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FOREIGN DIRECT INVESTMENT IN ARCTIC CRITICAL RAW MATERIALS: HOW GEOPOLITICAL RISK SHAPES INVESTOR BEHAVIOR

International Business

Bachelor's thesis

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Bachelor's thesis**Subject:** International Business**Author:** Sakari Pihlajamäki**Title:** Foreign Direct Investment in Arctic Critical Raw Materials: How Geopolitical Risk Shapes Investor Behavior**Supervisor:** D. Sc. Henna Leino**Number of pages:** 23 pages**Date:** 9.4.2026**Abstract**

This thesis combines existing literature to examine how the growing geopolitical tension in the Arctic Region affects foreign direct investment in Arctic critical raw materials. As the global transition from fossil fuels to green energy accelerates, and the necessity of defense spending and the demand for various advanced technologies grows, the importance of critical raw materials is rising. Due to global climate change, the Arctic ice is rapidly decreasing, paradoxically making the region more commercially viable by improved shipping routes, increased access to natural resources, and decreasing upfront costs of infrastructure.

Three subquestions are addressed in the thesis: what geopolitical risks characterize the Arctic and how do they affect investment conditions for foreign companies; which factors determine investor behaviour; and how do existing investment geopolitical theories explain investor behaviour in the Arctic? The thesis utilizes three existing investment theories to build a theoretical framework to answer these questions: the Eclectic Paradigm, Real Options Theory, and resource nationalism.

The analytical findings of the thesis suggest that the factors which define foreign direct investment behavior are substantially different for public and private entities, especially in a high-risk environment such as the Arctic, where location advantages for investment are unclear. Private investors, driven by financial returns, are more uncertain amid geopolitical risk, whereas public investors can be more aggressive because they are also driven by strategic interests. In the Arctic context, this can be applied to investment in critical raw materials, given their high national-strategic significance. The analysis also suggests that geopolitical risk reduces foreign direct investment.

The study concludes that the Arctic Region is currently amid major political, economic, and environmental upheaval, driven by the sudden rise of temperatures in the region and its growing economic and military-strategic significance. The region is a point of contention particularly among major world powers: the United States, China, and Russia. These factors create an unstable environment from a foreign direct investment perspective, and while existing foreign direct investment does not fully cover this complex world region without strong empirical data, they can still form a comprehensive overview of the dynamics at play.

Keywords: The Arctic Region, Foreign Direct Investment, the OLI Paradigm, Real Options Theory, Critical Raw Materials, Resource Nationalism

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Tiivistelmä

Tämä tutkielma yhdistelee olemassa olevaa kirjallisuutta tarkastellakseen, miten kasvavat geopolitiittiset jännitteet Arktisella alueella vaikuttavat suoriin ulkomaisiin sijoituksiin, kun on kyse alueen kriittistä raaka-aineista. Vihreän siirtymän kiihtyessä ja puolustusmenojen sekä erilaisten kehittyneiden teknologioiden tarpeen kasvaessa, kriittisten raaka-aineiden kysyntä on huomattavassa nousussa. Maailmanlaajuisen ilmastonmuutoksen seurauksena Arktisen alueen jää sulaa nopeaa vauhtia, joka paradoksaalisesti lisää alueen taloudellista houkuttelevuutta avaamalla uusia laivareittejä, helpottamalla pääsyä luonnonvaroihin, sekä pienentämällä infrastruktuurikustannuksia.

Työssä käsitellään kolmea osakysymystä: mitkä geopolitiittiset riskit ovat Arktiselle alueelle ominaisia ja miten ne vaikuttavat investointiolosuhteisiin; mitkä tekijät määrittävät sijoittajakäyttäytymistä; ja miten olemassa olevat investointigeopolitiittiset teorit selittävät sijoittajakäyttäytymistä Arktisella alueella? Työ käyttää hyväkseen kolmea investointiteoriaa teoreettisen viitekehyksen luomiseen: OLI paradigmaa, reaaliopioiteoriaa, sekä resurssinationalismia.

