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THESIS

**BEACHHEAD WARFARE:
TO WHAT EXTENT IS ECONOMIC STATECRAFT
A THREAT TO MILITARY POWER?**

by

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June 2023

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**BEACHHEAD WARFARE: TO WHAT EXTENT IS ECONOMIC STATECRAFT
A THREAT TO MILITARY POWER?**

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ABSTRACT

To inform and help improve national resiliency against gray zone threats, this thesis explores the extent to which economic statecraft influences military power. It does so by advancing the concept of “beachhead warfare”: the process of creating footholds in dependencies for military power through economic instruments. The project explores the “Olavsvern,” “Pilotage Exception Certificate,” and “Bergen Engines” cases, which demonstrate that Russian beachhead warfare toward Norway has the potential to establish strategic positions in critical areas such as technology, infrastructure, and supply chains with significant military implications. The study concludes that beachhead warfare poses a significant indirect threat to military power with the potential to establish “relational dominance”: the power to control and influence relationships among different actors in a conflict or competition. Through economic subversion, a state can either enhance its own warfighting capabilities or weaken those of its adversaries. The recommendation for the Norwegian Ministry of Defence is to establish a strategic plan and organization to improve cross-sectoral communication and mitigate the risks associated with beachhead warfare. The theoretical and analytical framework provided in this thesis bridges the gap between economic activity and military power, offering a valuable starting point for comprehending the detrimental ramifications of economic activity.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIS	Automatic Identification System
BMV	Bergen Mechanical Workshop
BRI	Belt and Road Initiative
C2	Command and Control
C4IS	Command and Control, Communication, and Computer Information Systems
CCP	Chinese Communist Party
CIS	Communication and Information Services
DIME	Diplomatic, Informational, Military, and Economic
EDT	Emerging Disruptive Technologies
FFI	Norwegian Defence Research Establishment
FSA	Norwegian Defence Security Department
GDP	Gross Domestic Product
GIUK	Greenland-Iceland-United Kingdom
GRU	Glavnoje Upravlenije General'nogo shtaba Vooruzhonnykh sil Rossiyskoy Federatsii / Main Directorate of the General Staff of the Armed Forces of the Russian Federation
GUGI / RURP	Glavnoje Upravlenije Glubokovodnykh Issledovaniya / Russian Underwater Reconnaissance Program
ML	Machine Learning
NAF	Norwegian Armed Forces
NATO	North Atlantic Treaty Organization
NDLO	Norwegian Defence Logistics Organization
NIS	Norwegian Intelligence Service
NSA	National Security Agency
PEC	Pilotage Exemption Certificate
PLA	People's Liberation Army
PRC	People's Republic of China

PST	Norwegian Police Security Service
SLOC	Sea Lines of Communication
TMH	Transmashholding Group
TMHI	Transmashholding Group International
USC	United Shipbuilding Corporation
USSR	Union of Soviet Socialist Republics
WFF	Warfighting Functions
WGS	WilNor Governmental Services
WWII	World War II

EXECUTIVE SUMMARY

This thesis explores the use of economic statecraft to strengthen military power vis-à-vis other states. It does so by advancing the concept of “beachhead warfare”: the process of creating footholds for military power through economic instruments. By prodding for weak spots, Russia and China successfully project economic statecraft toward the West to better position their strategic interests in an increasingly complex world. Using indirect methods to achieve military and national strategic objectives has always existed and is well documented in Chinese and Russian government directives.

In particular, the thesis analyzes how beachhead warfare can be employed to secure access to critical dependencies for military power, including infrastructure, technology, and supply chains. As geopolitical tensions continue to escalate, rival states may resort to economic tactics to weaken another country’s defense capacity by gaining a foothold or disrupting one or more of these critical dependencies. As an illustration, this thesis examines three ongoing examples of Russian economic and political activity as forms of beachhead warfare targeting Norway.

First, the “Olavsvern” case concerns foreign intrusion in military infrastructure. Infrastructure, such as ports, airports, and railways, is vital to military operations as it is essential for deploying and sustaining military forces and transporting critical supplies and equipment. Any disruption to these infrastructure assets can severely impact military operations and impede a nation’s ability to respond to threats or conduct offensive operations. Leasing Norway’s Olavsvern Naval Base to Russian research vessels provided the Kremlin with a strategic foothold in the High North, facilitating and providing an increased operational capability for Russian research ships and Russian intelligence operations. Still, the leasing agreement represents a short-term threat to military power in the High North.

Second, the “Pilotage Exemption Certificate” (PEC) case concerns the exploitation of supply chains. Supply chains are essential components of military operations, encompassing the entire process of producing and delivering goods, services, and

maintenance from raw material suppliers to manufacturers, logistics providers, and distributors. PECs issued by Norway to Russian citizens may pose a significant risk to military power and Norwegian national security as these certificate holders are exempted from the mandatory use of the pilotage service and hence are unattended. This enhanced freedom of maneuver increases Russia's insight into possible access routes, suitable quay facilities, and related support to U.S. and North Atlantic Treaty Organization (NATO) reinforcement forces. Moreover, the growing emphasis of Russia on developing offensive military capabilities against underwater installations underscores how exploiting PECs can threaten underwater installations with potential implications for energy security and national security writ large.

Finally, the "Bergen Engines" case concerns foreign acquisition of sensitive technology. Modern military operations rely on technology, which is increasingly integrated into weapon systems, communication networks, and command and control structures. The loss or compromise of critical technologies associated with selling Bergen Engines would significantly impede Norway's military capabilities. Moreover, the acquisition could have been a game changer in developing adequate maritime maneuver systems for the Russian Navy. Understanding technology across all value chains is crucial in safeguarding national interests against foreign interventions and intellectual property theft.

The research finds that beachhead warfare poses a significant indirect threat to military power and can lead to "relational dominance": the power to control and influence relationships among different actors in a conflict or competition. Specifically, the cases demonstrate how Russian beachhead warfare could enable Russia's relational dominance in the High North, a crucial element in accomplishing their strategic objectives and tipping the power balance in favor of the Russian military. The inherent vulnerability of the High North and Norway's coastal areas raises grave concerns about the potential long-term consequences of this strategy on all aspects of warfare, particularly in the maritime domain.

Given these threats, the thesis concludes by providing recommendations to the Norwegian national security apparatus on how to mitigate the risks associated with beachhead warfare. This includes the implementation of a comprehensive strategic plan

and organizational structure that consolidates existing knowledge and capabilities. Minimizing dependence on vulnerable supply chains, expanding the range of supply sources, and actively ensuring the security of companies engaged in critical value chains are key measures to sustain military capabilities and enhance resilience against beachhead warfare. The theoretical and analytical framework presented in this thesis serves as a valuable starting point for understanding the potential adverse implications of economic activity, bridging the gap between economic activity and military power.

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I. INTRODUCTION

A. THE PROBLEM

In a military context, creating a beachhead has generally been understood as an amphibious assault to gain an operational advantage by securing a ground area.¹ Gaining a beachhead during a conventional war can benefit the attacking force because its purpose is to create a stronghold from which the attacking force can strengthen its advantage to advance further into enemy territory. The best example of this is when Dwight D. Eisenhower planned and led the Allies' D-day invasion of Normandy on June 6, 1944, known as Operation Overlord.

The term “beachhead” is also used in economics, where a beachhead strategy involves concentrating resources on a small market area to establish a strong position before expanding to a larger market.² Economic statecraft can be defined as the overall use of economic instruments to achieve foreign policy and/or strategic goals.³ Hence, economic statecraft is an indirect and asymmetric approach connected to political warfare and economic warfare; while foreign economic transactions linked to cooperation are desired and legitimate, using economic instruments in rivalry and competition—conflict short of war—may include activity that, intentionally or unintentionally, harms another state's military interests.⁴ By exploiting economic and financial instruments, rival states disguised as commercial actors may use a so-called beachhead strategy to influence military power which is understood as the state's ability and readiness to use and apply military capabilities. In economic statecraft, a state-controlled enterprise or company can establish a beachhead by focusing on a well-defined business segment to gain favorable footholds, which can be leveraged for further expansion, projection, and momentum in a

¹ “Beachhead (U.S. DOD Definition),” Military Factory, accessed February 25, 2022, https://www.militaryfactory.com/dictionary/military-terms-defined.php?term_id=702.

² Geoffrey A. Moore, *Crossing the Chasm: Marketing and Selling Disruptive Products to Mainstream Customers* (New York, NY: HarperBusiness, an imprint of HarperCollins Publishers, 2014), 66.

³ David A. Baldwin and Ethan B. Kapstein, *Economic Statecraft*, New edition (Princeton: Princeton University Press, 2020), 18–24.

⁴ Martin Shubik, “Unconventional Methods Economic Warfare,” *Conflict* 1, no. 3 (1979): 215.

market to influence military power and ultimately achieve “relational dominance:” the power to control and influence relationships among different actors in a conflict or competition.⁵⁶ This thesis builds the concept of “beachhead warfare” as an unconventional strategy of economic statecraft in which the aim is to attain relational dominance.

In the current era of strategic competition, a nation’s capacity to achieve relational dominance can be crucial to accomplishing its strategic objectives such as deterring aggression, winning a military conflict, or shaping the global balance of power. Figure 1 illustrates a relational dominance graph in beachhead warfare and how preparations in a competition phase can influence a state’s ability to succeed in a military confrontation. The “relational dominance line” illustrates the *pivotal moment* in an engagement. It is simply stated as the point at which relational dominance is achieved, which means that the probability of success strongly outweighs the likelihood of failure.⁷

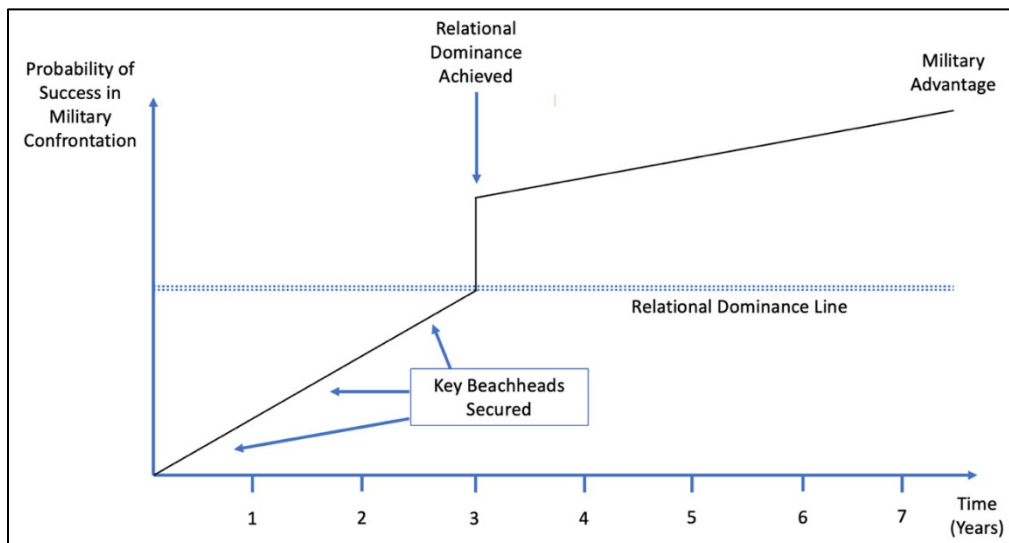


Figure 1. Relational Dominance Graph in Beachhead Warfare

⁵ Shubik, “Unconventional Methods of Economic Warfare,” 211; Luttwak, *Strategy*, 39.

⁶ John F. Mahon and Sushil Vachani, “Establishing a Beachhead in International Markets – A Direct or Indirect Approach,” *Long Range Planning* 25 (1992): 66.

⁷ William H. McRaven, *Spec Ops: Case Studies in Special Operations Warfare: Theory and Practice* (Novato, CA: Presidio, 1995), 5.

The importance of relational dominance in national security strategy is evident in many historical examples. For example, during the Cold War, the United States and the Soviet Union engaged in a global competition for relational dominance, with each seeking to establish influence over other nations through military alliances, economic aid, and propaganda.⁸ The United States ultimately achieved greater relational dominance by cultivating a network of military and economic alliances, promoting democracy and human rights, and investing in technology and innovation.

Gray zone threats used by nations to challenge their adversaries have become increasingly relevant in the context of great power rivalry.⁹ While the concept of gray zone operations is not new, it has been influenced by the strategic competition between the Western and Eastern Blocs during the Cold War, which was characterized as political warfare. In recent years, both China and Russia have developed competitive strategies aimed at challenging the West's dominance through the use of gray zone operations.¹⁰

B. PURPOSE AND METHODOLOGY

This thesis is grounded on the premise that one state can wield economic instruments as a means of gaining a foothold in another state's military interests. The goal is to enhance countries' capacity to counter economic statecraft designed to influence military power, namely, beachhead warfare. China and Russia have revamped and expanded their foreign policy tactics in recent decades to achieve their strategic goals. China has been accused of utilizing gray zone tactics, which involve employing coercive economic activities that are beyond the scope of normal diplomatic and trade relations but fall short of using kinetic military force.¹¹ Russia is accused of wielding "gas as a weapon"

⁸ Odd Arne Westad, *The Cold War: A World History* (New York, NY: Basic Books, 2017), 32.

⁹ Bonny Lin et al., *Competition in the Gray Zone: Countering China's Coercion Against U.S. Allies and Partners in the Indo-Pacific* (Santa Monica, CA: RAND Corporation, 2022), 13, <https://doi.org/10.7249/RRAS94-1>.

¹⁰ Congressional Research Service, "Renewed Great Power Competition : Implications for Defense – Issues for Congress," October 7, 2021, 1, <chrome-extension://efaidnbmninnibpcapjpcgclcfndmkaj/https://apps.dtic.mil/sti/pdfs/AD1105860.pdf>.

¹¹ Lin et al., *Competition in the Gray Zone*.

and employing similar economic measures to advance national interests.¹² Both instances indicate forms of economic warfare and underscore their significance in the context of strategic competition.

