twenty-First Century*, pp. 146-168. London: Pluto Press.
- Pole Institute (2007) 'Rules for Sale: Formal and Informal Cross-Border Trade in Eastern DRC'. Goma: Pole Institute.
- Prebisch, R. (1950) 'The Economic Development of Latin America and its Principal Problems'. New York: UN Economic Commission for Latin America.
- Publish What You Pay (2011) 'Publically Available Information on Canadian Mining Companies: Banro Corporation, Twangiza Mine DRC'. Toronto: Publish What You Pay.
- Putzel, J., S. Lindemann and C. Schouten (2008) 'Drivers of Change in the Democratic Republic of Congo: The Rise and Decline of the State and Challenges for Reconstruction', Working Paper No. 26. London: Crisis States Research Centre.
- Radley, B. (2016) 'The Limits of Corporate Social Responsibility and the Possibilities for Harnessing Mining to Reconstitute Processes of State-Led Local Development in the DRC', in F. Reyntjens, S. Vandeginste & M. Verpoorten (eds) *L'Afrique Des Grands Lacs Annuaire, 2015-2016*, pp. 169-186. Paris: L'Harmattan.
- Radley, B. and C. Vogel (2015) 'Fighting Windmills in Eastern Congo? The Ambiguous Impact of the 'Conflict Minerals' Movement', *The Extractive Industries and Society* 2: 406-410.
- Richards, J.P (2009) *Mining, Society and a Sustainable World*. New York: Springer.

- Rio Tinto (2018) 'Pioneering Progress: 2018 Sustainable Development Report'. London: Rio Tinto.
- Rodgers, E. (2006) 'Conflict Diamonds: Certification and Corruption: A Case Study of Sierra Leone', *Journal of Financial Crime* 13(3): 267-276.
- Rodney, W. (1972) *How Europe Underdeveloped Africa*. London: Bogle-l'Overture.
- Rose, G. (1997) 'Situating Knowledges: Positionality, Reflexivities and Other Tactics', *Progress in Human Geography* 21: 305-320.
- Rostow, W. (1960) *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press.
- Rothenberg, D. (2014) 'Selected Oral Histories From the Artisanal Mining Industry in North Kivu and South Kivu'. Arizona: Arizona State University.
- Rubbers, B. (2006) 'Les Mesures de La Dissimulation: Les Méthodes de Recherche En Sciences Sociales Face à La Falsification de l'économie Congolaise'. *Civilizations*, 54, pp.57–66.
- Rubbers, B. (2009) "We, the Congolese, We Cannot Trust Each Other": Trust, Norms and Relations Among Traders in Katanga, Democratic Republic of Congo', *British Journal of Sociology* 60(3): 623-642.
- Rubbers, B. (2010) 'Claiming Workers' Rights in the Democratic Republic of Congo: The Case of the Collectif des Ex-Agents de la Gécamines', *Review of African Political Economy* 37(125): 329-344.
- Rubbers, B. (2013) 'Les sociétés africaines face aux investissements miniers', *Politique Africaine* 131(3): 5-25.
- Rugarabura, P.R. and P.M. Batumike (2014) 'Contribution à l'analyse de la nature juridique des mesures de délocalisation des populations au profit de Banro Corporation à Twangiza', in S. Marysse & J. O. Tshonda (eds) *Conjonctures Congolaises 2013: percée sécuritaire, flottements politiques et essor économique*, pp. 199-222. Paris: L'Harmattan.
- Rugraff, E., D. Sanchez-Ancochea and A. Sumner (2009) 'What Do We Know About the Developmental Impacts of TNCs?', in E. Rugraff, D. Sanchez-Ancochea, & A. Sumner (eds) *Transnational Corporations and Development Policy: Critical Perspectives*, pp. 29-55. London: Palgrave Macmillan.
- Rustad, S.A., G. Østby and R. Nordås (2016) 'Artisanal Mining, Conflict, and Sexual Violence in Eastern DRC', *The Extractive Industries and Society* 3: 475-484.
- Savin-Baden, M. and C. Major (2013) *Qualitative Research: The Essential Guide to Theory and Practice*. New York: Routledge.
- Schatzberg, M. (1980) *Politics and Class in Zaire: Bureaucracy, Business, and Beer in Lisala*. New York: Africana Publishing Company.
- Schouten, P. (2011) 'International Mining Corporations and Socio-Political Conflict in the DRC'. Utrecht: IKV PAX Christi.
- Sensoy, A., E. Hacıhasanoglu and D.K. Nguyen (2015) 'Dynamic Convergence of Commodity Futures: Not All Types of Commodities Are Alike', *Resources Policy* 44: 150-160.
- Shafiee, S. and E. Topal (2010) 'An Overview of Global Gold Market and Gold Price Forecasting', *Resources Policy* 35(3): 178-189.
- Singer, H.W. (1950) 'U.S. Foreign Investment in Underdeveloped Areas: The Distribution of Gains Between Investing and Borrowing Countries', *The American Economic Review* 40(2): 473-485.
- Singh, J.N. and F. Bourgooin (2013) *Resource Governance and Developmental States in the Global South: Critical International Political Economy Perspectives*. Basingstoke: Palgrave Macmillan.
- Singh, J.N. and J.S. Ovadia (2018) 'The Theory and Practice of Building Developmental States in the Global South', *Third World Quarterly* 39(6): 1033-1054.
- Smith, S.M. and P.T. Dorward (2014) 'Nationalised Large-Scale Mining, Trade Unions and Community Representation: Perspectives from Northern Madagascar', *Resources Policy* 41: 31-41.

