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**Extracting Security from the Global South:
Multipolar Control and Dependency in the Field of
Critical Raw Materials**

Themistoklis I Fotopoulos

Supervisor: Dr George Dikaio

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**ΕΘΝΙΚΟ ΚΑΙ ΚΑΠΟΔΙΣΤΡΙΑΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
ΣΧΟΛΗ ΟΙΚΟΝΟΜΙΚΩΝ ΚΑΙ ΠΟΛΙΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ
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Διπλωματική εργασία

**Αντλώντας ασφάλεια από τον Παγκόσμιο Νότο:
Πολυπολικός Έλεγχος και Πολυπολική Εξάρτηση στο Πεδίο των
Κρίσιμων Πρώτων Υλών.**

Θεμιστοκλής Ι Φωτόπουλος

Επιβλέπων: Δρ Γιώργος Δικαίος

Αθήνα, 2026

Δηλώνω υπεύθυνα ότι η συγκεκριμένη διπλωματική εργασία έχει συγγραφεί από εμένα προσωπικά και δεν έχει υποβληθεί ούτε έχει εγκριθεί στο πλαίσιο κάποιου άλλου μεταπτυχιακού ή προπτυχιακού τίτλου σπουδών, στην Ελλάδα ή στο εξωτερικό. Οι πηγές στις οποίες ανέτρεξα για την εκπόνησή της αναφέρονται στο σύνολό τους, δίνοντας πλήρεις αναφορές στους συγγραφείς, συμπεριλαμβανομένων και των πηγών που χρησιμοποιήθηκαν από το Διαδίκτυο. Σε κάθε περίπτωση, αναληθούς ή ανακριβούς δήλωσης, υπόκειμαι στις συνέπειες που προβλέπονται στον Κανονισμό Σπουδών του Μεταπτυχιακού Προγράμματος καθώς και στις διατάξεις που προβλέπει η Ελληνική και Κοινοτική Νομοθεσία περί πνευματικής ιδιοκτησίας.

Ο ΔΗΛΩΝ

Θεμιστοκλής Ι Φωτόπουλος

Abstract

Critical raw materials (CRMs) have moved from a technical supply issue to a central question of economic strategy and security politics in the green and digital transition. This thesis investigates how major powers seek to reduce exposure to disruption while operating in an increasingly multipolar environment. It argues that contemporary CRM “security” is pursued not primarily by owning deposits, but by shaping the terms of participation across value chains: the standards, contracts, finance, logistics corridors, and market-access rules that decide which mineral flows are investable, acceptable, and scalable. Drawing on Critical Security Studies and Global Political Economy, the thesis introduces the concept of extracting security to describe a recurring pattern: greater predictability for downstream industrial centers is often achieved through the externalization of risk and adjustment costs to upstream regions. The study applies an analytical framework to two cases –the Democratic Republic of the Congo’s cobalt-copper sector and Chile’s lithium political economy– tracing discursive, material-institutional, and socio-environmental dynamics. It maps how “responsible” supply narratives are translated into governance instruments (e.g., due diligence architectures, eligibility and incentives, partnership frameworks, and corridor-oriented logistics and finance) and how these mechanisms intersect with uneven development, labor and environmental pressures, and contested legitimacy in producing territories. The findings highlight how competition over CRMs frequently reorganizes political conflict around credibility and compliance, while reproducing asymmetric security outcomes between global major actors and the South.

Keywords

Critical raw materials, critical minerals, multipolarity, Global South, value-chains, resource security, extractivism, Democratic Republic of the Congo, Chile

Περίληψη

Οι κρίσιμες πρώτες ύλες (Critical Raw Materials – CRMs) έχουν μετατοπιστεί από ένα τεχνικό ζήτημα εφοδιασμού σε κεντρικό πεδίο οικονομικής στρατηγικής και πολιτικής ασφάλειας στο πλαίσιο της πράσινης και ψηφιακής μετάβασης. Η παρούσα διπλωματική εξετάζει πώς οι μεγάλες δυνάμεις επιδιώκουν να μειώσουν την έκθεσή τους σε αναταράξεις, λειτουργώντας σε ένα ολοένα και πιο πολυπολικό περιβάλλον. Υποστηρίζει ότι η σύγχρονη «ασφάλεια» των CRMs δεν επιδιώκεται πρωτίστως μέσω της κατοχής κοιτασμάτων, αλλά μέσω της διαμόρφωσης των όρων συμμετοχής στις αλυσίδες αξίας: των προτύπων, των συμβάσεων, της χρηματοδότησης, των διαδρόμων logistics και των κανόνων πρόσβασης στις αγορές που καθορίζουν ποιες ροές ορυκτών είναι αποδεκτές και επενδυτικά ενδεδειγμένες. Αντλώντας από τις Κριτικές Σπουδές Ασφάλειας και την Παγκόσμια Πολιτική Οικονομία, η εργασία εισάγει την έννοια της «εξαγωγής ασφάλειας» (extracting security) για να περιγράψει ένα επαναλαμβανόμενο πρότυπο: η αυξημένη προβλεψιμότητα για τα βιομηχανικά κέντρα επιτυγχάνεται συχνά μέσω της μετακύλισης κινδύνων και κόστους προσαρμογής προς τις παραγωγικές περιοχές. Η μελέτη εφαρμόζει ένα αναλυτικό πλαίσιο σε δύο περιπτώσεις –στον τομέα κοβαλτίου-χαλκού της Λαϊκής Δημοκρατίας του Κονγκό και στην πολιτική οικονομία του λιθίου στη Χιλή– ανιχνεύοντας συλλογιστικές (discursive), υλικο-θεσμικές και κοινωνικο-περιβαλλοντικές δυναμικές. Χαρτογραφεί τον τρόπο με τον οποίο αφηγήσεις περί «υπεύθυνου» εφοδιασμού μεταφράζονται σε εργαλεία διακυβέρνησης (όπως αρχιτεκτονικές δέουσας επιμέλειας, μηχανισμούς επιλεξιμότητας και κινήτρων, εταιρικά σχήματα και διαδρόμους logistics και χρηματοδότησης) και πώς αυτοί οι μηχανισμοί διασταυρώνονται με άνιση ανάπτυξη, εργασιακές και περιβαλλοντικές πιέσεις και αμφισβητούμενη νομιμοποίηση στις περιοχές παραγωγής. Τα ευρήματα καταδεικνύουν ότι ο ανταγωνισμός γύρω από τις CRMs συχνά αναδιοργανώνει την πολιτική σύγκρουση γύρω από ζητήματα αξιοπιστίας και συμμόρφωσης, ενώ ταυτόχρονα αναπαράγει ασύμμετρα αποτελέσματα ασφάλειας μεταξύ των παγκόσμιων μεγάλων δρώντων και του Παγκόσμιου Νότου.

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Κρίσιμες πρώτες ύλες, κρίσιμα μέταλλα, πολυπολικότητα, Παγκόσμιος Νότος, αλυσίδες αξίας, ασφάλεια πόρων, εξορυκτισμός, Λαϊκή Δημοκρατία του Κονγκό, Χιλή

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Abbreviation Table

AML/CFT	Anti-money laundering / combating the financing of terrorism
BHP	BHP Group (mining company)
BYD	BYD Company Limited (China)
CMOC	CMOC Group Limited (China Molybdenum)
CORFO	Corporación de Fomento de la Producción (Chile)
CRM	Critical raw materials
CRMA	Critical Raw Materials Act (EU)
CSR	Corporate social responsibility
CSS	Critical Security Studies
DRC	Democratic Republic of the Congo
ECF	Extended Credit Facility
ESG	Environmental, social and governance
EU	European Union
EV	Electric vehicle
FEOC	Foreign Entity of Concern (US IRA term)
FNE	Fiscalía Nacional Económica (Chile)
GPE	Global Political Economy
IFI	International financial institution
IMF	International Monetary Fund
IPIS	International Peace Information Service
IRA	Inflation Reduction Act (US)

JV	Joint venture
MOFCOM	Ministry of Commerce of the People's Republic of China
MONUSCO	United Nations Organization Stabilization Mission in the DRC
MOST	Ministry of Science and Technology (PRC)
MoU	Memorandum of Understanding
MSP	Minerals Security Partnership
NGO	Non-governmental Organization
NPC	National People's Congress (PRC)
OECD	Organization for Economic Co-operation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
PRC	People's Republic of China
RDF	Rwanda Defence Force
RSF	Resilience and Sustainability Facility (IMF)
SQM	Sociedad Química y Minera de Chile
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNJHRO	United Nations Joint Human Rights Office (DRC)
US	United States
USA	United States of America

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1. Introduction

The return of industrial policy, the tightening of technology controls, and the rise of standards-based market access are not merely generic geopolitical trends; they increasingly concentrate around critical inputs and supply-chain chokepoints. In this setting, multipolarity does not simply mean “more actors”. It means more competing projects of value-chain governance - attempts to organize who participates, on what terms, and with which degrees of dependence across upstream extraction, midstream processing/refining, and downstream manufacturing (Hira, 2025; Kalantzakos, 2019; European Parliament and Council of the EU, 2023; Standing Committee of the NPC, 2020).

Critical raw materials (CRMs) have become a hard constraint on the pace and geography of the green and digital transition. Lithium, cobalt and copper are not simply “inputs”: they are bottlenecks through which battery deployment, grid expansion, and advanced manufacturing are enabled or delayed. When access to these materials is concentrated at a small number of chokepoints –especially in processing, refining and enabling technologies, often located in a limited set of jurisdictions– or is disrupted, or politically contested, transition pathways are exposed as strategically fragile. CRM governance has therefore been reframed as a security problem: how to make supply predictable and scalable, and how to hedge transition pathways against geopolitical disruption and chokepoint risks (Hira, 2025; Kalantzakos, 2019). This security framing is operationalized through benchmarks, eligibility rules and export/technology controls that govern who can participate in “trusted” supply chains (Energy Act of 2020, 2020; Export Control Law of the People’s Republic of China, 2020; European Commission, 2023a).