Existing research and literature have studied how states can use economic statecraft to achieve a range of foreign policy goals and national strategic objectives, and what implications this may have for national security.¹³ However, there is a need for further research and investigation on the implications of economic statecraft specifically for military power. This thesis makes a contribution toward this end by establishing a framework to systematically examine vital issues related to national security and military power. Due to the relatively new nature of this area and lack of decisive evidence regarding the intentions of rival states, it cannot be concluded with certainty that the cases in fact have been part of a beachhead warfare strategy. Yet, by drawing upon literature on strategy and warfighting, which encompasses both historical and contemporary perspectives, the thesis provides a theoretical basis and rationale for how and why economic activity may be conducted for military-strategic reasons. In doing so, it argues that the cases exemplify economic activity that could establish militarily beneficial footholds – and it also demonstrates the potential military advantages in each case. Specifically, the thesis’ objective is to investigate how Russian economic tactics towards foreign states may be linked to beachhead warfare. In the context of asymmetrical warfare, investments, trade, and other economic activity can be exploited to establish beachheads that support military capabilities and serve as a foundation for further advancement.¹⁴ The thesis’s progress toward its intended outcome is outlined in Figure 2.

¹² Kathryn Stoner, *Russia Resurrected: Its Power and Purpose in a New Global Order* (New York, NY: Oxford University Press, 2021), 216.

¹³ Waage, Kvalvik, and Lindgren.

¹⁴ “DOD Dictionary of Military and Associated Terms,” 25.



Figure 2. Visualization of Thesis's Organization

The history of war underlines the importance and pervasive influence of economic considerations in national strategies. The nature of economies has guided the strategic thinking for both national policy as a whole and the military.¹⁵ The strategic options available to policymakers have been shaped by economic factors, which have placed limitations on the scope, intensity, and duration of operations. However, it is crucial to recognize that this perspective on strategy is not entirely driven by economic factors alone. Instead, it acknowledges the significance of economic considerations in influencing the strategic doctrines and operational strategies of decision makers both during times of war and prior to engaging in conflict.

The effectiveness of military power is contingent upon a wide range of factors, such as resources, doctrines, services, expertise, knowledge, infrastructure, and collaborative relationships with allies. States can employ economic tactics to undermine a country's defense capability by disrupting one or more of these critical dependencies. In an era of escalating geopolitical tensions, foreign states may employ economic tactics to establish a foothold in critical defense-related dependencies. Additionally, economic means may be used to gain intelligence from the defense sector, access sensitive technology and other technological resources, or secure geographical locations that would enhance another state's military capacity in relation to other states.¹⁶

¹⁵ Gordon H. McCormick and Richard E. Bissell, eds., *Strategic Dimensions of Economic Behavior*, Praeger Special Studies, Praeger Scientific (New York, NY: Praeger, 1984), 59.

¹⁶ Kristin Waage, Sverre Nyhus Kvalvik, and Petter Y. Lindgren, "Utenlandske investeringer og andre økonomiske virkemidler – når truer de nasjonal sikkerhet?" [Foreign Investments and Other Economic Means – When Do They Threaten National Security?] (FFI, 2021).

C. RESEARCH QUESTION

The thesis employs a qualitative approach to create a framework for assessing the vulnerability and influence of economic measures on military warfighting functions and domains. The paper subsequently examines three potential instances of Russian beachhead warfare against Norway in which the framework for assessing the vulnerability and influence of economic measures is employed to scrutinize the cases' impact on warfighting functions and domains. Finally, the accumulative impact of the three cases evaluated in time and space demonstrates how a beachhead warfare strategy can lead to relational dominance. Specifically, the thesis explores how Russian economic instruments can be connected to asymmetric warfare. It does so by asking the question: *to what extent is economic statecraft a threat to military power?*

D. THESIS FINDINGS

This thesis finds that beachhead warfare represents a potent indirect threat to military power and that successful execution of a beachhead warfare strategy can lead to relational dominance. The case studies illustrate that Russian beachhead warfare is a severe headache for Norwegian authorities and may derail Norway's military power and thereby potentially create relational dominance over NATO's military power in the High North. To counter beachhead warfare, it is crucial to identify and mitigate vulnerabilities linked to military dependencies and critical resources and capabilities required for military operations, including infrastructure, supply chains and technology.

Infrastructure, such as ports, airports, and railways, are vital to military operations. These assets are not only essential for the deployment and sustainment of military forces but also for the transportation of critical supplies and equipment. Any disruption to these infrastructure assets can severely impact military operations and most likely impede the ability to respond to threats or conduct offensive operations. The thesis finds that the leasing of Norway's Olavsvær Naval Base to Russian research vessels provided the Kremlin with a strategic foothold in the High North, allowing for the support and sustainment of Russian intelligence operations. Although the leasing agreement represented a short-term threat to military power in the High North, it did provide increased

operational capability for Russian research ships to facilitate sabotage and general support to covert Russian activity.

Supply chains are vital components of military operations as they encompass the entire process of producing and delivering goods and services. This includes raw material suppliers, manufacturers, logistics providers, and distributors. This thesis finds that Pilotage Exemption Certificates (PEC) issued to Russian citizens pose a significant risk to military power and national security as certificate holders are exempted from the mandatory use of pilotage services and hence are unattended. This enhanced freedom of maneuver increases Russia's insight into possible access routes, suitable quay facilities, and related support to military operations in the coastal zone. Moreover, the growing emphasis of Russia on developing offensive military capabilities against underwater installations underscores how PECs can be exploited in mapping and sabotaging underwater installations with implications for military power, energy security, and national security writ large.

Technology is a key vulnerability in modern military operations as it is increasingly integrated into weapon systems, communication networks, and command and control structures. The thesis finds that the loss or compromise of critical technologies associated with Norway's selling of Bergen Engines would significantly impede military capabilities and pose a threat to national security. It is, therefore, essential to understand technology in all value chains to protect national interests from foreign interventions and intellectual property theft.

To mitigate these threats, it is essential to increase collaboration between government agencies, private sector entities, and international partners for sharing information and developing strategies to counter beachhead warfare. Broadening the comprehension of the concept of security necessitates the expansion of what is deemed as critical resources or industries in light of the complexities posed by the current competitive landscape. This includes value chain management strategies to identify and monitor critical dependencies, diversifying sources of supply, and developing contingency plans to reduce dependence on and possibility of interference from foreign actors. If a technology, infrastructure, or supply chain is considered critical, the companies in that value chain must

also be considered critical and of strategic value. In conclusion, identifying critical resources and mitigating vulnerabilities linked to military dependencies are crucial to countering beachhead warfare and sustaining military capabilities.

E. LITERATURE REVIEW

1. Warfare

Warfare is traditionally defined as “the process of military struggle between two nations or groups of nations.”¹⁷ It is the method of conflict between competitors or political rivals. Carl von Clausewitz described war as an “act of force to compel the enemy to do our will.”¹⁸ He focused on the *center of gravity*—where military efforts should be directed. By doing so, Clausewitz stressed the importance of a major battle. A clash between armed forces that breaks the opponent’s will to resist is the key to success. Clausewitz’s view is, therefore, that the center of gravity, in general, exists at the military operational or tactical level. Strategist and philosopher Sun Tzu holds a different view and suggests that the most effective approach to winning is by avoiding fighting altogether. According to him, “the acme of skill is to subdue the enemy without fighting,” and the optimal course of action is to defeat the enemy’s strategy before the battle even starts.¹⁹ The need for a physical confrontation becomes obsolete when victory can be attained by undermining the adversary’s strategies. Sun Tzu argues that the center of gravity exists at the strategic level and that the military instrument may be just one among several centers of gravity.

The different perspectives of Clausewitz and Sun Tzu on war and strategy, and disparities concerning centers of gravity, are central because warfare must be understood in two ways. The first is primarily physical and military warfare, and the other is the “unrestricted warfare” of political statecraft.²⁰ The concept of unrestricted warfare is more

¹⁷ U. S. Department of Defense, *The Dictionary of Military Terms* (New York, NY: Skyhorse Publishing, Inc., 2009).

¹⁸ Carl von Clausewitz, Michael Howard, and Peter Paret, *On War* (Princeton, NJ: Princeton University Press, 1976), 75.

¹⁹ Sun-Tzu, and John Minford (trans.), *The Art of War* (New York, NY: Penguin, 2002), 27.

²⁰ Liang Qiao and Xiangsui Wang, *Unrestricted Warfare: China’s Master Plan to Destroy America*, (Dehradun, India: Natraj Publishers, 2007).

closely related to the notion of political warfare, as described by George Kennan. Political warfare refers to the comprehensive utilization of non-military methods and resources by a nation to pursue its strategic goals, encompassing all available means except for direct armed conflict.²¹ It comprises overt and covert operations, including economic measures, psychological warfare, and information operations. Political warfare is precisely competition strategies characterized by diplomatic, information, military, economic (DIME) instruments applied in concert and in a synchronized manner to achieve national strategic objectives. It is a subject with analogs to the Cold War world. Multinational cooperation and dialogue are less valued, and strategic demonstrations of power can influence several policy areas.

2. Warfare in the 21st Century

Similar to the characteristics of the current strategic competition, political warfare intends to influence the political structure or decision-making procedures within another state. It encompasses various activities ranging from diplomatic engagement and economic statecraft to information and influence operations.²² It is separate from other methods of warfare because it refers to a deliberate effort using a broader spectrum of means by integrating all levers of national power in a unique combination tailored for the specific situation to pursue strategic goals.²³

Expanding the use of various instruments in political warfare enables an asymmetrical approach to war by utilizing one's own strengths against the other party's weaknesses.²⁴ Engaging in competition that falls below the threshold of armed conflict allows for the use of multiple measures and tools to achieve specific strategic objectives while evading any retaliation costs from the target. The intricacy of political warfare is

²¹ George F. Kennan, "The Inauguration of Organized Political Warfare [Redacted Version]," History and Public Policy Program Digital Archive, April 30, 1948, 2.

²² Kathleen J. McInnis and Martin A. Weiss, "Strategic Competition and Foreign Policy: What Is 'Political Warfare'?", 2019, 2.

²³ Linda Robinson et al., *Modern Political Warfare: Current Practices and Possible Responses*, Research Report, RR-1772-A (Santa Monica, CA: RAND Corporation, 2018), 3.

²⁴ Robinson et al., 246.

further complicated by the amalgamation of military and non-military methods, traditional and non-traditional capabilities, and involvement of both state and non-state actors.²⁵ When all instruments of power are used to achieve political objectives, potential links between migration flows, foreign investments, and tailored disinformation can all be part of a foreign state's strategy designed to achieve broader foreign policy and national strategic objectives. Moreover, when several instruments of power are used together, they can reinforce each other and increase the overall effect, while remaining below the threshold of armed conflict.

The principles of political warfare are, of course, not new. Its practice spans thousands of years.²⁶ In this century, Russia emphasizes breaking the enemy's resistance without fighting a kinetic war in the Russian National Security Strategy and Plan for Defense.²⁷ Russia's so-called Gerasimov doctrine published in 2013 points out that asymmetrical actions can nullify an enemy's advantages in armed conflict.²⁸ The concept of New Generation Warfare posits that regardless of the enemy's forces or the sophistication of their military capabilities, there are always ways and means to overcome them.²⁹ Every enemy has vulnerabilities, which implies that there are always effective means to exploit them. The ideas that appear in Gerasimov's writing have many parallels

²⁵ "Prop. 14 S (2020 – 2021) Proposisjon til Stortinget (forslag til stortingsvedtak) Evne til forsvar – vilje til beredskap. Langtidsplan for forsvarssektoren [Prop. 14 S (2020 – 2021) Proposition to the Parliament (proposal for a parliamentary resolution) Capability for defense – will to prepare. Long-term plan for the defense sector]" Norwegian Ministry of Defense, 2021), 73, <https://www.regjeringen.no/no/dokumenter/prop.-14-s-20202021/id2770783/>; Congressional Research Service, "Renewed Great Power Competition : Implications for Defense – Issues for Congress," October 7, 2021, 4. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://apps.dtic.mil/sti/pdfs/AD1105860.pdf>

²⁶ Williamson Murray and Peter R. Mansoor, *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present* (New York: Cambridge University Press, 2012), 3.

²⁷ John Allen et al., "Future War NATO? From Hybrid War to Hyper War via Cyber War," Supporting paper (Globsec, 2017), 10.

²⁸ Eugene Rumer, *The Primakov (Not Gerasimov) Doctrine in Action* (Washington, DC: Carnegie Endowment for International Peace, 2019), 4.

²⁹ Valery Gerasimov, "The Value of Science Is in the Foresight – New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations," trans. Mark Galleoti, *Military-Industrial Kurier*, 2016, 29, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.armyupress.army.mil/portals/7/military-review/archives/english/militaryreview_20160228_art008.pdf.

to what the Russian strategist Aleksandr Svechin wrote about strategy.³⁰ War must first and foremost be understood as a grand strategy of exhaustion, as opposed to a military strategy of annihilation. It encompasses a whole-of-government approach, integrating both hard and soft power across multiple domains.

With one-fifth of the world's gas supplies, Russia is a major global exporter of energy. Furthermore, energy is a cornerstone of the Russian economy, politics, and public life, contributing nearly half of all budget revenues and constituting approximately 30 percent of the country's gross domestic product (GDP).³¹ An important principle in Russian foreign policy is to take advantage of its enormous energy resources to exert influence abroad, and the Kremlin has for a long time been accused of playing the energy card and using "gas as a weapon."³² As a result, Russia may employ military means to attain non-military goals, non-military means to attain military objectives, or a combination of both simultaneously, depending on the situation.³³ President Putin's leadership in Russia has resulted in a directive from the central government to ensure that all facets of political, social, and economic development are evaluated from a national security standpoint.³⁴ Moreover, the responsibility of coordinating the activities of executive agencies to protect national security and defense has been assigned to the General Staff.³⁵ At the national strategic level, the primary goal is to counterbalance the enemy's geopolitical advantages, such as economic strength, thereby reducing the reliance on direct military force.³⁶

³⁰ A. Svechin and Kent D. Lee, *Strategy* (Minneapolis, MN: East View Publications, 1992), 67.

³¹ Dimitar Bechev, *Rival Power* (New Haven, CT: Yale University Press, 2017), 199.

³² Bobo Lo, *Russia and the New World Disorder* (Washington, DC: Brookings Institution Press, 2015), 183.

³³ Jānis Bērziņš, "The Theory and Practice of New Generation Warfare: The Case of Ukraine and Syria," *The Journal of Slavic Military Studies* 33, no. 3 (July 2, 2020): 378, <https://doi.org/10.1080/13518046.2020.1824109>; "What Does the War in Ukraine Mean for Energy Security in Europe?," The Conference Board, accessed April 17, 2023, [//www.conference-board.org/topics/geopolitics/energy-security-europe-ukraine-war](https://www.conference-board.org/topics/geopolitics/energy-security-europe-ukraine-war).