Analyttiset löydökset viittaavat siihen, että suoria ulkomaisia sijoituksia määrittelevät tekijät ovat hyvin erilaisia yksityisen ja julkisen sijoittajan näkökulmasta, erityisesti riskialttiissa ympäristössä, kuten Arktinen alue, jossa sijainnin tarjoamat investointiedut ovat epäselviä. Yksityiset sijoittajat, joita ohjaavat taloudelliset kannustimet, ovat epävarmempia geopolitiittisesti riskialttiilla alueella, kun taas julkiset sijoittajat, joita ohjaavat myös strategiset tekijät, kykenevät olemaan aggressiivisempia. Arktisessa kontekstissa tätä voidaan soveltaa kriittisten raaka-aineiden sijoituksiin, ottaen huomioon niiden korkea strateginen merkitys. Analyysi viittaa myös siihen, että geopolitiittinen riski vähentää suoria ulkomaisia sijoituksia.

Tutkielma päätelee, että Arktinen alue on tällä hetkellä suuren poliittisen, taloudellisen ja ympäristöllisen myllerryksen keskellä, jonka suurimpia ajureita ovat ilmastonmuutos sekä alueen kasvava taloudellinen ja geopolitiittinen tärkeys. Alue on kiistanalainen erityisesti suurvaltojen (Yhdysvallat, Kiina, Venäjä) välillä. Nämä tekijät luovat epävakaa ympäristön suorille ulkomaansijoituksille, ja vaikka olemassa oleva kirjallisuus ei kykene täysin kuvaamaan Arktisen alueen kompleksisuutta ilman vahvaa empiiristä dataa, se luo kuitenkin alueesta hyvän yleiskuvan.

Avainsanat: Arktinen alue, suorat ulkomaaninvestoinnit, OLI paradigma, reaaliopioiteoria, kriittiset raaka-aineet, resurssinationalismi

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1 Introduction

1.1 Background

As global climate change progresses, the Arctic region is warming and its ice is melting away, revealing previously inaccessible critical raw materials (CRMs) such as graphite, nickel and cobalt. (Schwartz & Baskaran 2026, 1–2) The rapid environmental changes are generating new business opportunities, and interest in the region has heightened among major world powers such as China, the United States (US), Russia, and the European Union (EU). In the post-Cold War era, the Arctic has long been characterized by economic, cultural, environmental, and political cooperation. (Østhagen & Vigeland Rottem 2023) Additionally, the Arctic economy has seen significant growth in the last two decades. (Middleton 2025)

The 2020s have, however, marked an increase in geopolitical tensions in the Arctic as the political rift between the West and the East has grown. Russia's invasion of Ukraine in 2022 has largely alienated it from its Arctic peers and significantly disrupted cooperation between states in the region. (Wall & Wegge 2023.) The unique combination of swift environmental transformation, resource competition, and rising geopolitical tensions make the Arctic region a potent case study in foreign direct investment (FDI) risk.

1.2 Definitions

The Arctic Region consists predominantly of a mostly ice-covered ocean bordered by the eight Arctic States: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the US. In addition to the Arctic Ocean, certain land and coastal areas are also considered part of the region. The eight Arctic states, marked by having territory inside the region, form the Arctic Council, an intergovernmental body designed to address a wide variety of issues within the region and to strengthen cooperation between Arctic states. (Peace Palace Library 2026.) In addition to the sovereign states, it also includes representation for indigenous groups as well as multiple observer members: states, non-governmental organizations and intergovernmental bodies. Some notable observer states include China, France, Germany, India, Japan and the United Kingdom. (The Arctic Council 2026.)