Major powers operationalize CRM security through different comparative channels. The EU utilizes regulatory market-power and strategic-project benchmarking (European Parliament and Council of the EU, 2023, 2024); the US industrial-policy eligibility and exclusions shape “trusted” chain configurations (US Department of Treasury, 2023; United States Senate, 2025); and China’s midstream/technology chokepoint governance shapes extraction-processing-manufacturing geographies without requiring direct territorial control of deposits (Export Control Law of the People’s Republic of China, 2020; MOFCOM and MOST, 2023, 2025).

In this context, a critical-security lens tends to be necessary because “resource security” is not neutral: it is made, and it is unevenly distributed. While many policy framings treat CRM security as a technical supply-management issue, Critical Security Studies insist on asking whose security is being produced, through which practices, and at what cost (Booth, 1991; Fierke, 2017). Political economy perspectives sharpen the same question by foregrounding patterned transfers of value and cost from periphery to center through production and trade structures - an unequal-exchange dynamic in which value and cost transfers are patterned across core-periphery relations, with environmental and social burdens frequently concentrated in extractive frontiers while strategic benefits accrue elsewhere (Emmanuel, 1972; Galtung, 1969; Hickel et al., 2022). The concept of “extracting security” developed in this thesis names this recurring pattern: predictability and resilience are produced for downstream centers, while socio-environmental risk is displaced upstream into resource-rich territories (Svampa, 2019; Warnecke-Berger, 2022).

The thesis utilizes a comparison of two Global South case studies that share CRM centrality but differ sharply in institutional and political settings: the Democratic Republic of the Congo (DRC) (cobalt-copper) and Chile (lithium). The cases are selected because both are structurally central to energy-transition value chains, yet their distinct governance architectures channel external leverage through different mechanisms. The guiding research question is: how do major actors in the global political economy of CRMs (EU, US and China) –often working through multinational and state-backed firms– mobilize instruments of control across CRM value chains? Can the resulting dependencies and harms be understood as “extracting security” from the Global South?

The thesis is structured as follows. Chapter 2 reviews the literature on CRM security, multipolar competition and political-economy approaches to dependency and unequal exchange. Chapter 3 outlines the analytical framework employed to examine discursive, material-institutional, and socio-environmental mechanisms. Chapter 4 outlines the methodology and the empirical base. Chapter 5 applies the framework to the Democratic Republic of Congo (DRC) and Chile case studies, mapping how different instruments shape control, dependency and harm across value chains. Chapter 6 discusses the findings, while Chapter 7 concludes.

2. Literature Review

2.1 Resource Curse, Dependency & Unequal Exchange

The securitization of CRMs can be read as a contemporary policy response to supply vulnerability for import-dependent powers, but it also reactivates an older question in political economy: why has resource abundance so often failed to translate into broad-based development in producer states, and under what conditions does it generate dependency, rent capture, and conflict rather than diversification? Early contributions to the “resource curse” identified an empirical pattern where countries with natural resource abundance tend to experience slower economic growth and weaker development than resource-poor countries (Sachs and Warner, 1995). The evidence of such research showed that resource abundance generates structural macroeconomic problems; the Dutch disease, where it pulls capital and labor into the non-trade sector, causing the manufacturing sector to shrink, rent-seeking behavior, leading to internal political conflicts for the seizure of the rents, and weak incentives to diversify national income and remain dependent on the unstable primary commodity prices.

Ross (1999, 2003) accepts this basic pattern but moves a step further, questioning under which conditions the curse emerges. He identifies political mechanisms through which resource rents dissolve accountability, encourage nepotism and clientism, and eventually can fuel conflict, making the curse rely on weak state structures and institutions, rather than being automatic. Building on this, Savoia and Sen (2021) recast the curse as a problem of the political economy of development: outcomes depend on how rents are embedded in domestic power relations, state capacity, and the way resource sectors are positioned in global value chains. Similar resource exports thus can support diversification and social investment, or produce dependency and inequality.

Long before the “resource curse” became a development concern, Prebisch (1950) conceptualized a core-periphery division of labor in which peripheral economies are locked into exporting primary commodities and importing manufactures, facing long-term deterioration in their terms of trade, and ultimately in their development prospects. In his view, commodity dependence is not simply a bad policy choice, but a historically reproduced form of subordination that moves surplus towards the industrial core. World-systems theorists, most notably Immanuel Wallerstein (1974), built on this by

conceptualizing a single capitalist world-economy structured through a core-periphery hierarchy, in which core-controlled mechanisms are being used systematically to transfer surplus and resources from peripheral to core regions, thereby reproducing the subordination of resource-exporting economies. This pattern of structural value transfer from periphery to the core was theorized in parallel by unequal-exchange accounts, most notably Emmanuel (1972), and by dependency-oriented political economy associated with Amin's analysis of uneven development and the internationalization of accumulation (Amin, 1976). Recent quantitative reconstructions estimate that unequal exchange entails a large, ongoing net "drain" of labor and embodied resources from the Global South to the Global North, with implications for global inequality and ecological burdens (Hickel et al., 2022).

2.2 Coloniality, Neo-extractivism and the Green Transition

The mechanisms the Global North uses to ensure the successful "unequal exchange" are being developed within the broader context of globalization. According to Peruvian sociologist Quijano (2000), the end of the colonial era gave way to the beginning of the coloniality of power, a deep power structure -more durable and stable than actual colonialization- which imposes the interiority of the North's systems of hierarchies, systems of knowledge, and cultural systems. Subsequently, he finds Globalization to be the peak of this process, which "began with the constitution of America and colonial/modern Eurocentered capitalism as a new global power" (Quijano, 2000, p.533).

One of the biggest challenges globalization brought to the Global South was integrating their economies into the global markets. Stiglitz (2002) shows how structural adjustment and capital liberalization, often imposed as conditionalities by the International Monetary Fund (IMF) and the World Bank to provide loans or aid, forced many developing countries to open their economies before they had built robust institutions and diversified productive structures. In resource-rich economies in particular, these reforms led to a reliance on primary commodity exports, encouraged foreign investment in mining and hydrocarbons with minimal domestic added value, and produced "dual economies" where domestic and foreign elites captured rents, while the wider population struggled and development was constrained. This configuration emerged in a different historical moment than formal colonialism, and has often been described as neo-colonialism (Nkrumah, 1965).

In Latin America, this configuration has been defined as extractivism and, more recently, neo-extractivism. Gudynas (2010) defines extractivism as a model of development based on the large-scale appropriation of natural resources, such as mining and oil extraction, which generate limited domestic added value, while producing severe socio-environmental damage. Neo-extractivism is an updated model from the early 2000s onwards, when, following the increasing commodity prices, many governments in the region –including progressive and left administrations– have doubled primary commodity exports (Gudynas, 2010; Svampa, 2019). In that way, they managed to capture a larger amount of fiscal revenues and use them to finance social programs and anti-poverty policies, while ignoring their economies’ uneven insertion into global markets. This “commodities consensus” intensifies dependence on volatile international demand, deepens socio-environmental conflicts, and worsens the role of Latin America and other regions of the Global South as providers of raw materials to traditional (e.g. USA, Europe) and non-traditional (e.g. China) core (Gudynas, 2010; Svampa, 2019).

Beyond traditional ways of extractivism, recent work supports that economic corridors can be identified as an alternative tool to control resource-rich countries of the Global South. Thame (2021) shows that large-scale infrastructure projects and regional economic corridors in Southeast Asia function as an “essentially extractivist paradigm”, where multilateral development banks and state-backed capital reorganize space, logistics and public debt to support and control export-oriented resource extraction and low-cost industrial zones. In his historical-materialist analysis, these corridors increase export dependence and financial vulnerability, locking resource-rich countries into uneven development paths shaped mainly by external actors.

Post-extractivism theory and the Buen Vivir¹ promote alternatives that reduce extraction and redefine development separated from GDP-centred growth towards ecological integrity and social well-being (Gudynas, 2013; Riofrancos, 2020). Building on these insights, degrowth-oriented and decolonial scholarship argues that dominant “green growth” strategies in the Global North may entrench a form of “green extractivism” or “green colonialism”: low-carbon transitions in high-income countries are pursued by excessive extraction and reproduced patterns of unequal exchange in resource-exporting societies

¹ Buen Vivir (sumac kawsay/suma qamaña) is an alternative development paradigm rooted in Andean indigenous worldviews, prioritizing social-ecological wellbeing, collective rights, and harmony with nature over export-led growth (Riofrancos, 2020).

(Hickel et al., 2022; Lang, 2024). Dietz (2024) sharpens this argument by showing how the energy transition is reshaping global power relations through renewed mineral demand. He argues that it is institutionalizing a “green division of labor”, in which resource-rich regions are positioned primarily as suppliers of material inputs while higher-value segments (technology, finance, industrial upgrading) remain concentrated elsewhere. Crucially, this political economy is legitimized through a sustainability discourse that is more difficult to contest than earlier development narratives, making green extractivism a core feature of the transition rather than a mere unintended side-effect (Dietz, 2024).

2.3 Critical Security Studies (CSS) and Resource Security

In orthodox security studies, security was defined as the protection of a state’s territory against external military threats. Cold War debates identified international security as a balance of power, deterrence, and the management of armed conflict, with the state as the sole referent object of security (Walt, 1991). In this context, the key questions concern how the states can protect their sovereignty and vital interests from antagonist actors, rather than which actors or values ought to be secured in the first place.