³⁴ Allen et al., "Future War NATO? From Hybrid War to Hyper War via Cyber War," 12.

³⁵ Allen et al., 12.

³⁶ Svechin and Lee, *Strategy*, 93.

Meanwhile, the Chinese Communist Party (CCP) is also accused of waging political warfare and considers gray zone activities as a natural extension of a country's exercise of power.³⁷ The significance of adopting a comprehensive governmental strategy is emphasized in the book *The Art of War*.³⁸ These principles are also articulated in *Unrestricted Warfare*, published in 1999 by two officers from the People's Liberation Army (PLA), and *Three Warfares*, published by the CCP in 2003.³⁹ The CCP predominantly utilizes economic strategies within the gray zone to maintain a stable and advantageous external environment while simultaneously working towards altering the existing status quo in favor of China. This approach aims to achieve these objectives without eliciting substantial resistance or escalating into open conflict. China has demonstrated both the capability and willingness to utilize economic tools not only to shape its own region but also to acquire global influence. Notably, the Silk Road project has the potential to become the most significant infrastructure in history.⁴⁰ Moreover, the CCP has been accused of intentionally practicing "debt trap diplomacy," whereby it imposes unfavorable conditions on the government in partner nations and creates contracts that enable China to acquire strategic assets if debtor nations encounter financial difficulties.⁴¹ These accusations also include how CCP targets foreign investments to acquire crucial technology, which it then uses to bridge the gap in capabilities between its military and the U.S. military. As the United States shifts its focus to strategic competition and competition in the gray zone, the importance of economic power cannot be overstated. Critical technologies believed to be foundational for future commercial and military innovations

³⁷ Kerry K. Gershaneck, *Political Warfare: Strategies for Combating China's Plan to "Win without Fighting"* (Quantico, VA: Marine Corps University Press, 2020), 6.

³⁸ Sun-Tzu and Minford, *The Art of War*, 4.

³⁹ Qiao and Wang, *Unrestricted Warfare*; Sangkuk Lee, "China's 'Three Warfares': Origins, Applications, and Organizations," *Journal of Strategic Studies* 37, no. 2 (February 23, 2014): 198–221, <https://doi.org/10.1080/01402390.2013.870071>.

⁴⁰ Petter Y. Lindgren, Petter Fredrik Hemnes, and Kristin Waage, "Kinas potensial for økonomisk statshåndverk – kinesisk økonomi og interaksjon med omverden [China's economic statecraft potential – the Chinese economy and interaction globally]," 2022, 9. <https://www.ffi.no/publikasjoner/arkiv/kinas-potensial-for-okonomisk-statshandverk-kinesisk-okonomi-og-interaksjon-med-omverden-og-norge>

⁴¹ Anna Gelpern et al., "How China Lends – A Rare Look into 100 Debt Contracts with Foreign Governments," n.d., 4.

and applications include artificial intelligence, autonomous vehicles, cyber, and robotics.⁴² Technology transfer takes place through high levels of Chinese investment in and acquisitions of European and U.S. companies. One example is how the Chinese state firm, Mars Information Technology, took control of the Italian military drone maker Alpi Aviation in 2018.⁴³ The transaction was completed without the Italian authorities' knowledge, and the transfer of Alpi's intellectual and technical property to China began instantaneously.

It is often implied that economic activity is conducted for economic purposes; however, the strategic rivalry among the United States, China, and Russia as principal actors is increasingly linked to economic statecraft, a state's overall use of economic instruments to achieve strategic goals.⁴⁴ Within the category of economic statecraft broadly defined are three clusters of overlapping foci: economic sanctions, foreign aid, and economic warfare.⁴⁵ The literature on economic warfare dates back to before the Peloponnesian War and is traditionally related to negative sanctions and blockades to stop or deter a war. Economic warfare, however, comprises far more means. The repertoire of available economic means includes direct investments, portfolio investment, loans, and appropriation of enemy assets or supply lines.⁴⁶ Recent examples of economic warfare occurred during World War II (WWII) as Allied powers implemented policies to deny critical resources to the Axis economies. Moreover, the current sanctions imposed on Russia due to the war on Ukraine demonstrates that economic warfare is a core component

⁴² Michael Brown and Pavneet Singh, "How Chinese Investments in Emerging Technology Enable A Strategic Competitor to Access the Crown Jewels of U.S. Innovation," 2018, 23. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://nationalsecurity.gmu.edu/wp-content/uploads/2020/02/DIUX-China-Tech-Transfer-Study-Selected-Readings.pdf>

⁴³ Yen Nee Lee, "China Took Control of an Italian Military Drone Maker without Authorities Knowing It, Report Says," CNBC, November 16, 2021, <https://www.cnbc.com/2021/11/16/china-reportedly-took-control-of-an-italian-military-drone-maker-quietly.html>.

⁴⁴ David A. Baldwin and Ethan B. Kapstein, *Economic Statecraft* (Princeton, NJ: Princeton University Press, 2020), 30.

⁴⁵ Baldwin and Kapstein, 55.

⁴⁶ Baldwin and Kapstein, 23; Leslie Elliott Armijo and Saori N. Katada, "Theorizing the Financial Statecraft of Emerging Powers," *New Political Economy* 20, no. 1 (January 2, 2015): 42–62, <https://doi.org/10.1080/13563467.2013.866082>.

of strategic competition.⁴⁷ Since economic transactions are carried out by economic actors with mainly commercial purposes, economic statecraft is about giving incentives to economic actors to act in line with the political and strategic purposes of the state leadership.⁴⁸

F. NORWAY'S SECURITY SITUATION

1. Renewed Great Power Rivalry

Given the proximity of the northern regions to major Russian naval bases in the Kola Peninsula, in combination with Norway's membership in the NATO alliance, those regions can quickly become a center of a geopolitical great power rivalry.⁴⁹ The annexation of Crimea and the attack on Ukraine in 2014 raised serious concerns for Norway's national security. The country began scrutinizing everything from the organization of its military forces to its society's ability to maintain basic national functions given Russia's and China's renewed persistence in great power rivalry. Further, the Russian war against Ukraine initiated in February 2022 has made Norway boost its defense allocations and increased military readiness.⁵⁰

Norway abandoned its policy of neutrality after WWII and became a founding member of NATO in 1949, which has since defined Norwegian defence policy. Within a few years the relationship between the Soviet Union-led communist nations and the United States-led Western democracies developed into a new period of tension: the Cold War. The

⁴⁷ Jonathan Guthrie, "The Chilling Effect of Sanctions on Russia," *Financial Times*, March 7, 2022, <https://www.ft.com/content/97c07bd5-4d57-44bf-8ac1-09f1879b97c7>.

⁴⁸ William J. Norris, *Chinese Economic Statecraft: Commercial Actors, Grand Strategy, and State Control* (Ithaca, NY: Cornell University Press, 2016), 11.

⁴⁹ "Forsvarskommisjonen av 2021 – Forsvar for fred og frihet [Defense Commission of 2021 – Defense of Peace and Freedom]" (Norges offentlige utredninger, 2023), 24.

⁵⁰ "Prop. 151 S (2015-2016) Proposisjon til Stortinget (forslag til stortingsvedtak) Kampkraft og bærekraft. Langtidsplan for forsvarssektoren [Prop. 151 S (2015 – 2016) Proposition to the Parliament (proposal for a parliamentary resolution) Capable and Sustainable. Long-term plan for the defense sector]" (Det Kongelige Forsvarsdepartement, 2016), 28, <https://www.regjeringen.no/no/dokumenter/prop.-151-s-20152016/id2504884/>; "Prop. 14 S (2020 – 2021) Proposisjon til Stortinget (forslag til stortingsvedtak) Evne til forsvar – vilje til beredskap. Langtidsplan for forsvarssektoren [Prop. 14 S (2020 – 2021) Proposition to the Parliament (proposal for a parliamentary resolution) Capability for defense – will to prepare. Long-term plan for the defense sector]," 19.

allies called for the strong development of NATO in the High North and set robust guidelines for the development of the Norwegian defence.⁵¹ The strategic threat was assumed to be a comprehensive military assault from Russia with the aim of taking control of all or parts of Norwegian territory. This led to a substantial military buildup in Norway and adaptation to close allies.⁵² However, in an attempt to balance deterrence and reassurance towards the Soviet Union, Norway chose not to establish allied bases on its territory.

By comparison, today the threat is more ambiguous. Influence operations and various forms of political warfare pose at least an equally great threat. Introducing 5G technology for next-generation wireless networks in Norway provides a relevant example.⁵³ Foreign investment and ownership of digital infrastructure, especially from the Chinese-based Huawei, triggered a vital debate both publicly and, most importantly, within the Norwegian state administration. Yet, investments are just one of several economic instruments that a state can employ to achieve strategic goals, and these instruments can be combined with cyber and influence operations and other forms of non-economic methods.⁵⁴ Norway is now facing various forms of direct and indirect political, economic, and other pressures that fall below the threshold of armed conflict as part of gray zone campaigns.

⁵¹ The High North covers the sea and land, including islands and archipelagos, stretching northwards from the southern boundary of Nordland county in Norway and eastwards from the Greenland Sea to the Barents Sea and the Pechora Sea. Odd Gunnar Skagestad, “The ‘High North’ An Elastic Concept in Norwegian Arctic Policy,” Fridtjof Nansen Institute, 2010, 6.

⁵² Jacob Børresen, “Norges forsvar fra 1945 til 1991 [Norwegian Armed Forces from 1945 to 1991],” in *Store norske leksikon* [Large Norwegian Encyclopedia], June 18, 2020, http://snl.no/Norges_forsvar_fra_1945_til_1991.

⁵³ “Telenor Vraker Huawei Etter Sikkerhetskrav Fra Regjeringen – NRK Norge – Oversikt over Nyheter Fra Ulike Deler Av Landet [Telenor Scraps Huawei Following Security Requirements from the Government],” NRK, accessed May 23, 2023, <https://www.nrk.no/norge/telenor-vraker-huawei-etter-sikkerhetskrav-fra-regjeringen-1.14821794>.

⁵⁴ Waage, Kvalvik, and Lindgren, “Utenlandske investeringer og andre økonomiske virkemidler – når truer de nasjonal sikkerhet? [Foreign Investments and Other Economic Means – When Do They Threaten National Security?],” 3.

2. Economy and Security

The renewed great power rivalry combined with increasingly intertwined economic interdependencies creates greater potential for the use of economic statecraft to influence military power. This challenges Norway's ability to understand and safeguard military interests and protect its national security. As such, it is essential to gain a deeper understanding of how rival states can exploit economic instruments to influence military power vis-à-vis Norway.

Despite the Norwegian Security Act emphasizing economic stability and freedom of action, the country's security and defense planning has primarily focused on military capabilities.⁵⁵ Nevertheless, there has been growing recognition that states can also use economic instruments to influence national security.⁵⁶ Upon Norway's announcement of awarding the Nobel Peace Prize to Chinese dissident Liu Xiaobo in 2010, China promptly retaliated by implementing a trade embargo on Norway's second-largest export, salmon, effectively shutting down its market access. The ties were finally restored in 2016.⁵⁷ The rise of China as an economic superpower and Russia's ambitions as a regional superpower have created new commercial actors for Norway with whom it does not share any security cooperation, positioning those two powers to gain potential influence on Norway's military power and national security.

Even so, Norwegian government has been welcoming foreign investment in Norway's businesses. During the summer of 2014, just a few months after Russia's annexation of Crimea, the Norwegian government's announcement on the report "diverse and value-creating ownership" did not mention any national security concerns.⁵⁸ This lack of concern reflected a more general perception that interstate conflict was improbable after

⁵⁵ Lovdata, "Lov Om Nasjonal Sikkerhet (Sikkerhetsloven) [The Norwegian National Security Act]," accessed March 7, 2022, <https://lovdata.no/dokument/NL/lov/2018-06-01-24>.

⁵⁶ Norwegian Intelligence Service, "Focus 2021" (Norwegian Intelligence Service, 2021), 16.

⁵⁷ "Statement of the Government of the People's Republic of China and the Government of the Kingdom of Norway on Normalization of Bilateral Relations," accessed September 1, 2021, https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/statement_kina.pdf.

⁵⁸ "Meld.St.27 (2013–2014) Report to the Storting (white paper) – Diverse and value-creating ownership" (Ministry of Trade, Industry and Fisheries, n.d.), 35.

the end of the Cold War. Instead, the report focused on how Norway could continue to attract foreign capital and expertise, even though foreign direct investments had already increased tenfold since the early 1990s. Clearly, the economic reforms implemented in Norway since the 1980s have been significant; however, the absence of associated national security concerns has been noteworthy.

Norwegian companies have considerable expertise in technology related to the maritime sector and a competitive defense industry with world-leading technology. It may be of interest to other states to gain access to these technologies. Furthermore, other physical assets such as real estate and infrastructure face similar risks. Following the end of the Cold War, Norwegian authorities decided to sell off two million of the six million square meters of military-related infrastructure, highlighting potential vulnerabilities that rival states could exploit for military purposes.⁵⁹ Additionally, the increasing flow of goods, services, and expertise across national borders creates complex value chains with opportunities to exploit or disrupt military supply chains. Foreign acquisitions and investments in Norwegian businesses pose a risk to the Norwegian Armed Forces (NAF) by potentially providing foreign partners with access to valuable information and influence that could harm Norway's military capabilities and readiness.⁶⁰

Even if it is illegal for a foreign actor to purchase a vital or sensitive company outright, buying shares or investing in the company remains a legal option, presenting an opportunity for rival countries to use economic statecraft to gain access to critical technology, infrastructure, and supply chains.⁶¹ According to the Norwegian Police Security Service (PST), Russian military intelligence (GRU) has made multiple attempts in the past few years to obtain advanced technical equipment from Norwegian companies,

⁵⁹ Jacob Børresen, "Norsk forsvarshistorie [History of the Norwegian Defence Force]," in *Store norske leksikon* [Large Norwegian Encyclopedia], September 19, 2022, http://snl.no/Norsk_forsvarshistorie.

⁶⁰ Norwegian Intelligence Service, "Focus 2022" (Etterretningstjenesten [The Norwegian Intelligence Service], 2022), 15.