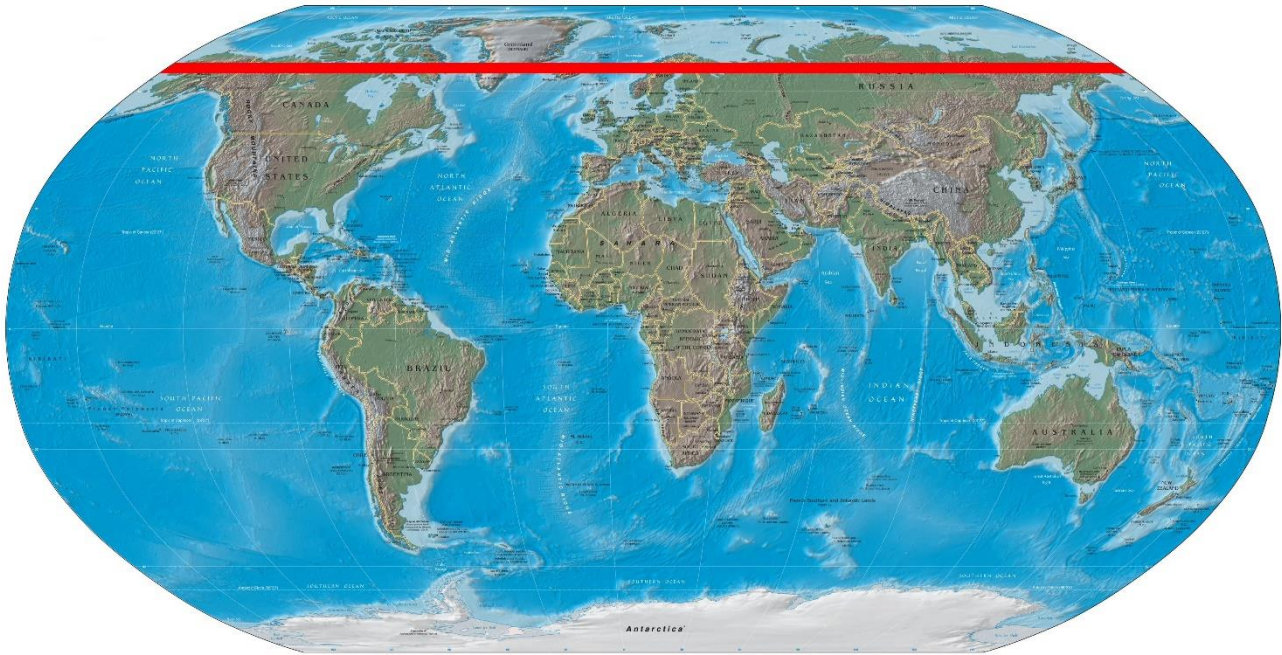


Figure 1. The Arctic Region Visualized (Wikimedia Commons, 2006)

Figure 1 illustrates the geographic location of the Arctic region. It is located at the Earth's north pole, in high latitudes, and is approximately 14.5 million square kilometers in size.

The other major area of analysis of this thesis is CRMs. An all-encompassing list of these materials does not exist because each state defines different materials as critical according to its policy. (Magdas et al. 2025, 1–2) Materials critical to Russia may not necessarily be as critical to China, for example. CRMs can, however, still be broadly defined as materials characterized by the unique combination of high economic importance and risk of supply disruption. Crucially, CRM interests of states also tend to overlap as industrial needs often converge around the same pool of materials. CRMs are essential for batteries, renewable energy, electronics, semiconductors, aerospace and defense. Given the vital and growing importance of these industries, states across the globe are seeking to secure continued access to these resources. (Montana et al. 2025.) It should be noted that exploring individual materials and their specific functions falls outside the scope of this thesis and therefore CRMs will mostly be referred to as a unified whole even if that is not technically always the case. What matters here is that the materials are critical and sought after, not necessarily the specifics of what they are used for. It is also important to make a distinction between CRMs and rare earth elements (REEs). The criticality and/or rarity of CRMs is determined by policy (CRM Alliance 2026) whereas REEs are a specific, scientific group of 17 rare, chemically similar elements used in advanced technologies. (Magdas et al. 2025, 1–2) Lists of CRMs will often include REEs, but the terms cannot be used interchangeably.

Finally, the concept of geopolitical risk should also be defined. Caldara and Iacoviello (2022, 1197) define it as "the threat, realization, and escalation of adverse events associated with wars, terrorism, and any tensions among states and political actors that affect the peaceful course of international relations." (Caldara & Iacoviello 2022)

1.3 The Aim of the Thesis

This thesis will examine how and why the Arctic region has changed politically and economically in recent years and what effect it has had on FDI in CRMs. While investor behavior in general has been widely studied, research about investment in the Arctic region, about investment in CRMs, or especially about the two combined is limited. In general, data encompassing the entire Arctic is somewhat scarce due to its fragmented nature; multiple countries with different sets of data govern the region, which is also a reason that existing investment theories may not function properly in the Arctic context. This is a probable reason for the research gap in FDI literature in relation to the Arctic. Jurisdictional complexities in regional economies have previously been studied (Mutemeri 2024), but not in the Arctic context. The goal of this thesis is to explore how investors navigate the growing web of geopolitical tensions in the Arctic, specifically in the context of the CRMs in the region. To help answer the main research question, the following subquestions will be discussed:

- What geopolitical risks characterize the Arctic and how do they affect investment conditions for foreign companies?
- Which factors determine investor behavior?
- How do existing investment geopolitical theories explain investor behavior in the Arctic?