CSS was one of the security theories to challenge this narrow, state-centric conception. Baldwin (1997) deconstructs the classic security definition, arguing that it is best understood as a low probability of damage to acquired values, and insists on specifying security for whom, of what, against what threats, by what means, and at what cost. Booth (1991: 319) contends that “emancipation, not power or order, produces true security”, suggesting that security studies should focus on challenging and removing structural conditions of insecurity, such as poverty, exploitation, and political oppression, rather than the preservation of existing power structures.

In his work “Violence, Peace, and Peace Research” (1969), Galtung provides a foundational base for this emancipatory turn, since he conceptualized “structural violence”, capturing situations in which social structures systematically harm individuals by preventing them from meeting their basic needs, even in the absence of direct violence. He illustrates this through the image of “topdogs” and “underdogs”: actors at the top of a social or global structure can receive the most of the privileges generated by the system, which they control, while those at the bottom bear the costs. Galtung also identified cultural elements, such as religion, language, cosmology, and empirical and formal science, as means to legitimize

direct or structural violence, which he described as “cultural violence”. Although Galtung is not usually classified as a CSS theorist, his conceptualization of structural and cultural violence, as well as uneven power relations, informs later critical debates about whose security counts and how global hierarchies are reproduced. Theories of dependency, unequal exchange, and neo-extractivism discussed in previous sections also align with this “topdog-underdog” global structure.

Building on this tradition, Fierke (2017) conceptualizes security and emancipation as intertwined ideas of critique and transformation towards a global system that produces insecurity. Rather than accepting what policy discourses pretend to drive, she advocates an immanent critique that interrogates classical security practices in terms of the values and norms they themselves invoke, revealing how “security” claims may in fact reproduce hierarchies, marginalization, and vulnerabilities. From this perspective, she sides with Baldwin, questioning whose security is prioritized and whose insecurity is normalized and rendered in the process.

From these critical and emancipatory lenses, resource security cannot be treated as a technical problem of securing access to strategic materials in a positive-sum game. Contemporary policy discourses in the EU, USA, and China increasingly frame access to energy and critical raw materials as vital interests, matters of security, resilience, and “strategic autonomy” (European Commission, 2023a; Information Office of the State Council of the People’s Republic of China, 2020; US Department of Energy, 2023). CSS call for a shift of focus, from protecting access to resources for already privileged “topdogs” towards interrogating how such strategies reproduce structural and cultural violence, deepen patterns of dependency and unequal exchange with the Global South, and normalize the everyday insecurity of “underdog” communities living in resource-exporting regions.

2.4 The Global Political Economy (GPE) and Socio-Environmental Impacts of CRMs

The energy transition relocates geopolitical emphasis from fossil fuel security to the security of CRMs, reshaping the GPE of resources (Hira, 2025; Kalantzakos, 2019; Siddi, 2023). The demand for minerals such as lithium, cobalt, nickel, and rare earths rises sharply, becoming a central parameter of energy security and industrial strategy (Kalantzakos, 2019; Naegler et al., 2025). Scenario analysis shows that deep decarbonization pathways require

rapid expansion of mining and refining capacity for many non-fuel raw materials, creating new vulnerabilities and geopolitical risks even as hydrocarbon risks decline (Hira, 2025; Naegler et al., 2025). In this context, the core of insecurity shifts from oil wells and pipelines to mines, processing facilities, and mineral value chains.

Major powers have responded by formulating explicit CRM strategies. For the EU, the EU Green Deal and the Critical Raw Materials Act seek to “secure and diversify” access to critical inputs for decarbonization and digitalization, while reducing strategic dependence on a few suppliers. The US has adopted industrial and “friend-shoring” policies to re-shore segments of clean-energy supply chains and prioritize trusted partners. China leverages its dominant position in refining and processing, alongside outward investment and infrastructure initiatives, to maintain influence over key mineral flows (Hira, 2025; Kalantzakos, 2019). Studies on the “new geopolitics of mineral supply chains” frame this as a multipolar competition that opens a potential “window of opportunity” for resource-rich countries in Africa and Latin America, but also risks locking them into renewed roles as raw-material exporters under asymmetric conditions (Müller, 2023). In parallel, analyses of a “new scramble for Africa” highlight how both Western states and BRICS² engage in a multipolar competition, deploying trade, finance, and diplomatic mechanisms to secure African minerals, reinforcing a center–periphery division of labour in extraction and waste disposal (Carpintero et al., 2016). Trade and investment law is also identified as a key instrument of control: Hertanti (2024) shows how investor protections and Investor-State Dispute Settlement can generate regulatory chill, raising the cost of export controls or local value-addition policies and thereby reinforcing extractive specialization under a rules-based sustainability framing.

From a GPE perspective, CRMs are embedded in hierarchical value chains. Extraction is heavily concentrated in the Global South, whereas processing, high-tech manufacturing and innovation are dominated by the USA, China, Europe and other industrialized economies. Carpintero et al. (2016) show that, following privatization and cross-border mergers and acquisitions, a small number of large transnational corporations of the Global North, China, and emerging powers such as Brazil and South Africa control most large-scale mining operations, including key deposits of gold, platinum, copper, and cobalt. Warnecke-Berger

² A political and diplomatic coordination group formed by eleven countries: Brazil, Russia, India, China, South Africa, Saudi Arabia, Egypt, United Arab Emirates, Ethiopia, Indonesia, and Iran (BRICS Brasil, 2025).

(2022) argues that such configurations deepen commodity dependence and reproduce extractivist development paths, while Runganga et al. (2025) show that contemporary “criticality” assessments define risk primarily from the standpoint of mineral-consuming states, effectively locking the Global North into the role of manufacturer and the Global South into that of raw-material supplier.

Socio-environmental studies underline how these political-economic configurations materialize as “sacrifice zones” in mining regions. Using a multi-regional input-output framework for thirty-four critical minerals, Berthet et al. (2024) find that while the EU captures the benefits of clean technologies, a disproportionate share of the mineral footprint and associated environmental pressures are externalized to African and South American mining areas, and that achieving EU climate targets could expose tens of thousands of African miners to heightened vulnerability to modern-slavery conditions. These findings fit the idea of a “decarbonization divide”, where developed countries clean up their energy systems by shifting pollution and social harm to mining areas in poorer regions (Sovacool et al., 2020; Warnecke-Berger, 2022). Taken together, this literature shows that the global CRM system allows several big powers to control supply chains in ways that still create dependency, unequal -including environmental- exchange and social and environmental harm in producing regions, opening the space for interlinked studies that bridge CSS and GPE.

2.5 Research Gap

The literature review above shows, first, that extractive development models, unequal exchange, extractivism, and neo-extractivism have long reproduced dependency and socio-environmental harm in resource-exporting countries, and second, that the green transition and new technologies, given the significant increase in CRMs demand, are transforming this pattern rather than overcoming it. Work on the geopolitics and political economy of CRMs analyzes how the EU, the US, China, and other powers seek to secure access to strategic minerals through industrial policy, “de-risking”, friend-shoring, and institutional and financial tools to strengthen control over strategic mining and processing, often generating new forms of vulnerability and “sacrifice zones” in the Global South. In parallel, CSS and peace research offer powerful tools to question whose security is prioritized, how structural and cultural violence are reproduced, and how global hierarchies between “topdogs” and “underdogs” are normalized. Yet these strands of scholarship remain mostly disconnected.

Existing studies rarely integrate CSS concepts of emancipation, structural violence, and immanent critique with GPE approaches to resource curse, dependency, and unequal exchange to analyze CRM supply chain governance. Moreover, while there is growing work on the “new scramble” for Africa, on criticality assessments and on the decarbonization divide, there is still limited systematic analysis of how the CRM security strategies of multiple major powers operate simultaneously. Taken together, these strategies constitute a multipolar configuration of control and dependency –always with those in control being the advanced and emerging global powers, and those in dependency being the resource-rich countries of the Global South–, and how these shape everyday insecurity in resource-exporting regions. This thesis addresses this gap by bringing CSS and GPE into dialogue, and by developing an analytical framework for analyzing CRM governance in a multipolar world.

3. Analytical Framework

This chapter sets the analytical framework that will be used to study this process by:

- a) Bridging key insights from CSS and GPE.
- b) Proposing three core concepts: extracting security; multipolar control and dependency; and sacrifice zones.
- c) Operationalizing these concepts into levels and dimensions of analysis.

3.1 Bridging CSS and GPE

CSS provide the first pillar of the framework. Baldwin (1997) insists that any security claim must specify security for whom, of what, against what threats, by what means, and at what cost, while Booth (1991) argues that emancipation leads to true security, pointing towards the removal of existing structural conditions that produce insecurity. From Galtung’s perspective, structural and cultural violence deepen this concept: social structures systematically prevent people from meeting their basic needs, while cultural norms, religions, and knowledge systems legitimize this harm (Galtung, 1969). His metaphor of “topdogs” and “underdogs” underlines how those at the top of global structures appropriate most of the benefits, while those at the bottom bear the costs. Fierke (2017) adds a focus on immanent critique, proposing that security practices and discourses should be contested

against their own values and norms –such as sustainability, partnership, or resilience– to reveal contradictions between rhetoric and lived realities.

GPE provides the second pillar. Classical dependency and world-systems approaches conceptualize a core-periphery division of labor, in which peripheral economies are locked into exporting primary commodities and importing manufactures, facing deteriorating terms of trade and long-term subordination (Fierke, 2017; Prebisch, 1950). Unequal exchange theory and more recent empirical work show how value, resources, and labor time systematically flow from the Global South to the Global North (Emmanuel, 1972; Hickel et al., 2022). Quijano's (2000) term of the colonality of power supports that these economic hierarchies are linked with racialized identities and Eurocentric knowledge systems. In Latin America, Gudynas (2010, 2013) and Svampa (2019) describe neo-extractivism as a development model where states –even under progressive governments– expand large-scale extraction for export, capture a greater share of surplus and redistribute it through social programs, but leave untouched the extracting-and-export pattern of development and its socio-environmental impacts. Similar dynamics have been observed in African and Southeast Asian regions, including through infrastructure-led strategies and economic corridors that facilitate the extracting-and-export procedure and deepen financial dependence (Carpintero et al., 2016; Thame, 2021).