⁶¹ "What Happens When Foreign Investment Becomes a Security Risk?," Council on Foreign Relations, accessed May 3, 2023, <https://www.cfr.org/backgrounders/what-happens-when-foreign-investment-becomes-security-risk>.

raising suspicions that these acquisitions could be earmarked for use in Russian defense.⁶² These vulnerabilities pose a significant challenge for the NAF to manage, and as a result, economic statecraft may prove advantageous in certain scenarios, as it can legally achieve objectives similar to those of illegal intelligence activities.

3. Thesis Chapter Outline

While this chapter introduced the concept of beachhead warfare, Chapter II examines the concept in more detail, describing how states' use of economic means can be designed to impact and threaten military capabilities and, in the worst case, neutralize military response in the event of war. Furthermore, the chapter provides a theoretical framework for beachhead warfare and describes tools for the case analyses presented in this thesis.

Chapters III, IV, and V analyze three cases linked to Russian beachhead warfare against Norway. The cases fall across three security-threatening classifications: a) infrastructure, b) supply chains, and c) technology. The case related to critical infrastructure concerns the leasing of *Olavsvern*, a former Norwegian military naval base to Russia. The case related to supply chains concerns *Pilotage Exception Certificates* that allow navigators from any country on vessels subject to pilotage to sail in Norwegian waters unattended. The case related to compromising technology concerns the selling of *Bergen Engines*, a Norwegian subsidiary of Rolls-Royce. The analysis of these three cases, through the theoretical framework of beachhead warfare, aim to demonstrate the threats associated with a beachhead warfare strategy in general and identify how it pertains to the Norwegian military power specifically.

Chapter VI focuses attention to the three cases' potential impact on the strategic level of military power and illustrates how beachhead warfare can result in relational dominance over other states. Finally, the chapter closes the thesis by providing conclusions and recommendations.

⁶² “PST: Russisk Etterretningsagent Ville Kjøpe Miniubåt «i Gave Til Venn»” [PST: Russian Intelligence Agent Wanted to Buy Mini Submarine ‘as a Gift for Friend’], E24, accessed May 1, 2023, <https://e24.no/naeringsliv/i/GMnX6l/pst-russisk-etterretningsagent-ville-kjoepe-miniubaat-i-gave-til-venn?referer=https%3A%2F%2Fwww.vg.no>.

II. BEACHHEAD WARFARE

Economic Statecraft as a Strategy to Enhance Military Power

“The time to win a fight is before it starts.”

— Brigadier General Frederick W. Lewis (U.S. Army) War of 1898

A. INTRODUCTION

Beachhead warfare—the subject of this thesis—is initiated by a state that seeks to establish favorable footholds in a target country’s military dependencies in order to enable further expansion, projection, and momentum and gain relational dominance. While economic warfare focuses on the broader economy through the implementation of sanctions and economic pressure, the concept of beachhead warfare, as defined in this thesis, carries specific military implications as it aims directly at attaining military advantages. In the context of competition, beachhead warfare is a metaphor for the exploitation of economic statecraft to gain footholds in military dependencies and areas of strategic importance for military power. Consequently, it is imperative to comprehend a contemporary and practical understanding of beachheads within the framework of political warfare, rather than solely within a military context. In a strategic competition, beachhead warfare can represent strategies and cross-sectoral threats that, over time, affect and challenge states’ sovereignty, territorial integrity, the system of governance, and freedom of action.⁶³ It concerns national security interests, relationships with other states and international organizations, and the armed forces capabilities.⁶⁴ To answer the research question *to what extent is economic statecraft a threat to military power?*, the next section captures the concerns associated with these evolving characteristics in a strategic

⁶³ Congressional Research Service, “Renewed Great Power Competition : Implications for Defense – Issues for Congress,” 4.

⁶⁴ Lovdata, “Lov Om Nasjonal Sikkerhet (Sikkerhetsloven) [The Norwegian National Security Act].”

competition and describes the components of the theory of beachhead warfare: *threats*, *vulnerabilities*, and *values*. The theory of beachhead warfare is defined and visualized in Figure 3.

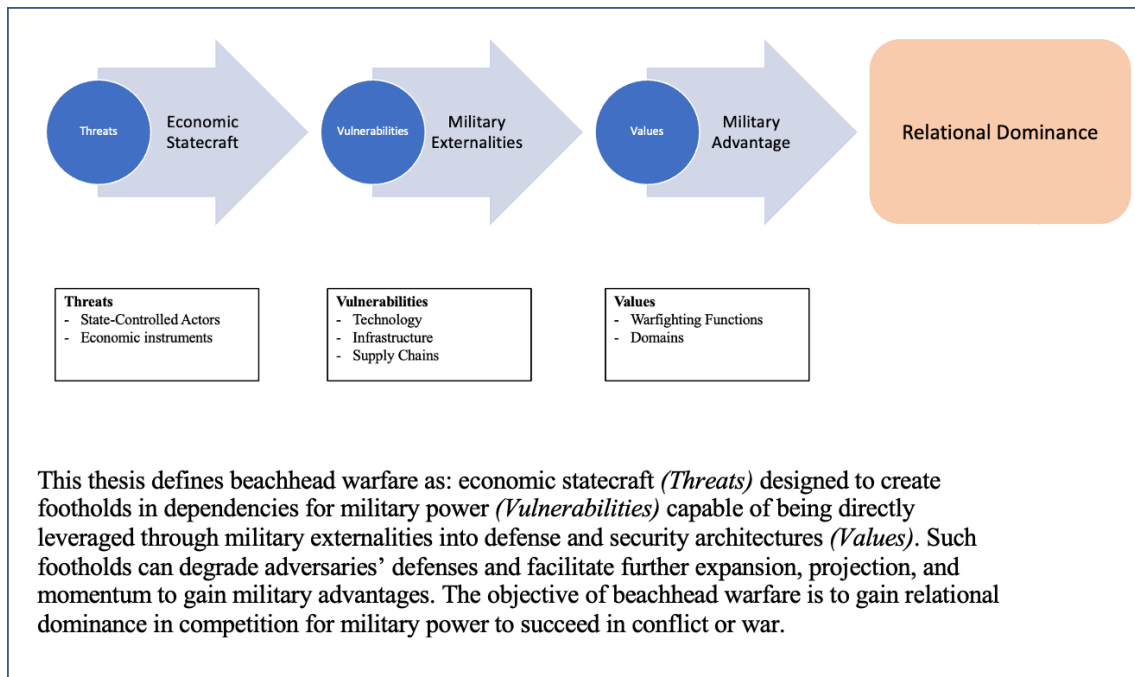


Figure 3. The Theory of Beachhead Warfare

B. COMPONENTS OF THE THEORY OF BEACHHEAD WARFARE

From an economic and military perspective, beachhead warfare can be understood as an asymmetrical approach to overcome another more dominant actor and “win without fighting.” However, it also involves building military forces that enhance the capacity to “fight and win” and aims to achieve a positional advantage by promoting national interests and weakening the adversary’s military power before a conventional campaign begins.⁶⁵ The objective is to achieve a relational advantage by advancing national interests and erode adversary military power in case it is needed in the future – in advance of a conventional

⁶⁵ Joint Chiefs of Staff, *Joint Concept for Competing* (Washington, DC: Department of Defense, 2022), 5.

campaign. Economic statecraft represents the asymmetrical component in beachhead warfare, where state-controlled actors are utilized to influence military power and national security indirectly through various value chains.⁶⁶

Value chains describe resources, processes, and activities that produce goods or services, including educational institutions, and these value chains can be national, regional, and global. Everything needed to produce a product or a service is typically not created in the same place but forms part of a value chain with the supply of inputs, services, and knowledge. All value chains connect businesses and institutions which offer and request goods and services. Ultimately, all value chains lead to a product, physical goods, or education and services provided to a market.⁶⁷ Thus, the production of most goods and services involves the collaboration of multiple industries, resources, and knowledge.⁶⁸ While the growing exchange of goods, services, investments, and data across international borders creates opportunities for economic growth, education, innovation, and improved efficiency, it can also introduce risks. Specifically, these interconnected value chains can also be vulnerable to exploitation for the purpose of accessing or disrupting military interests.

1. Threats

Economic statecraft is a state's overall use of economic instruments to achieve foreign policy and/or strategic goals.⁶⁹ These economic instruments involve a government's manipulation or exploitation of economic transactions. Since economic transactions are carried out by economic actors mainly for commercial purposes, economic statecraft concerns incentives for economic actors to act in line with the political and

⁶⁶ Robert D. Blackwill and Jennifer M. Harris, *War by Other Means: Geoeconomics and Statecraft*, (Cambridge, MA: The Belknap Press of Harvard University Press, 2017), 43.

⁶⁷ Ministry of Local Government and Regional Development, "Verdikjeder i Norge [Value chains in Norway]," 2020, 4.

⁶⁸ Waage, Kvalvik, and Lindgren, "Utenlandske investeringer og andre økonomiske virkemidler – når truer de nasjonal sikkerhet? [Foreign Investments and Other Economic Means – When Do They Threaten National Security?]," 22.

⁶⁹ Baldwin and Kapstein, *Economic Statecraft*, 18–24.

strategic purposes of the state governance.⁷⁰ Consequently, economic statecraft aimed to influence military power can take many forms; however, the common denominator is that state-controlled actors exploit an economic relationship to influence military power. Rival state-controlled actors and economic instruments are therefore the *threats* in beachhead warfare.

In most cases, those state-controlled actors are part of a strategic competition, which is the predominant context of beachhead warfare. Such a competition is characterized by Russia and China, which the United States defined as revisionist rival powers in 2017.⁷¹ Moreover, in 2019 the EU cautioned that China must be regarded not only as a partner but also as a systemic rival that promotes an undemocratic political system.⁷² Although as noted earlier, economic actors are primarily rival states, such actors also include state-owned enterprises, privately owned companies, banks, and consumers. State-controlled actors may, in essence, act as a Trojan horse aimed to infiltrate, acquire, monitor, or sabotage goods, services, and other dependencies for military power.⁷³

Within a strategic competition, state-controlled actors can leverage various economic activity, including investments, trade, loans, sanctions, and currency. Foreign investment flows and how they impact a state's capabilities and investment strategies is a well-known tool to pursue national strategic goals. Moreover, cross-national movement of goods and services through trade can be used according to the transactional logic of economic statecraft. Trade can also be easily exploited when there is deep integration between the economies of rival states. Ultimately, economic instruments can be used to coerce, reward, or incentivize change in another country or for intelligence purposes.

⁷⁰ Lindgren, Hemnes, and Waage, "Kinas potensial for økonomisk statshåndverk – kinesisk økonomi og interaksjon med omverden [China's economic statecraft potential – the Chinese economy and interaction globally]," 12.

⁷¹ President Donald J. Trump, *National Security Strategy of the United States of America* (Washington, DC: The White House, 2017), 25.

⁷² European Commission, "EU-China – A Strategic Outlook," 2019. <chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://commission.europa.eu/system/files/2019-03/communication-eu-china-a-strategic-outlook.pdf>

⁷³ Virgil and Miryam Libran Moreno, *Eneida* (Madrid: Consejo Superior de Investigaciones Científicas, 2009).

2. Vulnerabilities

A relational advantage can be achieved by influencing military values indirectly with economic and financial instruments. If a company's values are exposed to unwanted influence, for example, this could have negative consequences for the company's task. For that reason, all values have associated vulnerabilities which are conditions that an actor can exploit to affect a company's values. When a commercial activity entails a side effect or consequence for one or more of the parties involved without that effect being reflected in the economic transaction, this is described by the concept of externalities from economics.⁷⁴ In the context of this thesis, the term *military externalities* refers to external factors that influence military values as a result of economic interactions. One way to influence a rival state's military power is to gain access to that state's technology, infrastructure, and supply chains, which are, for that reason, *vulnerabilities* in beachhead warfare. The following paragraphs, describe how these vulnerabilities apply to each category.

Technology

The race for technological superiority is a central pillar of strategic competition because it has the potential to produce a game-changing, war-winning advantage.⁷⁵ The importance of tomorrow's technology is evident in NATO's overarching strategy which identifies nine critical emerging technologies that include artificial intelligence (AI), autonomy, biotechnology, quantum-enabled technologies, space technologies, hypersonic technologies, and energy and propulsion.⁷⁶ Its objective is to pave the way for NATO to expedite responsible innovation and swift integration of these new and advanced technologies to fulfill forthcoming military operational demands. If rival states, particularly Russia and the People's Republic of China (PRC), gain footholds in critical technology by

⁷⁴ Shubik, "Unconventional Methods Economic Warfare," 222; Norris, *Chinese Economic Statecraft*, 13.

⁷⁵ Peter N. Stearns, *The Industrial Revolution in World History*, 4th ed (Boulder, CO: Westview Press, 2013), 19.

⁷⁶ NATO, "Emerging and Disruptive Technologies," NATO, accessed April 10, 2023, https://www.nato.int/cps/en/natohq/topics_184303.htm.

acquiring foreign technology companies, it could significantly harm the military capabilities of the country concerned. A report based on technical examinations of Russian military equipment seized or targeted in Ukraine emphasizes the widespread utilization of microelectronics in Russia's multi-billion-dollar military modernization initiative.⁷⁷ The report shows how Russia's reliance on foreign microelectronics has been critical to its military capabilities. Notably, the report identifies 450 foreign-made components across 27 Russian weapon systems, with most manufactured by U.S. companies specializing in designing and manufacturing state-of-the-art microelectronics for the U.S. military.⁷⁸ The highly advanced Russian 9M727 Iskander cruise missile, for example, contains 31 foreign components and is capable of evading radar and strike targets hundreds of miles away. Despite export controls and economic sanctions, Russia has been able to import at least 80 different foreign components to circumvent these restrictions.⁷⁹ Companies in the United States and Germany made most of these parts, highlighting the complexity of global value chains where concealed and state-controlled actors make it challenging to identify the actual end user of products and services.

Even greater challenges and vulnerabilities arise from the growing reliance on digital technologies that have become an inseparable aspect of daily life, generating vast amounts of data that can be analyzed and applied in numerous domains. Labeled the fourth industrial revolution, the spread of these technologies is changing the world and is driving the development of Emerging Disruptive Technologies (EDT) such as AI, Machine Learning (ML), facial recognition, biometrics, and quantum computing technologies, robotics, automation, machine learning, and pattern recognition.⁸⁰ EDTs can be used to control autonomous systems like drone swarms or develop cyber weapons with a shared artificial brain, thereby offering a multitude of military applications. Therefore, these

⁷⁷ James Byrne, "Silicon Lifeline: Western Electronics at the Heart of Russia's War Machine," 2022, 5. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://static.rusi.org/RUSI-Silicon-Lifeline-final-updated-web_1.pdf

⁷⁸ Byrne, "Silicon Lifeline: Western Electronics at the Heart of Russia's War Machine."