- Spittaels, S., K. Matthyssen, Y. Weyns, F. Hilgert and A. Bulzomi (2014) 'Analysis of the Interactive Map of Artisanal Mining Areas in Eastern DR Congo: May 2014 Update'. Antwerp: International Peace Information Service.
- Stengers, J. (1969) 'The Congo Free State and the Belgian Congo Before 1914', in L. H. Gann & P. Duignan (eds) *Colonialism in Africa 1870-1960: Volume 1, The History and Politics of Colonialism 1870-1914*, pp. 261-292. Cambridge: Cambridge University Press.
- Stoop, N., J.K. Buraye and M. Verpoorten (2016) 'Relocation, Reorientation, or Confrontation? Insights from a Representative Survey among Artisanal Miners in Kamituga, South-Kivu', Working Paper No. 2016.09. Antwerp: University of Antwerp.
- Storm, S. (2015) 'Structural Change', *Development and Change* 46(4): 666-699.
- Suliman, K. and A. Badawi (2010) 'An Assessment of the Impact of China's Investments in Sudan'. Nairobi: African Economic Research Consortium.
- Sunkel, O. (1972) 'Big Business and "Dependencia": A Latin American View', *Foreign Affairs* 50: 517-531.
- Sunkel, O. (1973) 'Transnational Capitalism and National Disintegration in Latin America', *Social and Economic Studies* 22(1): 132-176.
- Sylla, N.S. (2014) 'From a Marginalised to an Emerging Africa? A Critical Analysis', *Review of African Political Economy* 41(1): 1-19.
- Synergies Coscct (2016) 'Projet Frontier: une opportunité perdue pour la RDC?'. Lubumbashi: Synergies Coscct.
- Taylor, I. (2015) 'Dependency Redux: Why Africa Is Not Rising', *Review of African Political Economy* 43(147): 1-18.
- The Carter Center (2017a) 'A State Affair: Privatizing Congo's Copper Sector'. Kinshasa: The Carter Center.
- The Carter Center (2017b) 'Improving Governance of Revenues from the Mining Industry'. Kinshasa: The Carter Center.
- The Economist Intelligence Unit (2008) '*Country Report, Democratic Republic of Congo*'. London: The Economist Intelligence Unit.
- Trapido, J. (2015) 'Africa's Leaky Giant', *New Left Review* 92: 5-40.
- Trefon, T., S. van Hoyweghen and S. Smis (2002) 'State Failure in the Congo: Perceptions & Realities', *Review of African Political Economy* 29(93/94): 379-388.
- UNCTAD (2005) 'Economic Development in Africa: Rethinking the Role of Foreign Direct Investment'. New York and Geneva: UNCTAD.
- UNCTAD (2007) 'The Least Developed Countries Report 2007: Knowledge, Technological Learning and Innovation for Development'. New York and Geneva: UNCTAD.
- UNCTAD (2010) 'The Least Developed Countries Report 2010: Towards a New International Development Architecture for LDCs'. New York and Geneva: UNCTAD.
- UNCTAD (2013) 'World Investment Report 2013: Global Value Chains, Investment and Trade for Development'. New York and Geneva: UNCTAD.
- UNCTAD (2015) 'World Investment Report 2015: Reforming International Investment Governance'. New York and Geneva: UNCTAD.
- UNECA and the AU (2011) 'Minerals and Africa's Development'. Addis Ababa: UN Economic Commission for Africa.
- UNEP-MONUSCO-OSESG (2015) 'Experts' Background Report on Illegal Exploitation and Trade in Natural Resources Benefitting Organized Criminal Groups and Recommendations on MONUSCO's Role in Fostering Stability and Peace in Eastern DR Congo'. Kinshasa: UNEP-MONUSCO-OSESG.
- Van Acker, F. (2005) 'Where Did All the Land Go? Enclosure & Social Struggle in Kivu (D.R.Congo)', *Review of African Political Economy* 32(103): 79-98.
- Vaitsos, C., (1973) *Policies on Foreign Direct Investment and Economic Development in Latin America*, Sussex.
- Verbrugge, B. (2015) 'The Economic Logic of Persistent Informality: Artisanal and Small-Scale