By bridging CSS and GPE in this way, the thesis treats CRM governance as a set of security practices embedded in a hierarchical world economic system. Security here cannot be seen solely as whether major powers can secure sufficient CRMs, but also –and more importantly– as how the pursuit of “resource security” for some actors structures economic, social, and environmental insecurity for others.

3.2 Core Concepts: Extracting Security; Multipolar Control and Dependency; and Sacrifice Zones

On this basis, the framework advances three interrelated concepts that link CSS and GPE.

Extracting security

First, this thesis conceptualizes today's CRM governance as a process of extracting security. As mentioned above, this means that the security of some actors -such as secure access to CRMs, green industrial competitiveness, or “strategic autonomy”- is obtained through tools

that generate or deepen insecurity somewhere else. These insecurities can be financial (commodity dependence, debt, fiscal vulnerability), political (loss of sovereignty, policy autonomy, contested governance), and socio-environmental (pollution, dispossession, land degradation, hazardous labor). The concept draws on Baldwin's (1997: 13, 16) questions "security for whom" and "at what cost", Booth's (1991) emphasis on emancipation, and Galtung's (1969) image of "topdogs" whose privileges require structural vulnerability of the "underdogs". It also reflects GPE analyses of how value, risk, and harm are unevenly distributed along global value chains and through unequal exchange (Hickel et al., 2022).

Multipolar control and dependency

Second, this framework conceptualizes current CRM governance as a nexus of multipolar control and dependency. Literature on the geopolitics of CRMs and the energy transition shows that the EU, China, and other powers have adopted explicit CRM strategies to reshape supply chains and secure access to strategic minerals (Hira, 2025; Kalantzakos, 2019, 2023; Naegler et al., 2025). At the same time, empirical work on Africa, Latin America and Southeast Asia shows that large-scale mining and infrastructure corridors are often dominated by transnational corporations and state-linked firms headquartered in advanced and emerging economies, while resource-rich states of the Global South remain reliant on volatile rents, external capital and imported technologies (Carpintero et al., 2016; Thame, 2021; Warnecke-Berger, 2022). This framework, therefore, doesn't treat control and dependency as a simple North-South confrontation, but as a complex multipolar structure in which several core actors (including emerging powers such as China and Brazil) compete for control over assets and value flows in a periphery of resource-exporting countries. These resource-rich countries are "multipolar controlled": their options are shaped by the intersecting strategies of multiple powerful states and corporations.

Sacrifice zones

Third, this framework employs the concept of sacrifice zones to illustrate how socio-environmental harms are concentrated in specific areas. Studies on CRM footprints show that while the EU and other core economies gain most of the benefits of clean technologies, a disproportionate share of environmental pressure –greenhouse gas emissions, water scarcity, land, and in general ecological degradation– and social pressure, including exposure to modern-slavery conditions, are externalized to mining areas in Africa and Latin

America (Berthet et al., 2024; Warnecke-Berger, 2022). Sovacool et al. (2020) describe this as a “decarbonization divide”, where developed countries decarbonize their energy systems by passing ecological and social costs to peripheral extraction zones. Through Galtung’s lens, sacrifice zones are sites of structural violence, where the basic needs and rights of “underdog” communities are compromised so that “topdogs” can achieve energy security, industrial expansion, and climate targets (Galtung, 1969).

Together, these concepts enable this thesis to go beyond interpreting CRMs’ security strategies as a technical response to supply risks, but rather as a means to achieve multipolar control over global value chains by producing multipolar dependency, and subsequently, security for one part of the world and insecurity for another.

3.3 Levels and Dimensions of Analysis

To make this framework operational, the thesis identifies three interrelated levels of analysis: discursive, material-institutional, and socio-environmental.

[1] Discursive level – CRM security narratives

At the discursive level, the analysis focuses on how CRM security is framed in official documents, strategies, and statements. It asks:

- Who or what is presented as the main referent object of security (e.g., “European industry”, “national competitiveness”, “citizens”, “communities”)?
- Which threats are emphasized (e.g., Chinese dominance in processing, supply disruptions, geopolitical rivalry, governance problems in producer states, climate change)?
- How are producing countries and local communities represented (e.g., partners, “reliable suppliers”, sources of risk)?
- Which values and norms are invoked (sustainability, resilience, justice, partnership, development), and how might they be contradicted by the practices that follow?

This level uses CSS’s lens of discourse analysis and immanent critique (Fierke, 2017) to analyze CRM-related strategies and public statements by the EU, US, and China, as well as

relevant documents from selected resource-exporting governments in the South, along with private actors seeking to participate.

[2] Material-institutional level – value chains, ownership and instruments of control

The second level examines the material structure of CRM value chains and the institutional mechanisms through which control is exercised. It looks at:

- The geographical distribution of deposits, extraction, processing, and manufacturing (Kalantzakos, 2019; Naegler et al., 2025).
- Patterns of ownership and control over strategic mines, processing plants and infrastructure, including the role of transnational corporations, state-owned enterprises and financial actors from core and emerging powers (Carpintero et al., 2016; Warnecke-Berger, 2022).
- Key instruments of control, such as trade and investment agreements, strategic partnerships, infrastructure corridors, and development loans that shape the role of resource-rich countries in global value chains (Hertanti, 2024; Hira, 2025; Thame, 2021).

This level connects the idea of multipolar control to particular practices that determine who captures the value, who carries the risks, and how dependency is reproduced.

[3] Socio-environmental level – lived insecurity in producing regions

The third level analyzes how CRM strategies and value-chain structures form everyday insecurities in producing regions. It stands on work on “sacrifice zones”, unequal exchange, and the decarbonization divide to examine:

- Environmental impacts (pollution, water use, land degradation, biodiversity loss) (Berthet et al., 2024; Sovacool et al., 2020)
- Labor conditions and exposure to health risks or modern-slavery (Berthet et al., 2024; Sovacool et al., 2020)
- Rents distribution within producing countries, including who benefits from mining and who bears the costs (Carpintero et al., 2016; Warnecke-Berger, 2022)

Here, through a critical perspective enriched with structural violence and emancipation viewpoints, the thesis interprets socio-environmental data and case study evidence, challenging how CRM governance affects the ability of communities to meet basic needs and exercise control over their futures (Booth, 1991; Galtung, 1969).

These three levels are analytically distinct but empirically intertwined: discourses, policies, and instruments structure value chains, which in turn generate socio-environmental outcomes.

3.4 Applying the Framework

The empirical chapter will use the above framework to analyze how CRM security strategies of major powers produce patterns of control and dependency in specific contexts. For each case, the analysis will:

- Map CRM security discourse, identifying how CRMs and producing regions are framed and what this illustrates about whose security is prioritized.
- Trace instruments of control, examining key policies, agreements, and financial arrangements through which major powers and their firms secure access to CRMs and shape supply chains.
- Assess value-chain position and ownership, documenting the role of foreign and domestic actors in extraction and processing, as long as the share of value that remains locally.
- Evaluate socio-environmental impacts, drawing on available studies and reports to assess how CRM projects affect local environments, labor conditions, and community security.

By systematically comparing these dimensions across actors and regions, the thesis aims to show how CRM security strategies in a multipolar order reproduce or transform existing structures of control, dependency, and unequal exchange, and to what extent they can be understood as extracting security from the Global South.

4. Methodology

This thesis uses a structured, comparative case-study design to examine how “CRM security” is understood through instruments of value-chain governance and how these instruments distribute benefits and burdens across space. The aim is not an exhaustive country history, but a mechanism tracing: how leverage is exercised across nodes (ownership/contracting, corridors/logistics, market-access gates, and technological chokepoints) and how these pathways relate to dependency and socio-environmental harm.

Case selection is purposive. The Democratic Republic of the Congo (cobalt-copper) and Chile (lithium) are both structurally central to energy-transition supply chains, yet differ sharply in institutional configuration and political setting. This contrast enables application of the same analytic template across “hard” variation: in the DRC, leverage is frequently mediated through state functions, brokerage and coercive governance; in Chile, it is more legible through contract/JV design, equity positions, and rule-based market-access gating.

The empirical data triangulates primary official documents (EU, US and Chinese legal/policy instruments; national strategies and regulator decisions), corporate disclosures and official communications (operators, SOEs, and competition authorities), and secondary evidence from peer-reviewed research and civil-society/IO reporting on contracting, conflict and socio-environmental impacts. For time-sensitive developments (2023-2026), contemporaneous reporting is used only where corroborative and treated as support rather than a sole evidentiary base.

Two limitations follow. First, contracting and beneficial ownership are often opaque – especially in the DRC– so evidence is uneven; the analysis therefore prioritizes well-documented instruments and avoids claims that cannot be supported. Second, mechanism tracing cannot fully establish counterfactual causality; the contribution is analytic: specifying how multipolar competition travels through concrete instruments and how different institutional contexts channel leverage through distinct pathways.