The questions will be examined through a theoretical lens, drawing from existing literature about the subject matter.

2 CRITICAL RAW MATERIALS IN THE ARCTIC REGION

2.1 Economic and Political Overview

For most of its modern history, the global significance of the Arctic region has almost entirely been its military-strategic role, but in recent years its economic importance has also begun to grow. (Lipina et al. 2021) Between 2003 and 2022 the gross regional product of the Arctic grew from \$222 billion to \$666 billion. During this period the region maintained a share of the global gross domestic product three to seven times greater than its share of the global population. The dominant industries in the region are resource extraction, fisheries, and government spending (namely federal transfers and the defense industry). Resource extraction is a major industry in Russia and Canada, and to a lesser extent, Sweden, while fisheries dominate the economies of coastal areas such as the Faroe Islands, Greenland, and Arctic Norway. There are also emerging sectors such as tourism, manufacturing, renewable energy, and data centers. Still, by far the biggest driver of the Arctic's regional economy is resource extraction. This makes it a resource-based economy, which ties it to global commodity prices, causing slight instability in its share of the global economy. (Middleton 2025.)

The rapid economic expansion in the Arctic is linked to investment support policies and, perhaps more significantly, economic opportunities presented by ice melting in the region. (Middleton 2025) As a result of a global rise in temperature caused by human activity, Earth is currently undergoing climate change. (Lynas et al. 2021, 6) This sudden rise in temperatures affects several global issues but from an Arctic perspective the most significant is the melting and subsequent loss of mass of its long-frozen glaciers. (Kakışım 2025, 3). The rise in temperatures in the Arctic is four times the amount compared to other parts of the world. (Arctic Economic Council 2024, 9) This positions the Arctic as one of the regions to be most fundamentally altered by the progression of global warming. Forecasts predict temperatures in the Arctic could increase by 4 to 5°C by 2050 and that the region will be completely ice-free by 2100. (Kakışım 2025, 3) Paradoxically, acceleration in ice melting will open a plethora of new opportunities for economic expansion in the region. Ports and shipping routes will become more easily accessible; at the moment, usage of most routes requires ice-breaker ships with high operating costs and most ports are completely inaccessible almost all year long. (Kakışım 2025, 3.) Ice melting also reveals opportunities for new mineral fields; Greenland houses two rare earth deposits among the largest in the world which have thus far gone untouched due to the island's harsh conditions. As its climate turns increasingly tepid, Greenland's viability as a mining location

grows. (Schwartz & Baskaran 2026, 1–2.) Additionally, ice melting will allow for increased extraction of fossil resources. (Kakışım 2025, 3) Although this thesis is primarily concerned with CRMs, fossil resources are also relevant as potential further drivers of geopolitical tensions in the region that affect the investment landscape.

Diplomatic tensions are increasing in the Arctic, largely driven by major world powers. Russia's invasion of Ukraine in 2022 has arguably caused the biggest geopolitical rupture in the region. It has mostly alienated Russia from the Western political and economic sphere and increased tensions between it and the other Arctic states. And, though it formally remains a member, it has effectively exited the Arctic Council and set a new isolationist, self-reliant Arctic policy. (Grau 2023) Adding more tension, the US has increased its interest in Greenland, citing national security concerns over Russian and Chinese activity in the region. The US administration has expressed its wish to purchase the island and even attempted to force a sale by threatening to impose tariffs on the EU, increasing tension even within the Western Arctic states. It has also hinted at the possibility of military action in Greenland, prompting multiple North Atlantic Treaty Organization allies to position troops on the island. (CNN 2026) In 2019, the US signed an agreement with Greenland to jointly survey mineral prospects in the region, but the two states have failed to renew the soon-expiring partnership. This lack of renewal combined with vulnerabilities posed by supply chain disruptions and dependency on Chinese suppliers that have been at the tip of US policy in 2026 could explain the US' renewed interest in Greenland. (Schwartz & Baskaran 2026, 1–2.)