⁷⁹ Byrne, 5.

⁸⁰ NATO, "Emerging and Disruptive Technologies," NATO, 10, accessed August 10, 2022, https://www.nato.int/cps/en/natohq/topics_184303.htm.

rapidly developing disruptive technologies have the potential to profoundly impact the character of war and warfare, highlighting why such technology is particularly vulnerable to beachhead warfare.

Infrastructure

Critical infrastructures are facilities and systems that are “necessary to maintain or restore society’s critical functions.”⁸¹ According to this definition, infrastructure is a purely physical element, and it is essential for supporting a nation’s armed forces in the conduct of their tasks and responsibilities.. The military’s critical functions depend on key infrastructure such as static facilities, bases, airports, ports, power, fuel, and ammunition storage. Moreover, digital infrastructure is fundamental for all military tasks and assignments because it enables command and control, communication, and computer information systems (C4IS), which is a prerequisite for transferring data to and from units, platforms, sensors, and effectors. Both forms of defense infrastructure are vulnerable to foreign investments and covert economic influence.

This is evident in Russia’s military presence which spans Europe, Asia, the Middle East, and Africa, encompassing airports, bases, radar stations, and naval installations. The Kremlin considers expanding military capabilities through strategic investments and the extension of contracts to foreign partners as a top priority to uphold its status as a global power.⁸² While Russia’s primary focus has been on maintaining its influence in the former Soviet territories—the Near Abroad—the country consistently pursues opportunities to enhance its military capabilities in Africa and Asia to foster regional cooperation.⁸³

With a clear acknowledgment of the importance of critical infrastructure, the PRC is enhancing its military modernization efforts by investing in new roads and railways to

⁸¹ The Norwegian Directorate for Civil Protection] (DSB), *Samfunnets Kritiske Funksjoner* [Critical Public Infrastructure] (Tønsberg: Norwegian Directorate for Civil Protection, 2016), 106.

⁸² Agnieszka Rogozinska and Aleksander Ksawery Olech, “The Russian Federation’s Military Bases Abroad,” 2020, 80. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ine.org.pl/wp-content/uploads/2020/12/the-russian-federations-military-bases-abroad-1.pdf

⁸³ Rogozinska and Ksawery Olech, 3.

improve the logistics capabilities of the PLA.⁸⁴ This will allow for more swift deployment of troops and weaponry. The modernization effort also encompasses overseas bases and facilities that are capable of supporting military operations for extended periods. As it did in Djibouti, the CCP will likely continue establishing overseas ports and bases supporting military ships and aircraft.⁸⁵ Additionally, the CCP can be expected to rely on a small number of military facilities abroad, especially in politically sensitive areas, and it may also utilize dual-use infrastructure to provide essential logistics resupply and maintenance support. Infrastructure that is part of the Belt and Road Initiative (BRI) has a remarkable dual-use potential to support the PLA's current and future military operations. Moreover, the commercial capabilities of dual-use infrastructure can help mitigate the expenses of maintaining military platforms and decrease the public visibility of such facilities, thus expanding the usage of the BRI infrastructure beyond its economic objectives. Moreover, many BRI facilities are connected to Chinese digital technologies and networks. The expansion of the BRI into space and the digital world via the Beidou Satellite Network raises further questions about the CCP's use of BRI technology to enhance its influence on countries and gain military advantages.⁸⁶

Defense infrastructure abroad serves as a component of strategic competition and is a manifestation of world power ambitions. Using economic and financial instruments to develop, build, and acquire defense infrastructure abroad, including digital infrastructure, is a vehicle for rival states to create footholds in a global ecosystem that benefits these states militarily and commercially.⁸⁷ Thus, the disruption of critical infrastructure can seriously undermine public safety, social order, and the safeguarding of essential

⁸⁴ "Military and Security Developments Involving the Peoples Republic of China" (U.S. Department of Defense, 2022), 88, <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://navyleaguehonolulu.org/maritime-security/ewExternalFiles/2022-military-and-security-developments-involving-the-peoples-republic-of-china.pdf>.

⁸⁵ Jean-Pierre Cabestan, "China's Military Base in Djibouti: A Microcosm of China's Growing Competition with the United States and New Bipolarity," *Journal of Contemporary China* 29, no. 125 (September 2, 2020): 731–47, <https://doi.org/10.1080/10670564.2019.1704994>.

⁸⁶ Daniel R. Russel and Blake H. Berger, *Weaponizing the Belt and Road Initiative* (New York: Asia Society Policy Institute, 2020), 5.

⁸⁷ "AIIB – Asian Infrastructure Investment Bank," accessed August 17, 2022, <https://www.aiib.org/en/index.html>.

government responsibilities.⁸⁸ This is especially true for the armed forces, whose ability to respond to external threats often depends on civilian services, technology, and infrastructure. Consequently, rival states gaining access to a nation's infrastructure or technology, such as digital infrastructure and space capabilities that provide essential support across all the warfighting functions, can be hazardous.⁸⁹

Supply Chains

Modern militaries require access to a wide range of materials and supplies, from fuel and ammunition to spare parts and medical equipment. The production and delivery of these materials rely on supply chains that are vulnerable to disruption or denial by adversaries who may seek to cut off critical supplies or sabotage the production process. These vulnerabilities often stem from the interconnection of and dependence on private and civilian resources in many of today's highly complex supply chains. The risks of disruption have grown in tandem with the increasing complexity of defense supply chains. As an example, on average, American automobile companies alone rely on approximately 250 first-tier suppliers. The second and third tiers have more than 18 000 companies.⁹⁰

From a practical perspective, the use of civilian resources in military supply chains can be unreliable and inconsistent, and this can lead to delays, supply chain disruptions, and other operational problems. Still, it might be the only available option, or the only cost-effective option. In some cases, the use of civilian resources can also lead to the procurement of substandard or counterfeit goods, which can compromise the effectiveness of military operations. Moreover, an increasing proportion of supply chains associated with the defense sector is digital, with complex and vague ownership structures. Disrupting or

⁸⁸ Direktoratet for samfunnssikkerhet og beredskap [The Norwegian Directorate for Civil Protection] (DSB), "Samfunnets Kritiske Funksjoner [Critical Public Infrastructure]," 22.

⁸⁹ Patrick Cullen and Erik Reichborn-Kjennerud, *MCDC Countering Hybrid Warfare Project: Understanding Hybrid Warfare* (London, UK: Multinational Capability Development Campaign Project, 2017).

⁹⁰ Brian Anstey et al., "Operations Practice – Why Now Is the Time to Stress Test Your Industrial Supply Chain – An Effective Way to Increase Supply Chain Resilience Is to Understand the Impact a Crisis Could Have, Well before It Happens.," McKinsey & Company, 2020, 5. <https://www.mckinsey.com/capabilities/operations/our-insights/why-now-is-the-time-to-stress-test-your-industrial-supply-chain>

exploiting these complex global supply chains has the potential to significantly impact military power and diminish competitiveness.

Furthermore, supply chains for complex and increasingly advanced weapon systems require special competence and expertise to operate that pose other opportunities for rival states to exploit. Many modern and complex weapons systems are serviced through strategic partnerships where states have limited access, oversight, and insight into their associated supply chain, making it difficult to anticipate and defend against vulnerabilities effectively.⁹¹ Additionally, many universities, schools, and research labs offer education and research that can be utilized for military purposes. Examples include the mapping of critical infrastructure, education in cross-governmental crisis management, or similar sensitive information.⁹² Military supply chains are therefore vulnerable to rival states seeking a military foothold abroad. Such vulnerabilities have received attention in several Western countries and represent an opportunity to gain military advantages in relation to another state.⁹³

3. Values

All businesses have a purpose or task and are dependent on resources to be able to fulfill this task. In a security context, resources are often referred to as *values*.⁹⁴ A company's values can be of a material or non-material nature. Information can be considered a value, for example, in the form of a company secret, an investment plan, or special knowledge and expertise that the business possesses. Physical objects can also be

⁹¹ Waage, Kvalvik, and Lindgren, "Utenlandske investeringer og andre økonomiske virkemidler – når truer de nasjonal sikkerhet? [Foreign Investments and Other Economic Means – When Do They Threaten National Security?]," 73.

⁹² The Norwegian Police Security Service (PST), "National Threat Assessment 2021" (Ministry of Justice, 2021), 4. <https://www.pst.no/alle-artikler/trusselvurderinger/nasjonal-trusselvurdering-2021/>

⁹³ Erin N. Grubbs, "Academic Espionage: Striking the Balance Between Open and Collaborative Universities and Protecting National Security" 20 (2019): 32. <chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://scholarship.law.unc.edu/cgi/viewcontent.cgi?article=1383&context=ncjolt>

⁹⁴ "Risiko 2022 – Økt risiko krever økt årevåkenhet [Increased risk requires increased vigilance]" (Norwegian National Security Authority (NSM), 2022), 11. chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://nsm.no/getfile.php/137798-1644424185/NSM/Filer/Dokumenter/Rapporter/NSM_rapport_final_online_enkeltsider.pdf

considered values which a business depends on in order to function.⁹⁵ One way to achieve relational dominance is by gaining access to a rival state's values, which can impact military power.

The example of Chinese-owned Huawei's efforts to gain a key role in supplying 5G technology in various countries, including rival states, illustrates how values pose potential vulnerabilities for national security due to intended or unintended side effects. Similarly, a state's grand strategy may include building leverage to advance its military influence and capabilities.⁹⁶ One way to assess to what extent military externalities can be exploited to create a relational advantage is to evaluate the potential impact on warfighting functions (WFF) and military domains resulting from unwanted influence on values. WFF and the military domain are for that reason values in beachhead warfare.

Warfighting Functions

Combat power comprises various capabilities that can be divided into distinct war fighting functions.⁹⁷ Military externalities arising from foreign acquisition or influence on military values are vulnerabilities in beachhead warfare. Vulnerabilities are therefore linked according to the extent the given transaction impacts warfighting functions. In the worst case, military externalities can potentially diminish military response capabilities in war. Allied Joint Publication 3 (AJP-3) defines eight joint warfighting functions.⁹⁸ In this thesis, however, the analysis is limited to warfighting functions related to military maneuvers. For that reason, civil-military cooperation is not be considered in the study. Moreover, information functions are related to influence activities and the protection of information. Due to the scope of this thesis, intelligence and information functions have

⁹⁵ "Risiko 2022 – Økt risiko krever økt årevåkenhet [Increased risk requires increased vigilance]," 11.

⁹⁶ Lawrence Freedman, *Strategy: A History* (New York: Oxford University Press, 2013), 72.

⁹⁷ "Joint Publication 1-02 Department of Defense Dictionary of Military and Associated Terms" (Department of Defense, 2001), 84. chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://irp.fas.org/doddir/dod/jp1_02.pdf

⁹⁸ "NATO Standard AJP-3 Allied Joint Doctrine For The Conduct Of Operations" (NATO Standardization Office (NSO), 2019), 41. chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://www.coemed.org/files/stanags/01_AJP/AJP-3_EDC_V1_E_2490.pdf

therefore been combined. Military externalities in beachhead warfare must be related to these six warfighting functions as they are defined in AJP-3:

1. Maneuver is related to tasks and systems to mobilize and deploy forces in order to attain a favorable position in relation to the adversary and other potential threats.
2. Fires pertain to tasks and systems designed to provide weaponry support for offensive and defensive operations, with the aim of producing lethal and non-lethal effects on a target.
3. Command and control are related to tasks and systems that establish and coordinate procedures and operations across the force to provide a synchronized effect in the battlespace.
4. Intelligence is related to tasks and systems that facilitate the collection and processing of information to acquire insight into the enemy, threats, terrain, and weather.
5. Sustainment is related to tasks and systems that provide essential services and support necessary to maintain operations and preserve freedom of action, prolonged endurance, and expand operational reach.
6. Protection relates to tasks and systems that preserve personnel and physical assets to maintain combat power and disrupt or mitigate potential threats.⁹⁹

Domains

The warfighting function is also connected to key military domains. A domain is an organizational construct and comprises an area of responsibility with a unique environment requiring specialized tactics, equipment, and structure. The five military operational domains are Land, Maritime, Air, Space, and Cyberspace. AJP-3 defines the five military operational domains as follows:

1. The land domain includes all land surfaces on Earth and the underground areas below it, including all natural and constructed features.
2. The maritime domain includes the Earth's sea surface down to the seabed, along with any natural or man-made features both above and below the surface.
3. The air domain is the atmosphere beginning above the land, and maritime domains extending until its influence on operations becomes insignificant.

⁹⁹ "NATO Standard AJP-3 Allied Joint Doctrine For The Conduct Of Operations," 41.

4. The space domain is the area above the altitude where atmospheric factors no longer impact objects in flight.
5. The cyberspace domain is a virtual non-physical domain comprising a global interconnected network of information technology systems.¹⁰⁰

The extent to which vulnerabilities are linked to these domains, therefore, is determined by whether a given transaction potentially impacts any or all of the five military domains. Moreover, it is important to consider geographical and long-term or short-term consequences of transactions impacting these domains.

All the warfighting functions are applicable and utilized in these operational domains. However, the space and cyberspace domains serve as enablers for the more traditional functional domains land, maritime, and air (i.e., through satellite communication, navigation, and Communication and Information Services (CIS)) in general.¹⁰¹ Interference, disruptions, or threats to these two domains will generally affect national security writ large because the cyberspace and space domains have critical roles for civilian and military applications.¹⁰² Considering warfighting functions in the context of military domains is essential in identifying critical values and vulnerabilities in beachhead warfare.

C. CASE STUDY METHODOLOGY

The significance of understanding the correlation between economic and military instruments has increased considerably. To counter beachhead warfare, it is essential to identify and mitigate the vulnerabilities linked to military dependencies. In the upcoming chapters, the beachhead warfare theory is applied to three cases from Norway, namely the the “Olavsvern” case (infrastructure), the “Pilot Exemption Certificate” (PEC) case (supply chains), and the “Bergen Engines” case (technology). These cases have been under public scrutiny in Norway for several years, enabling their analysis at an unclassified level.

¹⁰⁰ “NATO Standard AJP-3 Allied Joint Doctrine For The Conduct Of Operations,” 128.