5. Analysis

This chapter provides the empirical evidence to assess the thesis’s central claim: that contemporary CRM governance enables major powers to secure access, competitiveness, and strategic autonomy while externalizing significant economic, political, and socio-

environmental risks to producing regions in the Global South. It proceeds in two steps. Section 5.1 maps a comparative EU-US-China toolkit of CRM security narratives and instruments of value-chain control. Section 5.2 applies the same lenses to the Democratic Republic of the Congo's cobalt-copper sector, tracing how these toolkits intersect with local governance conditions, ownership structures, infrastructure, and on-the-ground socio-environmental outcomes. Section 5.3 then applies the same framework to Chile's lithium political economy, showing how state-led contract/JV restructuring, equity positions, and external market-access "gating" shape control across the lithium value chain and its socio-environmental consequences in extraction frontiers.

5.1 EU-US-China toolkit

This section maps how the EU, the US and China pursue 'CRM security' through a combination of discourse and material-institutional instruments. The purpose is to establish a comparative scaffold that will be deployed in the case studies, rather than repeated within them.

5.1.1 Discursive level – CRM security narratives

Across the EU, the US and China, CRMs are framed as strategic inputs whose disruption would threaten competitiveness, technological capacity and the energy transition. While all three foreground dependency, disruption risk and 'resilience,' they diverge in how 'security' is legalized and in how producer regions are positioned. Respectively, as partners for resilience (EU), trusted suppliers within a geopolitical competition frame (US), and objects of sovereign-industrial planning and control (China).

In the EU, the Critical Raw Materials Act (CRMA) casts the problem as strategic vulnerability from concentrated external dependencies and sets a quantitative ceiling: by 2030, the Union should not rely on any single third country for more than 65% of annual consumption of a strategic raw material (European Parliament & Council of the European Union, 2024). This narrative is articulated through resilience and 'strategic autonomy' and complemented by 'mutually beneficial' partnerships aligned with sustainability and value-chain development (European Commission, 2023b, 2025; European Union & Republic of Chile, 2023).

US discourse frames critical minerals through a national/economic security perspective. The

Energy Act defines critical materials/minerals via technological necessity and high disruption risk, while recent executive communication further securitizes reliance on hostile foreign powers' mineral production and urges immediate domestic production expansion (Energy Act of 2020, 2020; The White House, 2025). Outward initiatives continue to position 'secure' supply chains as values-based - responsible sourcing, transparency, governance and labor/environment standards (US Department of Labor, 2026; US Department of Treasury, 2023; US Embassy Kinshasa, 2023) and are increasingly articulated against China-dominant supply-chain nodes (United States Senate, 2025).

China's framing is anchored less in a single CRM act and more in national planning and sovereign control claims. The 14th Five-Year Plan and Vision 2035 place supply-chain security and resilience within industrial upgrading priorities (National People's Congress, 2021), while the Export Control Law legitimizes restricting exports for national security and national interest (Standing Committee of the NPC, 2020). External engagement is commonly articulated through the Belt and Road Initiative as connectivity and 'win-win' cooperation (National Development and Reform Commission of the People's Republic of China et al., 2015).

5.1.2 Material-institutional level – value-chain control and instruments

Materially, CRM 'security' is pursued through positioning at key value-chain nodes - especially processing/refining, technology, infrastructure routes and the institutional rules that govern market access and investment.

For the EU, the CRMA shifts from market coordination to strategic intervention via benchmarks and governance: 10% of annual consumption to be extracted in the EU, 40% processed in the EU, and 25% sourced from recycling (European Parliament & Council of the European Union, 2024). Externally, supply security is pursued through a partnership-and-investment model linking access to finance, infrastructure and governance commitments, including Global Gateway-style cooperation and strategic partnerships such as EU-Zambia (European Commission, 2023b, 2025a).

The US toolkit combines domestic acceleration with coalition governance and market-access channeled through incentives, including recent executive action to accelerate domestic mineral production (The White House, 2025). Before that, the Energy Act embedded critical minerals in federal strategy (Energy Act of 2020, 2020). Internationally,

the Mineral Security Partnership (MSP) Principles provide a standards-based coalition architecture –ESG³, traceability, governance and accountability– as conditions for ‘secure’ integration (US Department of Treasury, 2023; US Embassy Kinshasa, 2023). Practically, the Inflation Reduction Act (IRA)-era implementation adds a powerful eligibility lever: access to battery/EV-related incentives is conditioned by sourcing and processing rules and by exclusions associated with ‘foreign entities of concern’, thereby steering investment toward ‘trusted’ partner chains and away from China-linked nodes (The White House, 2023)

China’s toolkit couples state-led planning with legal and technological chokepoint controls. The Export Control Law provides licensing mechanisms and countermeasures for restricting strategic flows (Standing Committee of the NPC, 2020). Technology export-control catalogues specify prohibited/restricted technologies, including lithium-related extraction and battery cathode material technologies, thereby institutionalizing technological chokepoint leverage (MOFCOM and MOST, 2023, 2025). Sector regulation (e.g., rare earth administration rules) further illustrates unified planning/management across extraction, processing and circulation (State Council of the PRC, 2024).

The case studies do not re-describe the toolkits; they trace how these mapped instruments intersect with each country’s resource geography, ownership/contracting arrangements, and corridor/logistics configurations, and how this translation produces distributive and socio-environmental consequences.

5.2 Case Study I: Democratic Republic of the Congo (cobalt-copper)

Context: value-chain centrality on a rooted weak-governance base

The Democratic Republic of the Congo (DRC) occupies a structurally central position in energy-transition value chains, above all through cobalt. This upstream centrality is embedded in a political economy marked by long-run institutional fragility, rent capture and opaque contracting practices that constrain effective oversight of the mining sector (Autesserre, 2010; Global Witness, 2017). These governance constraints intersect with persistent insecurity and displacement, particularly in the eastern provinces, where armed violence and fragmented authority complicate the regulation of extraction, transport routes

³Environmental, social and governance. It refers to a set of standards used to measure an organization’s environmental and social impact (Krantz & Jonker, 2024).

and cross-border flows (Autesserre, 2010; UNHCR, 2026). For this case study, this vulnerability structure is the enabling condition through which external “security” toolkits can be operationalized via sanctions, conditionality, certification/traceability and corridor logistics.

5.2.1 Discursive level: the “responsible supply chain first” narrative

Engagements by the US, the EU and Chinese firms in the DRC’s cobalt-copper sector increasingly converge on a shared vocabulary of “responsible/secure supply” - traceability, due diligence and governance support - while serving competing industrial and geopolitical aims (US Department of Labor, 2026). The US frames cooperation as building responsible and transparent mineral value chains and improving the investment and governance environment, including through a Strategic Partnership Agreement and security cooperation with the DRC (United States Department of State, 2025). The EU similarly positions its partnership as supporting sustainable raw-material value chains and governance improvements, linking cooperation to due diligence/traceability and to measures against illicit trafficking (European Commission, 2025b). On the Chinese side, state-level engagement is framed through partnership and Belt and Road cooperation (Belt and Road Portal, 2021), while Chinese mining company CMOC states that its Responsible Production and Sourcing Policy is benchmarked against the OECD⁴ Due Diligence Guidance (CMOC Group Limited, 2023) and its ESG management practices against international standards (CMOC Group Limited, 2024). These examples point towards a discursive convergence around “responsibility” that reorganizes contestation into disputes over who qualifies as a legitimate supplier and what reforms count as credibility for market access.

5.2.2 Material–institutional level: the architecture of multipolar competition and value capture

I. Debt, IFI discipline, and the legacy enabling condition

The DRC’s cobalt-copper insertion has been shaped by the interaction between weak public institutions and external financial discipline. Under the Mobutu dictatorship (1971-1997), external borrowing expanded alongside governance deterioration and large-scale diversion of public resources. Ndikumana & Boyce (1998) show that debt accumulation coexisted

⁴ Organisation for Economic Co-operation and Development.

with extensive capital flight – an “odious debt” dynamic in which liabilities rose while wealth was extracted outward. Hanlon (2006) highlights creditor tolerance of corrupt regimes while elites accumulated private fortunes, leaving repayment burdens with the population. This sequencing matters because liberalization and privatization pressures were embedded inside institutional fragility, widening space for discretionary licensing, opaque contracting and elite brokerage in strategic sectors such as mining (Ndikumana & Boyce, 1998; Savoia & Sen, 2021).

II. Brokerage, offshore intermediation, and legal–financial engineering

Brokerage and offshore-enabled intermediation operate as recurring instruments through which access and mining rents are organized. Investigative reporting and NGO documentation describe how Dan Gertler (Israeli businessman with extensive activity in DRC) became central to high-level resource transactions by acting as a politically connected intermediary around mining assets (Silverstein, 2012; Global Witness, 2014). Global Witness links Glencore’s (a multinational firm headquartered in Switzerland) engagement with Gertler-connected entities to deal architectures that reduced transparency over pricing and beneficial ownership, including financing arrangements that channeled substantial funds to Gertler-linked companies (Global Witness, 2014). It also documents structured transactions –loans, layered entities and preferential rights– that make it harder to trace control and value capture (Global Witness, 2012; Global Witness, 2014). A Congolese “deal summary” on questionable mining transactions estimates multi-billion-dollar losses to the public from opaque contracting and undervaluation dynamics (Joyce, 2011). Gatekeeping power is thus exercised through legal-financial engineering that shapes value capture even where formal sovereignty remains intact (Global Witness, 2014; Public Eye et al., 2017)

III. China’s state-corporate embedding: Sicomines and upstream consolidation

China’s state-corporate embedding has operated through resource-for-infrastructure arrangements and the consolidation of upstream nodes under Chinese firms. The Sino-Congolese (Sicomines) project is widely considered as a landmark architecture linking mining rights to infrastructure commitments under a bilateral, state-backed package, anchoring Chinese leverage in the DRC’s extractive political economy (Jansson, 2011). A turning point frequently referenced in policy and academic analysis is the 2016 sale of Freeport-McMoRan’s stake in Tenke Fungurume –an iconic cobalt-copper asset– to CMOC,

signaling a high-profile transfer of strategic upstream control (China Molybdenum Co., 2016; Freeport-McMoRan Inc., 2016; Soulé, 2023). The broader significance is that such transfers can shift the identity of controlling firms while the DRC remains structurally positioned as an upstream exporter, especially when processing and refining capacity are concentrated outside the country –most notably in China– limiting local retention of value added (Soulé, 2023).