China is also attempting to position itself as a major presence in the Arctic. Its first major policy win in the region was its admission into the Arctic Council as an observer back in 2013. In its 2018 Arctic policy, due to its self-described position as an “Arctic stakeholder,” it defined itself as a “near-Arctic state.” In this policy China also unveiled the Polar Silk Road, part of a larger initiative to enhance interconnectivity and trade flow between Africa, Asia and Europe. Under the Polar Silk Road policy, China seeks to develop Arctic shipping routes, infrastructure and research, and to increase cooperation in the region. A new, easier shipping route from East Asia to Europe and North America is at the apex of China's interests in the region. (Edstrøm et al. 2025). The route through the Northern Sea would shorten shipping trips by at least 40 percent compared to current shipping routes. (Wärtsilä 2019) To China it also has the added benefit of not being under US control, given the ongoing economic tensions between the two countries. Additionally, China is also interested in climate change research opportunities in the region which the Arctic is extremely suitable for because the effects of climate change on the region are stronger than much of the rest of the world. One of its motives for conducting research is that shifts in the Arctic climate can cause extreme weather events in China.

(Zheng et al. 2021) China's multidimensional ambitions are a key driver of geopolitical uncertainty in the region, especially since it is not an Arctic state and its formal influence is limited to its observer status in the Arctic Council. (Edström et al. 2025)

2.2 The Demand for Critical Raw Materials

As climate change accelerates and the world seeks to transition away from fossil fuels, CRMs are becoming increasingly relevant. In its 2024 Critical Raw Materials Act, the EU lists 34 CRMs of which 17 are identified as the most crucial. The EU is particularly interested in securing the necessary resources for the transition from fossil fuels to renewable energy and for aerospace and defense. (European Commission 2026.) Reports by the Arctic Council state that the Arctic region is home to 31 out of the 34 EU CRMs. (Arctic Economic Council 2024, 30) Beyond the EU, there is also a global push for a green transition, predominantly within the framework of the Kyoto Protocol and the Paris Agreement. (Kakışım 2025, 3) The United States lists 60 materials as critical (USGS 2025), and while neither Russia nor China have publicly released material lists, it can be rationalized that they would feature a similar pool of CRMs as the US and EU lists because of convergent industrial needs.

While China does not necessarily hold the largest reserves of CRMs in the world, it does hold a significant monopoly over the processing and refining of CRMs. China has already begun to leverage its position with export controls on CRMs since 2023. (Schwartz & Baskaran 2026, 1) Highlighting the importance of CRMs, materials such as nickel, cobalt, lithium, copper, and manganese are projected to rise 1,000 percent in demand by 2030. (Andrews-Speed 2025, 1) A major driver of demand is the increasing presence of clean energy technology—such as wind power, electric vehicles, or solar energy—that is necessary in the transition away from fossil fuels to combat climate change. (Kakışım 2025, 3) So, paradoxically, climate change, the reason why the availability of these CRMs in the Arctic is increasing, is also the reason why the materials are required in the first place. At the moment, the Arctic exceeds ten percent of global production in only three minerals: palladium, platinum, and nickel. The Arctic's share of most other CRM mining operations is under five percent. (Andrews-Speed 2025, 8.) This is because the infrastructure for mining operations in the region is currently insufficient, largely due to the extreme climate. (Andrews-Speed 2025, 1–2) Whether the growing viability of the Arctic for CRM extraction is going to translate into increased FDI activity depends largely on the willingness of investors to commit capital amid considerable geopolitical and operational risk.

3 FOREIGN DIRECT INVESTMENT UNDER GEOPOLITICAL RISK

3.1 Key Concepts

Before further examining FDI, the concept should be properly defined. FDI is most often explained as the process in which an investor from one country acquires assets in a foreign country with the goal of having significant and long-term control over their management policies. (Moosa 2002, 1–2) A business entity that owns more than ten percent of a company’s capital can be considered a direct investor as they therefore have a significant enough influence over management policy. So how FDI differs from other modes of investment is in the motives of its investors. Direct investors seek management and control, whereas a portfolio investor would mainly be interested in the safety and appreciation of their capital. (Balance of Payments Manual 2005, 86.) Additionally, country-specific uncertainty—such as a geopolitical risk—appears to be more relevant to direct investors than it is to portfolio investors. (Jardet et al. 2022)

For the sake of clarity, it should also be mentioned that when the term “investor” is brought up in this text, it means multinational corporations, state-owned enterprises, or other state-backed investments. This introduces a distinction between private and public investors which is especially relevant to the Arctic region because it attracts both public and private FDI. (Ivanov 2026, 14–18) From now on when the text refers to private investors, it means multinational corporations, and when it refers to public investors, it means state-owned enterprises or other state-backed investments. Additionally, another central concept of the thesis, investor behavior, should also be defined: it refers to the decisions of investors on the amount of capital and whether to invest at all (Jaya & Pralhad 2021, 26–27), as well as decisions made about investment location. (Blanc-Brude et. al 2014, 797–798)