¹⁰¹ “NATO Standard AJP-3 Allied Joint Doctrine For The Conduct Of Operations,” 129.

¹⁰² “A National Cybersecurity Agenda for Resilient Digital Infrastructure” (Aspen Cybersecurity Group, 2020), 3. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://csreports.aspeninstitute.org/documents/Cybersecurity2020.pdf](https://csreports.aspeninstitute.org/documents/Cybersecurity2020.pdf)

Although Norway has a closer economic and financial connection with China than with Russia, the current war in Ukraine shows that the latter poses a greater threat to Norwegian and European security, especially in the short term.¹⁰³ To summarize an examination of the extent to which economic statecraft is a threat to military power, the two sections of Table 1 will be used to apply the beachhead warfare theory resulting from foreign acquisitions or influence on Norwegian companies and value chains with the objective of gaining access to technology, infrastructure, and supply chains.

Table 1. Tool for the Application of the Beachhead Warfare Theory.

Threats – Economic Statecraft				
	Yes	Partial	No	Explanation (how/why)
Economic Instrument				
State Controlled Actor				

Values – Military Advantage					
	Domain	Yes	Maybe	Unknown	Explanation (how/why)
Maneuver					
Fires					
C2					
Intelligence					
Sustainment					
Force Prot.					

¹⁰³ Lindgren, Hemnes, and Waage, “Kinas potensial for økonomisk statshåndverk – kinesisk økonomi og interaksjon med omverden [China’s economic statecraft potential – the Chinese economy and interaction globally],” 101.

III. THE OLAVSVERN CASE

Critical Military Infrastructure in The High North Derailed?

A. INTRODUCTION

The experience from the war in Ukraine highlights the importance of safeguarding infrastructure to maintain military power.¹⁰⁴ This case study demonstrates some of the challenges that emerged from selling the Olavsvær Naval Base in Norway, a unique and very advanced base complex above the Arctic Circle and near the border to Russia. The Olavsvær Group Ltd. bought the base complex close to the town of Tromsø in 2013 and rented out the docking facilities and quay services to vessels during inactive periods. Some of these vessels were Russian “Akademik” research vessels and trawlers allegedly equipped to support military operations.¹⁰⁵ In 2019, WilNor Governmental Services Ltd. bought 66% of the shares of The Olavsvær Group Ltd. This acquisition made it possible for the Norwegian Defence Logistics Organization (NDLO) to sign an agreement with WilNor Governmental Services Ltd., which enabled the Norwegian Defence Force and allies to resume operations at the base primarily for strategic logistic support, including storage of ammunition.

Still, this case demonstrates that the leasing of facilities at Olavsvær Naval Base to Russian state-controlled companies may be a beachhead with strategic and tactical consequences for military power. Evidence indicates that the leasing agreement may have strengthened Russian intelligence operations in the High North. Moreover, the lease agreement most likely facilitated Russian sabotage capacity towards critical infrastructure in the maritime domain such as underwater communication cables. From a short to medium

¹⁰⁴ “Sikkerhetsfaglig Råd – Et Motstandsdyktig Norge [Safety council – A resilient Norway]” (Nasjonal Sikkerhetsmyndighet (NSM), 2023), 32. [chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://nsm.no/getfile.php/1312994-1683615611/NSM/Filer/Dokumenter/Rapporter/Sikkerhetsfaglig%20r%C3%A5d%20-%20Et%20motstandsdyktig%20Norge.pdf](https://efaidnbmnnnibpcajpcgclefindmkaj/https://nsm.no/getfile.php/1312994-1683615611/NSM/Filer/Dokumenter/Rapporter/Sikkerhetsfaglig%20r%C3%A5d%20-%20Et%20motstandsdyktig%20Norge.pdf)

¹⁰⁵ “Ap-Politikeren Var Sentral Da Russiske «spionskip» Fikk Kaiplass i Tromsø: – Ville Ikke Gjort Det Samme i Dag [The AP Politician Was Central When Russian ‘Spy Ships’ Were given Berths in Tromsø: – Would Not Do the Same Today],” Aftenposten, accessed January 5, 2023, <https://www.aftenposten.no/norge/i/Knz1GE/ap-politikeren-var-sentral-da-russiske-spionskip-fikk-kaiplass-i-tromsoe-ville-ikke-gjort-det-samme-i-dag>.

term perspective, it is very likely that the leasing of Olavsværn has contributed to increasing Russian military power. Consequently, the case indicates that Russian authorities used a beachhead strategy to exploit military externalities related to leasing opportunities in Norway.

B. OLAVSVÆRN NAVAL BASE

The construction of Olavsværn Naval Base (Olavsværn) started with the establishment of a naval fuel depot before WWII. The facility was used by the Germans throughout WWII. Expansion and upgrades followed in the early 1950s.¹⁰⁶ The first mountain complex was brought into use in 1963.¹⁰⁷ Storage halls for mines and ammunition were carved into the steep and tall mountain side. The second expansion project started in 1961 and was much bigger and in large part funded through the NATO.¹⁰⁸ Construction and installations continued for several years and were completed in 1967. The base complex comprised a large mountain basin for fast patrol boats and submarines with access tunnels, operational maintenance and supply facilities, including a dry dock capable of accommodating six submarines simultaneously. At the time, Norway built a large coastal navy with 15 submarines and some 50 fast attack craft with torpedoes and missiles. The construction also comprised storage halls, fresh-water supply, a power plant, command and communication facilities and offices.¹⁰⁹ A giant, hydraulic steel gate sealed the 900-meter (3,000 foot) tunnel entrance leading into the mountain. Additionally, deep-sea docks were constructed outside the mountain to accommodate bigger ships, such as nuclear-powered submarines.¹¹⁰

The base complex also assumed a significant role as a facility for offering logistical assistance to both Norwegian and allied forces within the framework of the total defense

¹⁰⁶ Finn Tørjesen, *Tromsø Sjøforsvarsdistrikt [Tromsø Naval District]* (Tromsø: TRSD, 2001), 10.

¹⁰⁷ “Statsbygg på billigsalg [State building on sale],” BT, accessed January 3, 2023, <https://www.bt.no/nyheter/innenriks/i/qJBKw/statsbygg-paa-billigsalg>.

¹⁰⁸ Tørjesen, *Tromsø Sjøforsvarsdistrikt [Tromsø Naval District]*, 12.

¹⁰⁹ Even Kjølberg, “Fjellfestningen [The mountain fortress],” NRK, February 17, 2015, <https://www.nrk.no/dokumentar/xl/fjellfestningen-1.12009112>.

¹¹⁰ Tørjesen, *Tromsø Sjøforsvarsdistrikt [Tromsø Naval District]*, 9.

concept. In times of emergencies or conflicts, Norway relies heavily on NATO backup forces and therefore abides by NATO doctrine which states the “host nation is required to provide logistical support to allied forces.”¹¹¹ This includes port facilities, bases, food, water, fuel, and ammunition. Olavsvern was in this context a strategic resource. Olavsvern had coastal infrastructure with large capacity secured inside the mountain. It had access both by sea and by land and could be used as a hub to receive and forward personnel, equipment, platforms, and supplies.

Further major extensions took place in the 1980s; however, following the end of the Cold War and the collapse of the Soviet Union, Norway’s Armed Forces were restructured and downsized. The priority shifted to contributions to NATO missions abroad and the total defense concept was abandoned. Large-scale NATO exercises in the High North which had characterized the Cold War ceased and following the demilitarization process, the Norwegian Parliament decided to close down and sell Olavsvern in 2008.¹¹²

The sale of the base took a long time, and it was difficult to find a buyer; however, in 2011 Olavsvern was finally sold at a fraction of the appraised value to the Olavsvern Group Ltd.¹¹³ The majority of the shares in Olavsvern Group Ltd. were owned by the Norwegian businessman and the mayor of Tromsø, Gunnar Wilhelmsen, whose purpose was to use the facility as a supply and maintenance base for the oil industry.¹¹⁴ The sale caused a sensation around the world.¹¹⁵ Despite the fact that the sale was approved by NATO, it was notable because the facility was a very advanced base complex in the High

¹¹¹ “NATO Standard AJP-4.3 Allied Joint Doctrine For Host-Nation Support” (NATO Standardization Office (NSO), 2021), 11.

¹¹² “Innst. S. nr. 318 (2007-2008) Vedtak 597 [Setting of Proposition S. nr. 318 (2007-2008) Resolution 597],” EPOS Vedtak, Stortinget [The Parliament], September 22, 2022, <https://www.stortinget.no/no/Saker-og-publikasjoner/Vedtak/Vedtak/Sak/?p=39858>.

¹¹³ “Front Page,” Olavsvern Group AS, accessed January 16, 2023, <https://olavsvern.no/en/>.

¹¹⁴ “Klart for overtagelse av tidligere marinebase [Ready for takeover of former naval base],” 2013, <https://www.forsvarsbygg.no/no/nyheter/nyhetsarkiv-avhenging/2013/klart-for-overtagelse-av-tidligere-marinebase/>.

¹¹⁵ Conway, Lawrence. “Bond Super Villain Yard for Sale: Secret Norwegian Submarine Base on the Market for £11m (but You Will Need Your Own Sub).” Daily Mail Online, June 10, 2012. <https://www.dailymail.co.uk/news/article-2157115/Bond-super-villain-yard-sale-Secret-Norwegian-submarine-base-market-11m-need-sub.html>.

North and a lot of money had been invested. Nevertheless, the alarms did not go off in full until it became known that the Olavsvern Group Ltd. had signed a contract with Russian research ships to lease docks at Olavsvern. Some of these vessels were seismic survey ships reportedly linked to the Russian state-owned energy giant Gazprom.¹¹⁶

This was at a time when concerns in many European countries continued to grow due to the militarization of the Russian Arctic as well as escalating activities of the Russian navy and air force along the Norwegian coast.¹¹⁷ If a conflict were to arise between Russia and NATO, this region would turn in to a theatre of war due to the Russian Northern Fleet's conventional and nuclear capabilities.¹¹⁸ In 2014, when Russia surprisingly annexed Crimea, the necessity for military infrastructure in the High North came back on NATO's agenda. In the years prior, Russia had invested in new—and re-activated former—military bases in the Arctic.¹¹⁹ Furthermore, Russia was in the process of rebuilding the Northern Fleet.¹²⁰

The Russian annexation of Crimea had a substantial impact on Norwegian defence policy and the Ministry of Defense decided to revitalize Norway's total defense concept. The most important change in Norway's development of military power after 2014 was the rebuilding of the territorial defense structure. Norway invested in new high-tech platforms and new weapon systems to increase its military defense capabilities, and more money was spent on the NAF to achieve NATO's goal of spending 2% of GDP on military defense for

¹¹⁶ "Report Encourages Norway to Reopen Olavsvern Submarine Support Base," *The Independent Barents Observer*, accessed January 8, 2023, <https://thebarentsobserver.com/en/security/2016/07/report-encourages-norway-reopen-olavsvern-submarine-support-base>; Trond Haakensen, "Russerne inntar Olavsvern [The Russians Occupy Olavsvern]," *Itromso*, October 21, 2014, <https://www.itromso.no/nyheter/i/GQoGbQ/russerne-inntar-olavsvern>.

¹¹⁷ "Russian-Western Relations in the Arctic: Perceptions, Policies, and Prospects," accessed January 5, 2023, <https://www.europeanleadershipnetwork.org/commentary/russian-western-relations-in-the-arctic-perceptions-policies-and-prospects/>.

¹¹⁸ "About," Ministry of Defense of the Russian Federation, accessed January 5, 2023, <https://eng.mil.ru/en/structure/forces/navy/associations/structure/forces/type/navy/north/about.htm>.

¹¹⁹ "The Ice Curtain: Russia's Arctic Military Presence," CSIS, accessed January 8, 2023, <https://www.csis.org/features/ice-curtain-russias-arctic-military-presence>.

¹²⁰ "The Russian Navy – A Historic Transition" (Office of Naval Intelligence, 2015), 16. chrome-extension://efaidnbmnnnibpcajpcgclcfndmkaj/<https://www.oni.navy.mil/Portals/12/Intel%20agencies/russia/Russia%202015screen.pdf?ver=2015-12-14-082028-313>

all members of the alliance.¹²¹ In addition, the largest allied exercise since the Cold War was carried out in Norway. “Trident Juncture” in 2018 led to an increased focus on national and allied defense.¹²² Moreover, the exercise became a breakpoint for the revitalization of the total defense concept.¹²³

The reintroduction of the total defense concept brought about the introduction of a new element known as “strategic partnerships.” This element allows selected commercial companies to provide their special skills and capabilities to military forces.¹²⁴ By utilizing strategic partnerships, the NAF and NATO allies can obtain cost-effective support from civilian suppliers while also increasing their readiness, endurance, and operational availability. The first strategic agreement of this kind was made in 2015 between the NDLO and WilNor Governmental Services (WGS).¹²⁵ In 2017, WGS recognized the national and allied logistical requirements and expressed an interest in utilizing Olavsværn. To procure the base complex, the company made initial contact with The Olavsværn Group Ltd.¹²⁶ Still, it was three more years before WGS finally took ownership of the majority of shares in The Olavsværn Group Ltd., thus ensuring that Norwegians and allies once again gained

¹²¹ “Prop. 151 S (2015-2016) Proposisjon til Stortinget (forslag til stortingsvedtak) Kampkraft og bærekraft. Langtidsplan for forsvarssektoren [Prop. 151 S (2015 – 2016) Proposition to the Parliament (proposal for a parliamentary resolution) Capable and Sustainable. Long-term plan for the defense sector],” 55–74.

¹²² Gunn Alice Birkemo, Emil Graarud, and Ola Krogh Halvorsen, “Et troverdig alliert mottak – erfaringer fra Trident Juncture 2018 [A Credible Allied Reception – Experiences from Trident Juncture 2018],” 2019, 10.