IV. Western ‘re-entry’: sanctions, transparency conditionality, and de-risking

Recent Western action has combined disciplinary instruments with de-risking and governance conditionality. The US posed sanctions on Dan Gertler in December 2017 and added to the sanctions affiliated entities to him in 2018, explicitly framing corruption-linked intermediation as a sanctions-relevant risk in the DRC context (US Department of Treasury, 2017, 2018). IFI engagement has also linked support to transparency and governance reforms: in November 2024, the IMF announced a staff-level agreement on a new three-year Extended Credit Facility (ECF) and a Resilience and Sustainability Facility (RSF) package, framed around macro-stability alongside governance and transparency measures (IMF, 2024), and program documentation highlights anti-corruption and anti-money laundering / combating the financing of terrorism (AML/CFT) objectives (IMF, 2025a; IMF, 2025b). Reuters reporting on IMF-linked monitoring treats mining governance as “macro-critical,” including transparency demands around Sicominex-related revenues and contract publication (Reuters, 2024).

V. Corridor logistics as chokepoint governance: the Lobito Corridor

Corridor logistics are a material mechanism because they shape how value exits the Copperbelt –the DRC-Zambia copper-cobalt mining region– and which actors govern transport chokepoints. The EU and the US frame the Lobito Corridor as strategic connectivity linking the Copperbelt to Atlantic routes and supporting rail expansion (European Commission, 2023; US Department of State, 2024; European Commission, 2025a). Reuters reports that the US DFC signed a \$553 million loan with a consortium including Mota-Engil, Trafigura, and Belgium’s Vecturis SA to revamp the Angola rail line central to the corridor (Reuters, 2025b). The corridor thus operates as concessionary governance: it stabilizes export capacity and “bankability”, while reallocating leverage through financing terms, operator selection and route dependence – dynamics that become

socially salient when they intersect with land access and displacement (Global Witness, 2025; IPIS, 2025).

VI. Security–investment nexus: conflict, cross-border flows, and regulation–partnership overlap

The security-investment nexus in eastern DRC shows how armed conflict and cross-border flows blur the boundary between “security” and “supply-chain governance”. The International Crisis Group describes renewed advances by the armed rebel group M23 (March 23 Movement), alongside the reordering of local governance and revenue systems around strategic nodes in North Kivu (International Crisis Group, 2025). UN expert reporting documents that minerals from conflict-affected areas can enter regional trading circuits through cross-border supply chains, including via Rwanda, in ways that blur origin and facilitate onward export (United Nations Security Council, 2024). At the same time, Western practice combines restrictive measures with partnership instruments: the EU has adopted additional listings in the DRC conflict context (Council of the European Union, 2025) while also signing an MoU with Rwanda on sustainable raw-materials value chains (European Commission & Republic of Rwanda, 2024). Human Rights Watch argues that such engagement should be reassessed given evidence and allegations regarding Rwanda-backed abuses and conflict dynamics in eastern DRC (Human Rights Watch, 2025).

5.2.3 Socio-environmental level: land, labor, and coercion around extraction

I. Baseline vulnerability: poverty, human development, and dependence on artisanal livelihoods

Across a resource-rich economy central to global battery supply chains, living conditions remain severe. The World Bank estimates that the DRC’s poverty rate at the \$2.15/day line reached 78.9% (2020), with an estimate of 74.5% (2023) (World Bank, 2024), and UNDP reports a Human Development Index of 0.522 (very low human development) (UNDP, 2025). In the cobalt sector, Amnesty International and Afreewatch report –citing DRC government estimates– that around 20% of cobalt exports come from artisanal mining, involving approximately 110,000-150,000 artisanal miners in the southern region, and UNICEF-linked estimates of around 40,000 children working in mining in southern DRC

(Amnesty International, 2016). These baseline conditions shape the vulnerability structure through which supply-chain pressures become labor, land and health harms.

II. Land insecurity: forced evictions, dispossession, and corridor-related displacement risks

Forced evictions and coercive clearance have been documented around industrial mining zones and adjacent settlements in the copper-cobalt belt. Amnesty International report cases of evictions and intimidation in Lualaba, including destruction of homes and farmland and operations in which state security forces were reportedly present or involved, with contested compensation and consultation processes (Amnesty International, 2023). Displacement risks also appear along export infrastructure: Global Witness reports that up to 6,500 people could face eviction linked to clearance along the Lobito Corridor railway near Kolwezi (Global Witness, 2025). International Peace Information Service (IPIS) flags accountability gaps and social-tension risks where corridor infrastructure works intersect with extractive expansion and land access (IPIS, 2025).

III. Pollution and health exposure pathways in mining/smeltering zones

Environmental contamination and health exposure pathways constitute another harm. Epidemiological evidence links mining-related pollution to severe health outcomes. A case-control study in Lubumbashi reports a link between maternal exposure in mining-affected settings and increased risk of birth defects (Van Brusselen et al., 2020). Earlier biomonitoring research in the former Katanga mining area reports substantially higher metal exposure among populations living close to mines and smelters compared to controls groups (Banza et al., 2009).

More recent field-based documentation also points to recurrent pollution events and community exposure. RAID and Afreewatch record multiple pollution incidents affecting mining-adjacent communities in Lualaba/Kolwezi since 2017 and document reported impacts on health and livelihoods in affected settlements (Rights and Accountability in Development (RAID) & Afreewatch, 2024). A multi-NGO report on Glencore's operations documents community complaints and environmental allegations, including water impacts, alongside contested responsibility claims (Bread for All, Fastenopfer and RAID, 2014). Amnesty International and Afreewatch document exposure in artisanal zones where miners work without basic protective equipment and inhale dust (Amnesty International & African

Resources Watch (Afrewatch), 2016). Afrewatch’s reporting on Sicomines similarly describes alleged local impacts on living environments and health in affected villages (Afrewatch, 2022).

IV. Labor coercion and fatality risks in artisanal production and aggregation into export chains

An additional harm concerns labor coercion and fatality risks in artisanal production and its integration into export chains. Amnesty International and Afrewatch document tunnel-collapse risks, child labor and extremely low pay in artisanal cobalt production, and trace aggregation pathways through traders and processors that allow artisanal output to enter export supply chains (Amnesty International & African Resources Watch (Afrewatch), 2016).

The most up-to-date official synthesis confirms the persistence of child labor risks in the DRC and identifies mining (including cobalt-copper) among sectors of concern, while also reporting broad structural vulnerability indicators –such as high prevalence of child labor (ages 5-14) and large numbers of out-of-school children and displaced persons– which raise the baseline risk of hazardous work and exploitation in mining regions (US Department of Labor, 2024). At the same time, systematic, nationally comprehensive fatality statistics for artisanal mining are limited; the evidence therefore remains strongest where it is anchored in documented investigations and reporting on recurrent collapse hazards and enforcement gaps (Amnesty International & African Resources Watch (Afrewatch), 2016; US Department of Labor, 2024).

V. Conflict-driven displacement and rights abuses shaping extraction and trade

Finally, violence and displacement in eastern DRC deepen socio-environmental and rights violations while also shaping extraction and trade. United Nations High Commissioner for Refugees (UNHCR) reports internal displacement rising from 6.2 million (end-2023) to 7.8 million (end-2024) after escalations in hostilities (UNHCR, 2025). MONUSCO/UNJHRO reports 2,278 documented human rights violations and abuses between January and July 2024 (Türk, 2024) (UNJHRO & MONUSCO, 2024), and OHCHR reports 2,110 violations and abuses between October 2023 and March 2024 (Türk, 2024). UN reporting also documents military dynamics involving M23 “alongside the Rwanda Defense Force (RDF)” (United Nations Security Council, 2024)

5.3 Case Study II: Chile (lithium)

Context: lithium extractivism and multipolar value-chain pull in Chile (2023–2025)

Chile is a pivotal upstream supplier in the global battery value chain through lithium brines concentrated in the Salar de Atacama. This centrality is reinforced by the country's position among the world's leading holders of identified lithium reserves - especially in brine deposits within the Andean "lithium triangle," where the largest brine reserves are concentrated (Jerez et al., 2021). Yet this resource primacy is embedded in contested extractivist governance: water politics, Indigenous territorial claims and uneven benefit distribution shape the socio-environmental conditions of expansion in Atacama (Jerez et al., 2021). In parallel, the lithium value chain is organized through multipolar competition in which downstream chokepoints –especially processing and manufacturing capacity outside producing regions– generate external leverage over upstream exporters (Sánchez-López, 2023). This context is therefore not background for its own sake, but the condition that enables the mechanisms traced in the case study.

5.3.1 Discursive level: Securitized “friendshoring”, EU ESG partnerships, and Chinese supply-chain statecraft - within Chilean resource sovereignty

In Chile, lithium is framed as a strategic transition input to be governed through state stewardship rather than laissez-faire extraction. The National Lithium Strategy casts lithium as an opportunity for “sustainable and shared” development and legitimizes stronger public coordination over salaries and rents (Ministerio de Economía, 2023). A prior discursive anchor is the 2018 CORFO-SQM settlement, where CORFO –the state entity overseeing lithium development contracts in the Salar de Atacama– reset the terms under which SQM could extract and sell lithium, reframing governance as rules-based: strengthened environmental oversight, upgraded corporate-governance standards, and a 25% “reserve” option to sell lithium domestically to support value-add (Corporación de Fomento de la Producción (CORFO), 2018)

Externally, the EU-Chile MoU narrates lithium cooperation through “sustainable” and “resilient” value chains and local processing/value-added under Global Gateway (European Commission, 2023). The EU Battery Regulation embeds this into a due-diligence language that ties market access to traceability and social/environmental risk management for battery raw materials, including lithium (Regulation (EU) 2023/1542).