3.2 Investment in Arctic Critical Raw Materials

As mentioned in chapter 2.2, the Arctic is a resource-based economy. Because of this, investment in CRMs is the key to the region’s economic future. Western FDI in Arctic CRMs is concentrated in Greenland, Norway, Sweden, and Finland. REEs are probably the most significant CRM in these regions but other minerals, e.g. nickel and cobalt, are also highly relevant. (Arctic Economic Council 2024, 8) Russia holds the largest number of Arctic CRMs—most significantly, nickel and palladium, but following the outbreak of war in Ukraine, sanctions have effectively halted Western FDI to the country. (Wall & Wegge 2023) A huge portion of the Arctic now being essentially inaccessible to

Western investors puts a heavy constraint on FDI inflow into the region. The rift between Russia and the West has, however, presented an opportunity for China to deepen its economic ties to the Russian Arctic because, unlike the West, it has not severed ties with Russia. (Zhou & Månberger 2024) This is in line with China's Arctic policy and its goals of securing CRM supply chains outside of Western influence. (Edström et al. 2025) Russia's Rosatom and China's Hainan Yangpu Xinxin Shipping Company are planning a joint venture to develop the required infrastructure for operating year-round in certain Arctic shipping routes. (Zhang 2024)

The majority of Chinese and Russian FDI into the Arctic tends to be public, while Western FDI leans more private. (Ivanov 2026, 14–18) However, it is difficult for any private investors to operate alone in the Arctic region because of the extremely high costs of developing infrastructure, so major investments will, in practice, usually need to be a public-private hybrid partnership. (Arctic Economic Council 2026) Unlike for a private investor, the motive behind FDI for a public investor is not necessarily financial gain, but supply chain security: to assure continued future access to CRMs. The EU has established the European Raw Materials Alliance and signed a mineral access agreement with Greenland. (Schwartz & Baskaran 2026, 6) The US is lobbying to prevent Chinese access to CRMs in Greenland, and as mentioned before, has repeatedly sought to acquire the island. (Schwartz & Baskaran 2026, 3) Coalitions such as the Minerals Security Partnership and its successor, Forum on Resource Geostrategic Engagement that help coordinate Western CRM investment are examples of the Western push to secure CRM access.

3.3 Investment Theories in the Arctic Context

3.3.1 Choosing an Investment Location

What investment location investors choose over other competing prospects is central to understanding FDI behavior. The classic and most widely used theoretical framework for this issue is John Dunning's Eclectic Paradigm, also referred to as the OLI framework. It proposes that FDI decisions are determined by three sets of advantages: ownership, location, and internalization. Ownership advantages refer to company-specific assets that allow it to compete in a foreign market, location advantages refer to the host country's investment prospects, and internalization advantages refer to the choice between operating directly on a foreign market versus licensing or exporting. The framework proposes that a company will engage in FDI when it holds all three advantages. (Dunning 1988, 2–5.)

The OLI framework can be applied to the context of FDI in Arctic CRMs. As was previously established, the Arctic has a balanced mix of both public and private investors. (Center for Naval Analyses 2022) For public investors, the internalization advantages seem clear: the internal policy of most states classifies CRMs as important for national security (Zhou & Månberger 2024, 8–12), so direct and sustained access to these resources is paramount, and therefore licensing or exporting them would not make sense. For private investors the strategic advantages are not as apparent, though. Ownership advantages are not entirely clear for neither public nor private investors. Some investors operating in the Arctic may have specific know-how or existing infrastructure, but others may not. Finally, location advantages are probably the most unclear to investors. The region possesses substantial amounts of CRMs, but both public and private investors must weigh that with the harsh climate, lacking infrastructure, extraction costs, and rising geopolitical tensions.

It should be noted, however, that the OLI framework was developed mainly to examine private investment, so it does not necessarily apply as smoothly to public investors in the Arctic. Unlike private entities, for states financial factors are not the sole driver behind investment. The strategic benefits of securing stable CRM supply chains could outweigh whatever money a public investor could save by buying CRMs from a supply chain that might be used as political leverage. So it may be that, in the case of public investors, the OLI framework is insufficient to explain FDI behavior. If climate change continues to accelerate and the forecasts about the Arctic's environmental transformation come true, then in the future the region could also see increased private investment because, for many private investors, all three OLI framework dimensions would be met.