¹²³ “Prop. 1 S (2019-2020) Proposisjon Til Stortinget (Forslag Til Stortingsvedtak) for Budsjettåret 2020 [Prop. 1 S (2019-2020) Proposal to the Parliament (Proposal for a Parliamentary Resolution) for the Budget Year 2020]” (Det Kongelige Forsvarsdepartementet [Royal Ministry of Defense], 2019), 14. <https://www.regjeringen.no/no/dokumenter/prop.-1-s-20192020/id2671450/>

¹²⁴ “Prop. 151 S (2015-2016) Proposisjon til Stortinget (forslag til stortingsvedtak) Kampkraft og bærekraft. Langtidsplan for forsvarssektoren [Prop. 151 S (2015 – 2016) Proposition to the Parliament (proposal for a parliamentary resolution) Capable and Sustainable. Long-term plan for the defense sector],” 81. <https://www.regjeringen.no/no/dokumenter/prop.-151-s-20152016/id2504884/>

¹²⁵ “Rammeavtale Om Strategisk Logistikkstøtte for Forsvarets Operasjoner i Fred, Krise, Konflikt Og Krig (BEGRENSET) [Agreement on Strategic Logistics Support for the Armed Forces’ Operations in Peace, Crisis, Conflict and War (RESTRICTED)]” (Norwegian Defence Logistics Organization (NDLO)), 2015).

¹²⁶ Wilhelmsen, “WilNor Acquires the Norwegian Military Naval Base Olavsværn,” Press release, Wilhelmsen (Wilhelmsen, January 8, 2021), <https://www.wilhelmsen.com/media-news-and-events/press-releases/2021/wilnor-acquires-the-norwegian-military-naval-base-olavsværn/>.

access to the base. Olavsvern, however, has not been reopened, but now exists as a smaller base under the NDLO, primarily for storage of defense material, ammunition, and other supplies for Norwegian and allied forces. Additionally, Olavsvern has from 2021 been used temporarily by the Dutch, British, and U.S. forces, including frequent port calls from allied warships and submarines.¹²⁷

C. EVALUATION OF CASE

1. Economic Statecraft

Gazprom traces its origins back to the Ministry of Gas Industry of the Union of Soviet Socialist Republics (USSR), which was an individual entity before 1989.¹²⁸ The company was privatized in 1993, but in the early 2000s, oligarch companies faced increased control by the Kremlin. Today, the government of Russia controls more than 50% of the shares of the Gazprom company, which supplies almost 66% of the total gas production in Russia.¹²⁹ This makes it one of the largest and highest-earning oil companies in the world, employing nearly 500,000 individuals worldwide. In addition to the energy sector, Gazprom is also active in other sectors including media, finance, and aviation.¹³⁰

When it was revealed that Russian-owned shipping companies leased docks at Olavsvern, it was natural to question how this could happen. Open sources show that the vessels “Akademik Nemchinov” and “Akademik Lazarev” (Figure 4) were among the Russian research vessels that docked at Olavsvern.¹³¹

¹²⁷ Joseph Trevithick, “This Is The Cave Facility In Norway That U.S. Navy Submarines Could Soon Operate From,” *The Drive*, October 13, 2020, <https://www.thedrive.com/the-war-zone/37043/this-is-the-cave-facility-in-norway-that-u-s-navy-submarines-could-soon-operate-from>.

¹²⁸ “Topic: Gazprom,” Statista, accessed January 8, 2023, <https://www.statista.com/topics/2291/gazprom/>.

¹²⁹ “Gazprom Shareholders 2021,” Statista, accessed January 8, 2023, <https://www.statista.com/statistics/273267/shareholder-structure-of-gazprom/>.

¹³⁰ “Gazprom International Limited,” Gazprom, accessed January 8, 2023, <https://www.gazprom-international.com/>.

¹³¹ “The Secret Norwegian Submarine Base Being Rented by the Russians,” *Newsweek*, accessed January 5, 2023, <https://www.newsweek.com/2015/03/27/secret-submarine-base-norway-accidentally-handed-russians-314989.html>.



Figure 4. “Akademik Lazarev,” Russian Research Vessel Built in 1987.¹³²

These vessels belong to the shipping company Sevmorneftegeofizika, which specializes in seismic research in shallow and deep waters.¹³³ As with Gazprom, Sevmorneftegeofizika was formed in 1979 by the Ministry of Gas Industry of the USSR to provide geological and geophysical exploration for oil and gas across the Russian Arctic.¹³⁴ Today it is the largest marine geophysical company in Russia and is part of the Russian geological holding RosGeo.¹³⁵ RosGeo is chaired by Sergei Gorkov, a close associate of President Putin.¹³⁶ Gorkov has over a number of years had great influence in

¹³² “Ship AKADEMIK LAZAREV (Research/Survey Vessel) Registered in Russia – Vessel Details, Current Position and Voyage Information – IMO 8408985, MMSI 273450600, Call Sign UAJS,” Marine Traffic, accessed April 2, 2023, [https://www.marinetraffic.com/en/ais/details/ships/shipid:350770/mmsi:273450600/imo:8408985/vessel:AKADEMIK LAZAREV](https://www.marinetraffic.com/en/ais/details/ships/shipid:350770/mmsi:273450600/imo:8408985/vessel:AKADEMIK_LAZAREV).

¹³³ “Sevmorneftegeofizika – About Us,” SMNG, accessed January 13, 2023, <http://smng.com/about-us>.

¹³⁴ “Sevmorneftegeofizika,” Keyfacts Energy, accessed January 13, 2023, <https://www.keyfactsenergy.com/directory/290/>.

¹³⁵ “About Rosgeo,” Rusgeology, accessed January 13, 2023, <https://rusgeology.ru/en/about/>.

¹³⁶ “Sergei Gorkov,” The Moscow Project, accessed January 13, 2023, <https://themoscowproject.org/players/sergeigorkov/index.html>.

the Kremlin and is therefore also on the U.S. list of sanctioned oligarchs.¹³⁷ Since its establishment in 1979, Sevmorneftegeofizika has conducted the highest volume of geophysical explorations across the Russian Arctic, Gazprom being one of its largest clients.¹³⁸ It appears that both Sevmorneftegeofizika and Gazprom are closely linked to the Kremlin, which may indicate that state security interests often govern the companies' activities.¹³⁹ When opportunities opened up to lease docks at Olavsvern, it is therefore reasonable to assume that the Kremlin saw this as an opportunity to use the occasion for military purposes.

2. Military Externalities

Seismic research vessels use sound waves for the search of off-shore oil and gas fields. Based on these acoustic signals it is possible to interpret the condition of the soil on and under the seabed.¹⁴⁰ These seismic analyses are used in connection with the planning of potential future oil rigs because detailed mapping of the bottom of the sea is an important input for the placement of future oil wells. Gazprom uses, as do many other oil companies, seismic research vessels in order to increase the extraction potential at possible new off-shore oil and gas sites. Seismic surveys are an important research area internationally, and it is not unusual for seismic research vessels to dock in other countries.

Russian research vessels, however, have for a number of years been accused of being part of the Russian government's sea power.¹⁴¹ In 2014, during a Swedish pursuit of an unidentified submarine on their coast, the Russian research vessel "Professor

¹³⁷ "U.S. Treasury Announces Unprecedented & Expansive Sanctions Against Russia, Imposing Swift and Severe Economic Costs," U.S. Department of the Treasury, accessed February 27, 2022, <https://home.treasury.gov/news/press-releases/jy0608>.

¹³⁸ "The Secret Norwegian Submarine Base Being Rented by the Russians."

¹³⁹ "How Gazprom Helps the Kremlin Put the Squeeze on Europe," *The Economist*, accessed April 11, 2023, <https://www.economist.com/business/how-gazprom-helps-the-kremlin-put-the-squeeze-on-europe/21807841>; Joseph Trevithick, "Russia Is Hunting For Its Crashed Nuclear-Powered Cruise Missile And The U.S. Might Be Too," *The Drive*, August 21, 2018, <https://www.thedrive.com/the-war-zone/23058/russia-is-hunting-for-its-crashed-nuclear-powered-cruise-missile-and-the-u-s-might-be-too>.

¹⁴⁰ Haakon Fossen, "seismikk," in *Store norske leksikon*, August 10, 2018, <http://snl.no/seismikk>.

¹⁴¹ Anna Davis (trans.), *Maritime Doctrine of the Russian Federation* (Newport, RI: Russia Maritime Studies Institute U.S. Naval War College, 2015), 5.

Logachev” unexpectedly appeared. Eyewitnesses reported that the vessel departed the area with an object in tow.¹⁴² Especially the “Akademik class” and the “Professor class” vessels have often been linked to security-threatening activities and of having the ability to undock mini-submarines as well as support Russian special-purpose vessels. Such vessels include experimental nuclear submarines and carriers of mini-submarines designed to work and manipulate objects on the seabed and engage in other warfare preparations.¹⁴³ The “Akademik Lazarev” has been sailing in Norwegian waters for more than a decade. During all this time, military experts have raised concerns particularly about this vessel and claimed that it is a spy ship used for military purposes, equipped with winches that can be used for military purposes, including the deployment of explosives and advanced listening equipment.¹⁴⁴

3. Military Advantage

The warnings related to the leasing of Olavsvern by shipping companies with close connections to the Kremlin concern a number of potential challenges for military power. Various sources emphasize that Olavsvern was, and still is, of strategic importance to a robust Norwegian and NATO defense in the High North. The massive base complex burrowed into a mountain, close to Russia’s maritime backyard, provides a useful staging area for NATO submarines to monitor Russian maritime activity, including the strategic chokepoint the Greenland-Iceland-UK (GIUK) gap, the gateway to the Atlantic Ocean for Russia’s Northern fleet.¹⁴⁵ Such criticism primarily affects the Norwegian government,

¹⁴² “What Was Lurking in Sweden’s Waters?,” *BBC News*, October 23, 2014, sec. Europe, <https://www.bbc.com/news/world-europe-29722500>.

¹⁴³ “De omtales som russiske spionskip. Siden i sommer har de trålet Norges kyst [They are referred to as Russian spy ships. Since this summer, they have trawled the coast of Norway],” *Aftenposten*, October 1, 2022, <https://www.aftenposten.no/norge/i/JQEPmb/russiske-forskningsskip-har-traalet-den-norske-kysten-siden-i-sommer-oekende-bekymring>.

¹⁴⁴ Osman Kibar, “Operasjon Lazarev: Slår Alarm Om Kartlegging Av Norges Kritiske Infrastruktur [Operation Lazarev: Sounding the Alarm about Mapping Norway’s Critical Infrastructure],” *DN Magasinet*, accessed January 13, 2023, <https://www.dn.no/magasinet/dokumentar/spionasje/russland/etterretningstjenesten/operasjon-lazarev-slar-alarm-om-kartlegging-av-norges-kritiske-infrastruktur/2-1-1085420>.

¹⁴⁵ Michael Paul and Göran Swistek, “Russia in the Arctic: Development Plans, Military Potential, and Conflict Prevention,” *SWP Research Paper RP03*, 2022, 11, <https://doi.org/10.18449/2022RP03>.

but it was the government which chose to sell the base. Although there are undoubtedly overlapping consequences, the military advantage in this analysis is primarily related to the decision of Olavsvern Group Ltd. to lease docks to Russian research ships.

A report published by the Center for Strategic and International Studies in 2016 debates Russia's expansion and use of undersea warfare aimed at its neighbors, NATO, and the United States.¹⁴⁶ The report highlights the need for NATO countries to develop a more advanced and coordinated defense architecture to effectively respond to Russian military activities in the region. The report emphasizes the significance of Olavsvern to NATO in providing efficient assistance for submarine operations in the High North. The base's strategic location is deemed suitable for this purpose, and the report suggests reclaiming and reopening the base to provide NATO countries with a completely secure base at the northern edge of NATO's flank.¹⁴⁷

In this context, Olavsvern is a unique force protection facility. It is one of very few military maritime installations in the whole of Europe that can provide submarines and warships with comparable physical protection against enemy weapon systems and surveillance. The leasing agreement with Russian research vessels instead provided the Kremlin with a unique foothold in the immediate vicinity of the oceans in the High North, which is of strategic importance for the defense of Russia's Northern Fleet.¹⁴⁸ Moreover, NATO's submarines and warships were forced to travel hundreds of extra kilometers from their bases to defend or operate in this region. Consequently, the leasing agreement has made what was already a strained situation for NATO's maritime power even more challenging. The increasing strategic importance of NATO's northern flank requires a permanent presence in the region. A Russian presence at Olavsvern, made possible through the lease agreement, makes Norwegian and allied military activity vulnerable to Russian influence and reduces the ability to provide adequate force protection in this region.

¹⁴⁶ Kathleen H. Hicks, *Undersea Warfare in Northern Europe* (Lanham, MD: Rowman & Littlefield, 2016), 3.

¹⁴⁷ Hicks, 40.

¹⁴⁸ Paul and Swistek, "Russia in the Arctic," 31.

Existing and expected future needs to support military operations place great demands on logistical support in Northern Norway, both in a national and allied context.¹⁴⁹ Logistical support is also important to sustain increased availability and endurance on existing maritime platforms. Historically, Olavsvern provided extensive sustainment and maintenance support, including fuel and ammunitions depots, and a dry dock. Access to maintenance, spare parts, and other support are essential elements that must be made available to enable continued operations in the High North. Norwegian and allied submarines and other warships traveling to and from operations at NATO's northern flank need infrastructure in this region for logistical and sustainment purposes. The leasing agreement with Russian research vessels made it problematic to utilize Olavsvern until Norwegian state control of Olavsvern was once again secured. NDLO's strategic partnership with WGS led to an improvement in the situation concerning sustainment systems at Olavsvern from 2020; however, between 2013 and 2019 sustainment in this region was provided through other, less effective, means. By contrast, access to the sustainment facilities at Olavsvern provided increased operational capability for the Russian research ships. With Olavsvern as a permanent base, these research vessels would have access to fuel and other port facilities, including the possibility to pick up supplies.

Olavsvern is well-positioned as a springboard for intelligence operations, and it is reasonable to assume that the leasing agreement provided Russian authorities with a comprehensive understanding of the base's capabilities. In addition, the agreement likely facilitated Moscow's monitoring of Norwegian and NATO exercises and activities in the High North, as well as support for covert Russian operations through acts of sabotage. Moreover, Russian research vessels utilized for intelligence purposes and equipped with autonomous underwater vehicles capable of deploying robotic sonar systems on the seabed may have been employed to monitor NATO's submarines or disrupt underwater

¹⁴⁹ "Meld. St. 10 (2021–2022) Prioriterte endringer, status og tiltak i forsvarssektoren [Priority changes, status and initiatives in the defense sector]" (Det Kongelige Forsvarsdepartementet [Royal Ministry of Defense], 2022). <https://www.regjeringen.no/no/dokumenter/meld.-st.-10-20212022/id2908167/>

communication cables and pipelines.¹⁵⁰ The ability to recognize the acoustic signature of submarines belonging to the United States or NATO can provide a significant advantage in the event of a war. Other research vessels have mines on board which in the event of a crisis or conflict at can be used to block strategic Sea Lines of Communication (SLOC) or in other ways deny maritime areas which NATO depends on.¹⁵¹ A Russian foothold at Olavsværn has probably been an advantage for Russian intelligence and a disadvantage for Norwegian and allied intelligence.