US IRA-era guidance narrates “secure supply” via sourcing eligibility and the Foreign Entity of Concern (FEOC) Interpretive exclusions, incentivizing “trusted” critical-minerals chains that Chile can service as a Free Trade Agreement partner (US Department of Treasury, 2023). Additionally, US hemispheric security discourse explicitly places the Lithium Triangle (including Chile) inside a strategic-competition perspective (Senate Armed Services Committee, 2024).

China generally avoids an explicit lithium-securitization perspective, framing relations with Chile within broader narratives of a “Comprehensive Strategic Partnership” and “win-win” cooperation, including Belt and Road-style connectivity and new cooperation areas (Ministry of Foreign Affairs of the PRC, 2022). This ambiguity aligns with a supply-security approach that relies less on public bilateral minerals agreements and more on sovereign control over technological chokepoints, reflected in China’s jointly issued technology-export control catalogue (MOFCOM and MOST, 2023).

5.3.2 Material–institutional level: who controls which node, by what instrument, and with what stabilizing/destabilizing effects

I. Upstream control via state-led JV reconfiguration (Salar de Atacama)

Chile’s upstream lithium governance is institutionally concentrated: Sociedad Química y Minera de Chile S.A., a publicly listed private mining and chemicals company (SQM), and Albemarle Corporation, a US-based publicly listed chemicals company (Albemarle), remain the two incumbent operators in the Salar⁵ de Atacama, within a regime where lithium is treated as a strategic resource and access is mediated through state-centred contractual governance rather than a standard concessional model (Jerez et al., 2021; Sánchez-López, 2023). The Boric administration’s National Lithium Strategy formalizes a shift toward direct state participation and restructured governance in key salars (Ministerio de Economía, 2023).

A long-horizon joint exploitation arrangement (2025-2060) is the Chile’s state-owned mining company, Corporación Nacional del Cobre de Chile (Codelco)–SQM partnership/JV pathway for Salar de Atacama (Corporación Nacional del Cobre de Chile (Codelco), 2025). The design is institutionally “locked in” through regulatory review: Fiscalía Nacional

⁵ Salt flat in spanish.

Económica (FNE), Chile's national competition authority, treats the arrangement as a merger-control case because it entails a change in control over the Salar de Atacama lithium business. The decision sets staged control and mitigation measures (Fiscalía Nacional Económica (FNE), 2025). Recent scholarship situates this pathway within a broader cycle of state-led reassertion combined with local contestation around salt flat governance (Balcázar and Argento, 2026).

II. Governance contestation as a destabilizing channel (litigation, review, and cross-ownership)

Because upstream restructuring proceeds through corporate and regulatory instruments rather than full nationalization, it is exposed to legal and administrative friction. Codelco itself reports extensive scrutiny and attempted litigation around the partnership pathway, indicating that the instrument that stabilizes state stewardship can also generate delays and contestation (Corporación Nacional del Cobre de Chile (Codelco), 2025).

Cross-ownership dynamics add another governance layer: Tianqi Lithium Corporation (Tianqi), a China-based publicly listed lithium company, holds a major minority equity position in SQM, illustrating how external actors can gain leverage through shareholding rather than site ownership (Sánchez-López, 2023). Empirical work on Atacama further links the Corporación de Fomento de la Producción, Chile's state economic development agency (CORFO)–SQM dispute/settlement to contentious politics and arbitration dynamics (Jerez et al., 2021), while research on Andean salt flats records community challenges around consultation and benefit distribution in relation to these governance arrangements (Balcázar M. & Argento, 2026). Socio-environmental systems analysis also reports rising activism and tensions alongside CSR programmes under expanding extraction pressure (Liu & Agusdinata, 2020).

III. Midstream/value-add instrument: CORFO preferential supply contracts (industrial policy under constraint)

Chile has attempted to escape “pure extractivism” through a midstream lever: preferential-price lithium supply plus guaranteed access to attract downstream investment. CORFO identifies BYD Chile SpA, the Chilean subsidiary of BYD Company Ltd., a China-based publicly listed manufacturer (BYD), and Yongqing Technology Co., Ltd., a China-based industrial company linked to the private Tsingshan Holding Group (Yongqing), as selected

specialized producers (CORFO, 2023, InvestChile, 2023a). These two companies were granted with preferential access to lithium carbonate supply under the CORFO–SQM framework, framed around cathode-material projects and domestic employment/technology expectations (CORFO, 2023). This instrument allocates feedstock to induce industrial investment while leaving upstream extraction rights concentrated - illustrating the tension between sovereigntist narratives and the external geography of value capture (CORFO, 2023; Sánchez-López, 2023; Jerez et al., 2021).

IV. External “gating” power: EU Battery Regulation and US IRA eligibility

Even with stronger state stewardship upstream, integration into downstream markets is conditioned by external compliance and eligibility regimes. The EU Battery Regulation establishes due diligence/traceability obligations for battery value chains (Regulation (EU) 2023/1542). In the US, IRA-related Treasury guidance structures “secure supply” through eligibility rules and FEOC-related exclusions, shaping which chain configurations qualify for incentives and influencing routing and investment signals (US Department of Treasury, 2023). In Chile, these operate as external governance layers applied to upstream exporters without requiring direct ownership of extraction sites.

V. Downstream chokepoints and technology controls: structural dependence beyond Chile’s borders

A durable asymmetry remains the location of downstream chokepoints. Battery manufacturing and competitive downstream stages are heavily concentrated in Asia - especially China - limiting the extent to which upstream reconfiguration translates into local value capture (Sánchez-López, 2023). Review research similarly highlights concentration across the chain and China’s midstream/refining position within global lithium infrastructure (Chaudary, 2025). Technological chokepoint governance is formalized through China’s technology export-control catalogue, which restricts specified technologies relevant to strategic industrial segments (MOFCOM and MOST, 2023). The implication for Chile is that upstream sovereignty instruments can reorganize rents and control at the salar, while processing/manufacturing and technology governance remain largely external, conditioning bargaining space and the distribution of benefits and harms (Sánchez-López, 2023; Chaudary, 2025).

VI. Enabling infrastructures: logistics corridors and desalination as supply-stabilizing material architectures

Northern Chile's lithium chain is also governed by enabling infrastructures that stabilize export capacity and redistribute burdens. On the logistics side, the Capricorn Bioceanic Corridor is framed as a connectivity project linking Atlantic-side production regions to northern Chile's Pacific gateways—Iquique, Antofagasta, Mejillones and Tocopilla—thereby consolidating a limited set of port nodes as strategic exits for mineral flows (OECD, 2025; Capricorn Bioceanic Corridor, 2026; InvestChile, 2023).

At the processing-logistics interface, SQM reports that lithium carbonate is produced at its Salar del Carmen plant near Antofagasta, using solutions extracted from the Salar de Atacama - highlighting the infrastructural chain linking salar extraction, processing, and coastal logistics.

A parallel “corridor” dynamic concerns water: large desalination plants and long pipelines built for northern mining—illustrated by Escondida's 2,500 L/s desalination plant and associated pipeline system from Puerto Coloso— and state-backed expansion of seawater supply for Antofagasta/Mejillones reconfigure dependence toward coastal utilities and energy-intensive water infrastructures (BHP, 2018; Government of Chile, 2025).

Another factor worth mentioning is that the ownership of these enabling nodes is geographically dispersed: SQM is headquartered in Santiago, Chile, while Albemarle's corporate headquarters are in Charlotte, North Carolina (US); the Escondida-linked desalination—pipeline model sits within a consortium led by BHP (global headquarters in Melbourne, Australia), with partners including Rio Tinto, a dual-listed company with head offices in London and Melbourne (BHP Group Limited, 2024; Fiscalía Nacional Económica (FNE), 2025; Rio Tinto, 2026; United States Securities and Exchange Commission, 2025).

5.3.3 Socio-environmental level: water, territorial governance, and distributive conflict in the Salar de Atacama

The socio-environmental situation of Chile's lithium governance is shaped by the specific ecology of brine extraction in the Salar de Atacama and by the political organization of land, consultation, and benefit distribution in the region. While the material-institutional instruments mapped above reconfigure control over extraction rights and added value

pathways, their legitimacy and stability are mediated through water politics, Indigenous territorial claims, and contested distributive outcomes (Jerez et al., 2021).

I. Water-brine nexus: ecological stress as the primary exposure pathway

A first channel concerns the ecological and hydrological stakes of brine-based lithium extractivism in Atacama, where extraction is embedded in longstanding contestation over water governance. Research on the Salar de Atacama emphasizes that lithium mines expansion is not environmentally neutral, but is tied to disputes over water, ecological integrity, and the allocation of environmental burdens in a water-scarce landscape (Jerez et al., 2021). This matters for “extracting security” because external demand for secure battery inputs is materially anchored in place-specific ecological constraints: upstream supply becomes “strategic,” while local ecosystems and water-dependent livelihoods carry the principal risks and uncertainties (Balcázar M. & Argento, 2026; Jerez et al., 2021)

II. Territorial governance: consultation deficits, Indigenous claims, and legitimacy risk

A second channel concerns territorial governance and consultation. Atacama lithium governance is repeatedly described as shaped by Indigenous territorial claims and contestation over who participates in decisions about extraction, rents, and mitigation, making social legitimacy a material constraint rather than a “soft” issue (Jerez et al., 2021). Recent work on Andean salt flats documents contested consultation processes and unsuccessful legal demands by Atacameño communities linked to benefit distribution and consultation around lithium governance arrangements (Balcázar M. & Argento, 2026). In this sense, socio-environmental conflict is not external to institutional design: it becomes a destabilizing factor that can slow projects, intensify regulatory and reputational risk, and increase bargaining pressure on both state and corporate actors (Balcázar M. & Argento, 2026; Liu & Agusdinata, 2020).