3.3.2 Real Options Theory

Real options theory (ROT), developed by McDonald and Siegel and extended by Dixit and Pindyck, complements the OLI framework well and effectively and fits into the Arctic context. ROT suggests that investment decisions, especially ones that are irreversible, can be modelled the same way as financial options. A financial option gives its holder the right but not the obligation to buy an asset at a future date. Under ROT, an investor has a "real option" to postpone a capital commitment until conditions become clearer. ROT also suggests that uncertainty increases the value of waiting: the greater the volatility of future returns, the more valuable it is to delay investment than to commit capital prematurely. (McDonald & Siegel 1986; Dixit & Pindyck 1994.) Empirical evidence, too, supports the relationship between geopolitical risk and investment caution. There appears to be a negative relationship between firm-level investment and geopolitical risk. Investment can decline by

up to 14 percent when geopolitical risk doubles. The effect is especially clear in companies with more irreversible investments. (Wang et al. 2024.) This is in line with ROT.

Applying ROT to FDI in Arctic CRMs, what stands out is that resource extraction is not only a highly capital-intensive investment (especially in the hostile Arctic environment) but also an irreversible commitment. These high investment costs could cause more risk-averse investors to steer clear of the region, considering the political turmoil caused by tensions between West and East and even among Western allies such as the US and Greenland. However, the relationship between investment timing and geopolitical risk is more complicated than the standard ROT model proposes. Ahlonsou and Tandja (2025) extend the theory by suggesting that geopolitical uncertainty only raises investors' required rate of return instead of causing them to postpone the investment; beyond a critical geopolitical risk threshold, when the present value of waiting is eroding faster than the present value of investing, the option to wait is no longer viable. (Ahlonsou & Tandja 2025, 3-4.) The implication in a geopolitically uncertain environment like the Arctic is that investors may not just hold off the investment and wait for better timing but instead face a choice to either commit or abandon the investment entirely. This could help explain public investors' willingness for CRM investment in the Arctic despite rising geopolitical tensions. ROT also highlights the difference between private and public investors. Private investors, guided largely by financial returns, are more likely to delay investment in the face of geopolitical risk, whereas public investors may prioritize the strategic advantages of CRM investments over financial returns. This could be a factor in explaining why investment is a mix of public and private rather than predominantly private.

3.3.3 Resource Nationalism

The final theoretical dimension of the thesis is resource nationalism, the tendency of resource-rich states to assert control over their natural resources to the detriment of foreign investors. The theory is a potent addition to the OLI and ROT frameworks and is central to properly understanding FDI in the Arctic context. Resource nationalism has historically been observed to intensify particularly during times of high commodity prices as host governments attempt to reap greater profits from their natural resources. (Xinjie et al. 2024.) The intensifying global competition over CRMs is therefore a natural fit for the resource nationalism model. Analysis of 261 resource nationalism incidents indicates that rising mineral prices are a trigger for resource nationalism policies but not necessarily a guarantee; domestic politics and culture in the host country play a crucial role, too. (Xinjie et al. 2024.) This demonstrates that resource nationalist tendencies can potentially be a substantial factor contributing to geopolitical risks in FDI.

It should be noted that resource nationalism has been studied predominantly in developing countries and will not necessarily apply smoothly to the Arctic context. Western Arctic states like Norway, Sweden, and Finland have stable governments and institutions which traditionally serve as a deterrent to resource nationalist tendencies. However, the growing strategic significance of CRMs is bending even the strongest of institutional norms. Governments, regardless of political system, are intervening in CRM supply chains, utilizing new policies, FDI screenings, and strategic partnerships. As discussed in section 3.2, the EU has introduced the Critical Raw Materials Act, and the West has formed coalitions such as the Forum on Resource Geostrategic Engagement. While these new phenomena do not necessarily represent classic resource nationalism, they do nonetheless limit the influence of foreign investors.