- Mining in the Southern Philippines', *Development and Change* 46(5): 1023-1046.
- Verweijen, J. (2017) 'Luddites in the Congo?', *City* 21: 466-482.
- Vlassenroot, K. (2003) 'War and Social Research', *Civilisations* 1-2: 191-198.
- Vlassenroot, K. (2013) 'South Kivu: Identity, Territory, and Power in the Eastern Congo'. Nairobi: Rift Valley Institute.
- Vlassenroot, K. and T. Raeymaekers (2004) *Conflict and Social Transformation in Eastern DR Congo* Gent: Academia Press Scientific.
- Wade, R. (1990) *Governing the Market: Economic Theory and the Role of the Government in East Asian Industrialization*. Princeton: Princeton University Press.
- Walker, M. and P. Jourdan (2003) 'Resource-Based Sustainable Development: An Alternative Approach to Industrialisation in South Africa', *Minerals and Energy* 18(3): 25-43.
- Weyns, Y., L. Hoex and K. Matthysen (2016) 'Analysis of the Interactive Map of Artisanal Mining Areas in Eastern DR Congo, 2015 Update'. Antwerp: International Peace Information Service.
- Wilburn, D.R. and K.A. Stanley (2013) 'Exploration Review'. Reston: United States Geological Survey.
- Williamson, J. (1993) 'Democracy and the "Washington Consensus"', *World Development* 21(8): 1329-1336.
- Witangila bin-Mubya, D. (1982) 'La question salariale au Kivu (1945-1960)', Masters Thesis. Bukavu: Institut superieur pedagogique de Bukavu.
- World Bank (1981) 'Accelerated Development in Sub-Saharan Africa: An Agenda for Action'. Washington: World Bank.
- World Bank (1984) 'Zaire: problems de developpement region du Kivu'. Washington: World Bank.
- World Bank (1985) Zaire Economic Memorandum Economic Change and External Assistance, Washington: World Bank.
- World Bank (1993) 'Strategy for African Mining'. Washington: World Bank.
- World Bank (2004) 'Mainstreaming Mineral Wealth in Growth and Poverty Reduction Strategies'. Addis Ababa: World Bank.
- World Bank (2008) 'DRC Growth with Governance in the Mining Sector'. Washington: World Bank.
- World Bank (2009) 'Extractive Industries Value Chain'. Washington: World Bank.
- World Bank (2010) 'The World Bank's Evolutionary Approach to Mining Sector Reform'. Washington: World Bank.
- World Bank (2015) 'The Power of the Mine: A Transformative Opportunity for sub-Saharan Africa'. Washington: World Bank.
- World Gold Council (2011) 'The Social and Economic Impacts of Gold Mining'. London: World Gold Council.
- World Gold Council (2016) 'Investment Commentary: 2015 Review and 2016 Outlook'. London: World Gold Council.
- Young, C. and T. Turner (1985) *The Rise & Decline of the Zairian State*. Wisconsin: The University of Wisconsin Press.

Curriculum Vitae

Ben Radley obtained his BA(Hons) in English Studies from the University of Nottingham in 2006 and his MSc in Development Studies from the London School of Economics in 2008. After completing his MSc, he spent several years living in Kenya, Burundi and the DRC, where he worked primarily on labour issues for a range of national and international NGOs. It was during his time in the DRC that he began his research into the political economy of mining industrialisation, and its relationship to broader processes of development and structural transformation. In October 2014, he started his PhD research at the International Institute of Social Studies on a part-time basis with the aim of further deepening his understanding of this relationship. In 2016, he was awarded a two-year scholarship from the Leverhulme Trust, which enabled him to pursue his doctoral study on a full-time basis. In 2019, following a brief stint as a Teaching Fellow at the University of Bath, he took up the position of Fellow in Development Studies in the Department of International Development at the London School of Economics. In this role, he is teaching students studying for a Masters in Development Studies, preparing for the publication of a number of articles related to his doctoral research, and developing a postdoctoral research project.