III. Distributional politics: uneven benefits, activism, and the limits of “value-add”

A third channel concerns distributional politics: how rents, employment, and promised industrial upgrading are allocated across territory and social groups. The Chilean governance narrative emphasizes “shared” development and value-added, yet empirical accounts stress uneven benefit distribution and persistent contestation over who captures

value and who bears costs (Balcázar M. & Argento, 2026; Jerez et al., 2021). Coupled socio-environmental analyses of Salar de Atacama report rising social activism and tensions alongside Corporate Social Responsibility (CSR) programmes under expanding extraction pressures (Liu & Agusdinata, 2020). At the same time, Chile's efforts to translate upstream advantage into downstream value remain constrained by the external geography of processing/manufacturing, limiting the extent to which domestic governance reforms automatically yield local value capture - thereby sharpening distributive conflict around extraction as the “default” development pathway (Sánchez-López, 2023).

6. Discussion

Taken together, the two case studies operationalize the framework by tracing how CRM security claims translate into concrete instruments of value-chain governance and, in turn, into socio-environmental exposure in producing regions. The DRC case foregrounds how control is mediated through fragile governance environments and contested intermediation, whereas the Chile case highlights how stewardship and regulatory-contractual design interact with external market-access and downstream constraints. Building on these empirical mapping, the next parts compare the mechanisms across cases to specify how multipolar control and dependency are produced and with what distributive implications.

6.1 What the cases say when combined

The DRC and Chile case studies suggest that “CRM security” is less about owning deposits than governing participation in value chains: controlling chokepoints, intermediaries, routes and eligibility criteria that shape how minerals move, who captures rents, and which configurations are deemed legitimate or “secure”. In both cases, the decisive leverage does not hinge on a single actor “taking” the mine; it operates through the rules and infrastructures that decide which flows are bankable, compliant, and scalable across the chain.

This is where an immanent-critique, presented in the literature review herein, becomes methodologically useful. Across the EU, US and China, policy language foregrounds responsibility, resilience and partnership; the cases show how these perspectives translate into governance arrangements –contract/JV design, sanctions and conditionality, corridor logistics, eligibility rules, and technology controls– that discipline participation and shift adjustment costs upstream. The argument is not that discourse is “fake”, but that the same

language that promises sustainability and mutual benefit can also stabilize control by reorganizing access and risk allocation in predictable ways.

The cases underline a recurrent disjuncture between ethical/security narratives and material outcomes: while policy discourse foregrounds sustainability, the institutional design of supply-chain participation tends to enable corporate and state-backed actors to consolidate leverage, with socio-environmental costs concentrated in extraction frontiers. In immanent-critique terms, the “responsibility” perspective stabilizes legitimacy, while the mechanisms of access stabilize control and displace risk upstream.

6.2 Mechanism families: how control travels even without owning the mine

Across both cases, the study encountered four different types of mechanisms.

I. Intermediation and contractual engineering. In the DRC, institutional fragility and opaque contracting enlarge the space for politically connected intermediaries and legal-financial engineering to organize access and rents. In that environment, sanctions and anti-corruption tools operate as attempts to reconfigure who intermediates access and on what terms. In Chile, by contrast, leverage is more legible through formal contract architecture and JV design under a resource-sovereign strategy: control and bargaining are channeled through governance rights, regulatory review and legally codified participation structures rather than informal brokerage.

II. Logistics and corridor chokepoints. In the DRC, corridor projects and route dependence function as governance technologies: finance, concession governance and “bankability” instruments redistribute leverage toward actors that fund, insure and operate export routes, shaping the bargaining space around extraction and export. These arrangements intersect with conflict and territorial control; UN expert reporting shows how minerals from conflict-affected areas can enter regional trading circuits, blurring “origin” and complicating responsible-sourcing claims. Comparable corridor logics also appear in northern Chile, where the Capricorn Bioceanic Corridor frames connectivity to Pacific port gateways, consolidating strategic exit nodes for mineral flows. The resulting “security” is therefore not only about supply continuity, but about controlling the material channels through which continuity is made plausible under risk.

III. Rule-and-eligibility-based gating. Chile shows how external factors can shape

integration without owning extraction sites. The EU Battery Regulation embeds due diligence and traceability into market access, while US IRA-era guidance structures “secure supply” through eligibility rules and FEOC-related exclusions that steer chain design toward “trusted” configurations. These tools push verification and reporting burdens upstream, raising entry costs and differentiating flows that can be integrated into “secure” value chains from those that remain discount-priced or excluded. This is governance by filtering: control exercised through standards and eligibility rather than territorial possession.

IV. Technological chokepoint governance. China’s Export Control Law and technology export-control catalogues institutionalize state capacity to restrict strategically relevant technologies, producing chokepoints downstream from extraction but upstream from upgrading opportunities in producer regions. Across both cases, this reinforces a structural feature highlighted in value-chain geopolitics: upstream primacy does not remove dependency when processing capacity and key technologies remain concentrated elsewhere.

6.3 The EU’s “double-track” governance

The DRC case makes visible a European configuration in which partnership discourse and standards-based cooperation coexist with coercive instruments. EU partnership framing with the DRC emphasizes “responsible” supply chains and value addition, while restrictive measures are justified through conflict and destabilization rationales in the eastern theatre. Rather than reading this as inconsistency, the cases suggest functional complementarity: standards generate a hierarchy of access (who can sell into “clean” chains), while coercive tools manage perceived “risk” at the perimeter of those chains. In a multipolar field, the EU’s comparative leverage is thus often exercised through governance density –benchmarks, compliance and partnership conditionalities– more than through ownership.

6.4 “Extracting security”: uneven security outcomes and sacrifice zones

The analysis supports the thesis claim that security is frequently produced through risk shifting. In the DRC, insecurity is not incidental to the CRM political economy; it is part of the governance environment through which external toolkits operate. Control over intermediation, routes and conflict-linked flows shapes who can operate and under what conditions, while coercion, dispossession and exposure are concentrated in mining-affected communities and conflict theatres. Put differently, “de-risking” for downstream users can coincide with the concentration of social and environmental risk upstream.

This unevenness can be framed as a core–periphery security effect. In Galtung’s terms, “topdogs” stabilize their transition pathways while “underdogs” face higher exposure and adjustment burdens. In political-economy terms, the mechanism-level picture is compatible with unequal-exchange accounts describing systematic value and cost transfers from the Global South to the Global North through production and trade structures. The empirical contribution here is to specify the instruments –sanctions, contracts, corridors, eligibility gates and technology chokepoints– through which those transfers can be organized under multipolarity, without reducing the story to a single hegemon.

6.5 Multipolar dependency: agency under constraint

Finally, the cases clarify what “dependency” means under multipolar competition. Chile allows room for manoeuvre through contractual design, JV structuring and industrial-policy instruments that seek to convert upstream advantage into downstream capability. Yet this agency is exercised within a value-chain geography where processing/manufacturing concentration and rule/eligibility regimes sit externally, constraining the translation of upstream primacy into upgrading. The DRC shows a harsher variant, where state functions and coercive governance are themselves key levers through which access is made bankable or risky, and where conflict dynamics continue to structure the possibilities of regulation and accountability.

A critical-security approach, therefore, reframes the end-point of “resource security” away from supply stability alone and toward the conditions under which communities can meet basic needs and exercise control over their futures. In this sense, “extracting security” captures a governance outcome: predictability and resilience are produced for downstream centers, while socio-environmental pressures and insecurity are concentrated in upstream territories.

7. Conclusions

This thesis asked how major actors in the global political economy of critical raw materials (EU, US and China), alongside multinational and state-backed firms, react to the strategic importance of CRMs, which instruments they use to strengthen their position, and whether the outcomes can be understood as “extracting security” from the Global South. Across the two cases, the findings support a core claim: CRM security is pursued less through outright

territorial possession than through governance of participation in value chains, via contracts and JV architecture, sanctions and conditionality, corridor logistics and finance, eligibility rules, and technological chokepoints.

Applying the same analytical framework across two different institutional contexts, the thesis clarifies how multipolar leverage is channeled differently. In the DRC, weak governance and coercive political economy enlarge space for brokerage, opaque contracting and security-investment linkages, while sanctions, conditionality and corridor instruments operate as devices that reorder intermediation and de-risking. In Chile, state stewardship and legal-regulatory design make leverage more legible through contract/JV architecture, equity positions and regulatory review, while external factors exert additional influence through, logistics, market-access and compliance gates.

The contribution is twofold. Empirically, the thesis specifies mechanism families – contractual engineering, logistics/corridor governance, rule-based gating, and technological chokepoints– through which multipolar competition is organized. Theoretically, it connects Critical Security Studies and political economy by showcasing how “security” is produced unevenly: predictability and resilience for downstream centers can coincide with the concentration of socio-environmental exposure and adjustment costs in upstream territories. In this sense, “extracting security from the Global South” is a defensible claim: it names a patterned outcome whereby supply-chain instruments stabilize security for downstream centers by reallocating risk and cost to resource-rich upstream regions.

Future research could extend this comparative design to additional cases (e.g., Zambia or the wider Lithium Triangle) and deepen tracing of corporate strategy and financing structures. For policy, the implication is straightforward: claims of resilience, responsibility and partnership should be evaluated not only by stated objectives but by the institutional design of participation: who bears verification burdens, who controls routes and processing, and whose risks are treated as acceptable.

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