The Russian Arctic does, however, appear to show strong signs of resource nationalism. Russia's effective exit from the Arctic Council and its isolationist Arctic policy has consolidated state control over its CRM reserves and made them practically inaccessible to Western investors. (Grau 2023) It is debatable whether this is resource nationalist behavior because it was not directly triggered by the Russian state but is instead a by-product of its invasion of Ukraine, although on the other hand Russia's isolationist Arctic policy was a state-level decision. Russian CRM assets are also not completely inaccessible to foreign investors, just Western ones. Since the invasion, China, a prominent investor in the Arctic, has deepened its political and economic relationship with Russia. (Russian Federation & People's Republic of China 2022) Research into the connection between military alliances and FDI flows suggest that a military alliance between two countries is often a factor that increases FDI flows between the allied countries. (Aiyar et. al 2024) China's increased FDI in the Russian Arctic could be an example of this. Although the two countries don't have a formal military alliance, they announced a "no limits" partnership in 2022 (Russian Federation & People's Republic of China 2022). One might argue that such a partnership has a similar effect on FDI flows as a military alliance would. They also now have a shared interest in developing supply chain networks outside of Western influence, and this extends to the Arctic region.

Examining the Arctic through the lens of these three theoretical frameworks, OLI, ROT, and resource nationalism, highlights the differences between public and private investors and how geopolitical tensions and resource competition shape both the economic and political environment of the region, producing an economic region with a curious blend of conventional market logic and strategic geopolitics.

4 CONCLUSION

This thesis examined how geopolitical risk affects FDI behavior in Arctic CRMs, drawing on existing literature on the Arctic region, CRMs, and FDI. The main limitation when conducting research for the thesis was that readily available data on the Arctic, especially on Western FDI inflows, is rather scarce due to the region's fragmented nature; it consists of eight sovereign states who all individually gather data specific to that country.

The Arctic region is currently in a major transformation period environmentally, economically, and politically. A rise in temperatures because of climate change is the key driver of change in the region; melting ice presents new economic opportunities for resource extraction and shipping routes. Because the Arctic has substantial reserves of strategically important CRMs, is central to climate change research, and holds military-strategic value, it is also witnessing heightened geopolitical tensions. Russia's invasion of Ukraine in 2022 effectively split the region into the Western Arctic and the Russian Arctic and pushed Russia to develop a closer relationship with China who also has been gradually increasing its interest in the Arctic region. Tensions within the Western Arctic have also grown as the US has expressed its interest in acquiring Greenland. All these factors together create an environment of substantial geopolitical risk from a FDI perspective.

Analysis in the thesis suggests that the factors that define FDI behavior are different for private and public entities, which is especially relevant in the Arctic context because much of the investment is public rather than private. Private investors are predominantly driven by financial returns and therefore react to geopolitical risk factors sensitively whereas public investors are also driven by the strategic implications of FDI prospects. This is an important contrast, especially in the case of CRMs, which are highly strategically significant. The OLI theoretical framework highlights how the Arctic's location advantage, its CRM reserves, attracts public investment. ROT explains why investors sometimes do not commit capital in the face of geopolitical risk and other empirical evidence proves that geopolitical risk reduces FDI. Resource nationalism demonstrates that geopolitical turmoil can create behavior similar to resource nationalism without the traditional triggers found in the literature.

Probably the biggest future research opportunity on the subject would be conducting empirical analysis of FDI inflows into the region, which could provide much more detailed information than the purely theoretical nature of this thesis. Additionally, if climate change continues to accelerate, the political and economic nature of the region will likely keep shifting drastically, prompting a need for

further research. Whatever its future holds, it appears almost certain that the Arctic region and its reserve of CRMs will remain intrinsically tied to the progression of climate change.

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APPENDICES

Artificial Intelligence Usage

Artificial intelligence (AI) was used in this thesis to compile useful sources for research. This was done to save time because it is much faster than a manual search. However, no AI summaries were used in research and therefore the usage of AI should not affect the reliability of the information presented. Completely manual research was also used in combination with the prompts listed below. Additionally, AI was used for inspiration to build on the initial idea for the thesis, which was just something vaguely about the Arctic region and/or CRMs. The tool used was ChatGPT 5.3.

Prompts:

- “I want to write my Bachelor’s thesis about something related to the Arctic region and critical raw materials, but I need to narrow it down quite a bit more. Could you give me more specific ideas for a topic?”
- “I’m writing a thesis about investor behavior in the Arctic under geopolitical tension, specifically investments in critical raw materials. Could you find me some articles I could read and/or cite?”
- “Articles that provide an overview of where critical raw materials are currently mined and processed.”
- “Link articles about FDI”