D. SUMMARY OF THE CASE

The leasing of Olavsværn demonstrates that foreign states can exploit commercial leasing agreements to influence the host state's military capabilities and warfighting functions. In this case, the lease provided the Kremlin with a strategic beachhead in the immediate vicinity of the oceans in the High North and great potential to support and sustain Russian intelligence operations. The agreement also gave rise to suspicions that autonomous underwater vehicles and mines on-board Russian research vessels could further undermine NATO's strategic SLOCs and deny maritime areas that NATO depends on. Furthermore, the leasing agreement provided the Kremlin with comprehensive information about the capacity of the base complex and facilitated Russia's monitoring of Norwegian and NATO activities in the High North.

Despite its limited duration, the leasing agreement must be considered as a contribution to the Kremlin's intelligence operations and something that has made Norwegian and allied military activities susceptible to covert Russian interference and sabotage, while simultaneously limiting Norwegian and allied military power to implement effective force protection systems in the area. Considering the total defense concept, it is

¹⁵⁰ "Russian Submarines Are Prowling around Vital Undersea Cables. It's Making NATO Nervous," *Washington Post*, accessed January 16, 2023, https://www.washingtonpost.com/world/europe/russian-submarines-are-prowling-around-vital-undersea-cables-its-making-nato-nervous/2017/12/22/d4c1f3da-e5d0-11e7-927a-e72eac1e73b6_story.html?noredirect=on&utm_term=.4a6631765b4d.

¹⁵¹ Christian Bugge Hjorth, "Kan skade vår nasjonale sikkerhet. Hva gjør vi med det? [Could harm our national security. What do we do with it?]," *Norges Forsvarsforening* (blog), accessed January 15, 2023, <https://www.forsvarsforeningen.no/nyheter/kan-skade-var-nasjonale-sikkerhet-men-hva-gjor-vi-med-det/>.

certain the leasing agreement also had negative consequences for sustainment systems in Northern Norway. Access to maintenance, spare parts, fuel, and other port facilities at Olavsværn is essential for continued operations in the High North, including maintenance support of Norwegian and allied submarines and warships. The leasing agreement made it problematic to utilize Olavsværn until state control was regained, providing instead increased operational capability for the Russian research ships. Hence, the leasing agreement between Olavsværn and Russian shipping companies with close ties to the Kremlin represented a threat for military power in the High North, especially in a short-term perspective.

Table 2. Application of the Beachhead Warfare Theory to the Olavsværn Case.

Threats – Economic Statecraft				
	Yes	Partial	No	Explanation (how/why)
Economic Access				The leasing agreement with Russian research vessels provided limited access to the base facilities; however, the ownership is and always was under Norwegian control.
State Controlled Actor				Evidence indicates that Sevmorneftegeofizika, RosGeo, and Gazprom are all closely linked to Russian central authorities, including the Russian Armed Forces and the Russian Underwater Reconnaissance Program (RURP).

Values – Military Advantage					
	Domain	Yes	Maybe	Unknown	Explanation (how/why)
Maneuver	Maritime				Evidence indicates that Olavsværn is an ideal foothold to facilitate increased Russian intelligence and surveillance in the High North. This may have put Russian naval forces in a position of relative advantage vis-à-vis Norwegian and allied naval forces in the operational area of the High North, however, conceivably only for a limited timeframe.
Fires					
C2					
Intelligence	Maritime				Evidence indicates that Russian research vessels are believed to play an important role for Russian intelligence activities, including for the surveillance of NATO submarine activities in this area. This suggests that the leasing agreement with Russian research vessels may have facilitated increased Russian intelligence collection about Norwegian and allied military activities, including critical infrastructure in the maritime domain such as underwater communication cables.
Sustainment	Maritime / Multi-Domain				Considering the framework of the total defense concept, evidence indicates that the leasing agreement may have exposed systems related to sustainment, service, and support to maintain maritime operations, prolonged endurance, and operational reach in the High North, particularly for emergency purposes.
Force Prot.	Maritime				Olavsværn provides protection from all kinds of enemy weapon systems and is the only naval base complex of this kind in Northern Europe. Evidence shows that the leasing agreement with Russian research vessels may have damaged protection systems both temporarily and permanently, especially for the maritime domain, because vulnerable information such as the base's capacity, defense systems, and entry routes, etc., has been compromised.

IV. THE PILOTAGE EXEMPTION CERTIFICATE CASE

An Insider Threat to Norwegian Military Interests?

A. INTRODUCTION

In addition to physical assets, beachhead warfare poses a threat to human skills. This case demonstrates how value chains linked to the maritime industry in Norway allow Russian citizens to complete the training and certification that provides what is known as a Pilotage Exemption Certificate (PEC). “A PEC qualifies a navigator to sail in specific waters without using the pilotage service.”¹⁵² Consequently, a PEC certifies that the certificate holder has detailed knowledge of Norwegian waters and maritime regulations, which can be exploited for intelligence and defense purposes to include the disruption of command-and-control and sustainment functions. Such vulnerabilities can be exploited to prevent the reception and the effective use of allied NATO reinforcement forces in Norway and the High North. Consequently, Russian military power has the potential to create a strategic military advantage at NATO’s northern flank.

B. THE NORWEGIAN MARITIME INDUSTRY

Norway and Russia have access to significant renewable and non-renewable resources.¹⁵³ The Norwegian Sea and the Barents Sea form the foundation for an extensive short-sea shipping industry on both sides of the border. The petroleum sector plays a pivotal role in the Norwegian economy and stands as the nation’s largest industry. Oil and gas production in Norway takes place off-shore only, and its off-shore shipping companies are an important segment of Norway’s maritime industry. In addition, Norway is the second

¹⁵² “PEC Requirements and Conditions,” Kystverket [The Norwegian Coastal Administration], accessed November 7, 2022, <https://www.kystverket.no/en/pilotage-service-and-pilotage-exemption-certificate/pilotage-exemption-certificate/requirements-and-conditions-of-pilotage-exemption-certificates/>.

¹⁵³ International Trade Association, “Norway – Offshore Energy – Oil, Gas and Renewables,” accessed May 23, 2023, <https://www.trade.gov/country-commercial-guides/norway-offshore-energy-oil-gas-and-renewables>.

largest seafood exporter globally, with exports reaching 3.1 million tons in 2021, at a total value of almost 14 billion USD.¹⁵⁴

The Norwegian maritime industry cluster is considered among the most comprehensive in the world.¹⁵⁵ Norwegian off-shore shipping companies control the world's most advanced off-shore fleet and the fourth largest merchant fleet in terms of value. As of 2022, there were 1,690 Norwegian-controlled ocean-going ships registered.¹⁵⁶ With such a large fleet, it is common practice for the vessels of Norwegian shipping companies to employ Russian crewmembers, with the Wilson shipping company being a notable example.¹⁵⁷ Of the approximately 120 Wilson ships, 70% of the sailors and crewmembers are Russian citizens, and these ships frequently visit vital Norwegian ports and ports in Murmansk and Kaliningrad. Similarly, 90% of Misje shipping company's crewmembers are Russians.¹⁵⁸ While concerns have been raised about the potential for the Russian authorities to use these workers to harm Norwegian interests in a crisis or war between Russia and NATO, the merchant marine is to some extent reliant on this labor.

C. PILOT SERVICE AND PILOTAGE EXCEPTION CERTIFICATE

The pilot service has a long tradition in Norway. The Norwegian Coastal Administration, a directorate established under the Ministry of Transport and Communications in 1974, regulates provisions and directives relating to pilot services and how this impacts vessels that intend to access Norwegian restricted and constrained sailing

¹⁵⁴ "Norway Breaks Seafood Export Records in 2021," Seafood Source, accessed November 19, 2022, <https://www.seafoodsource.com/news/supply-trade/norway-breaks-seafood-export-records-in-2021>.

¹⁵⁵ "Maritime Outlook 2022 – Norwegian Shipowners Association," Maritime Outlook 2022, accessed November 19, 2022, <https://maritimpolitikk.no/en/2022>.

¹⁵⁶ "Maritime Outlook 2022 – Norwegian Shipowners Association."

¹⁵⁷ Tormod Heier (ed.), *Militærmakt i Nord [Military Power in The High North]* (Oslo: Universitetsforlaget, 2021), 31.

¹⁵⁸ Bård Wormdal, "Advarer mot russiske militære selskaper: – Kan gjennomføre hemmelige operasjoner mot Norge [Warns against Russian military companies: – Can carry out secret operations against Norway]," NRK, June 13, 2020, https://www.nrk.no/tromsogfinnmark/advarer-mot-russiske-militaere-selskaper_----_kan-gjennomfore-hemmelige-operasjoner-mot-norge-1.15051373.

areas.¹⁵⁹ The Administration's main tasks are to contribute to efficient sea transport and ensure safe traffic in Norwegian waters, including management of the pilot service and PEC.¹⁶⁰ The pilot service plays a vital role in ensuring secure navigation at sea, as it provides crewmembers with area-specific maritime expertise required to navigate Norwegian territorial waters, minimizing any environmental risk and other dangers when sailing to and from the ports.

Using a pilot onboard various vessels is mandatory in several territorial waters due to the pilot's extensive knowledge of local waters and unique conditions, enabling them to guide ships through dangerous or congested areas.¹⁶¹ Until 1995, requirements for pilot service were governed by both civil and defense considerations.¹⁶² The Ministry of Defence's regulation of 1968 required foreign vessels to use pilots in constrained sea areas, such as areas with high military activity or sensitive and critical infrastructure. Elsewhere on the coast, pilot services were only required for civil and commercial purposes. After 1995, all pilot requirements were brought together under the Norwegian Coastal Administration's regulations on pilot services. This regulation was primarily focused on civilian and commercial considerations. However, based on the regulations in section 8, the Ministry of Defence could still order the use of pilots for military and defense purposes. Today, depending on their load and purpose, all vessels above a specific size are required to use a pilot when sailing within Norway's "baseline," "the inner limit of the territorial sea and the outer limit of internal waters."¹⁶³

¹⁵⁹ "About Us," Kystverket [The Norwegian Coastal Administration], accessed November 7, 2022, <https://www.kystverket.no/en/about-us/>.

¹⁶⁰ "About Us."

¹⁶¹ "Pilotage Exemption Certificates," European Commission, accessed April 26, 2023, https://transport.ec.europa.eu/transport-modes/maritime/short-sea-shipping/pilotage-exemption-certificates_en.

¹⁶² "PEC Requirements and Conditions."

¹⁶³ "Maritime Zones and Boundaries," NOAA, accessed April 26, 2023, <https://www.noaa.gov/maritime-zones-and-boundaries>.

The Norwegian requirements concerning pilot services and PECs are regulated by the Ports and Waterways Act of 21 June 2019.¹⁶⁴ The purpose of the Act is to “promote maritime transport and facilitate the effective, safe, and environment-friendly operation of ports and use of navigable waters, even as it shall take the competitive business sector into consideration. The Act shall uphold national interests regarding defence and preparedness.”¹⁶⁵ Furthermore, section 21 of the Act states that “vessels subject to compulsory pilotage shall use a pilot who holds a license or a navigator who has a pilot exemption certificate for the waters in question.”¹⁶⁶ Additionally, section 24 states that “Pilot exemption certificates may be issued to the master or other navigators of the vessel. The pilot exemption certificate gives the right to navigate specified vessels in specified fairways or areas subject to compulsory pilotage without a pilot.”¹⁶⁷

The concern about the use of Russian sailors and crewmembers on Norwegian vessels increased after Russia’s annexation of Crimea in 2014 and spiked after the Russian attack on Ukraine in 2022.¹⁶⁸ The Norwegian Coastal Administration has approximately 290 authorized pilots in service, and a prerequisite for these authorized pilots is a valid SECRET security clearance.¹⁶⁹ Consequently, it is almost exclusively Norwegians who have this certified authorization.

Nevertheless, there is a unique relationship between pilots and PECs: a navigator or captain with a valid PEC can fulfill the duty of a pilot, which means that a pilot is not required onboard vessels with a captain or a crewmember who holds a PEC. A valid PEC can consequently enable the certificate holder legal access to a restricted and constrained

¹⁶⁴ “Lov Om Havner Og Farvann [Ports and Waterways Act],” Lovdata, accessed November 7, 2022, <https://lovdata.no/dokument/NL/lov/2019-06-21-70>.

¹⁶⁵ “Lov Om Havner Og Farvann [Ports and Waterways Act].”

¹⁶⁶ “Lov Om Havner Og Farvann [Ports and Waterways Act].”

¹⁶⁷ “Lov Om Havner Og Farvann [Ports and Waterways Act].”

¹⁶⁸ “Ukraine Asks Norway to Drop Exemption That Allows Russian Boats to Dock in Norwegian Ports | IntraFish,” accessed November 19, 2022, https://www.intrafish.com/fisheries/ukraine-asks-norway-to-drop-exemption-that-allows-russian-boats-to-dock-in-norwegian-ports/2-1-1268674?zephro_sso_ott=cI592I.

¹⁶⁹ “Vil du bli los? [How to become a pilot],” Kystverket – tar ansvar for sjøveien, accessed December 27, 2022, <https://www.kystverket.no/menyoversikt-for-los-og-farledsbevis/los/vil-du-bli-los/>.

sailing area without supervision. The arrangement with PEC involves official control of the navigator's experience, qualifications, and skills on a particular vessel in specific waters.¹⁷⁰ Unlike the pilot service, which requires valid SECRET clearance for a state-authorized pilot, the PEC has no such requirements, which makes it obtainable for anyone. Since 2015, there has been a continuous rise in the issuance of PECs. As of January 2020, approximately 3,750 PECs are in use, and about 30% of these have been issued to foreigners.¹⁷¹ In January 2022, the Norwegian Coastal Administration reported that 254 Russians have a PEC in Norwegian waters.¹⁷²

D. EVALUATION OF CASE

1. Economic Statecraft

For many years, there have been allegations that Russian authorities are pressuring workers in the fishing and short-sea fleet in Russia.¹⁷³ The goal is to get Russians on board Norwegian shipping vessels and acquire PECs to familiarize themselves with the coast. Several pilots sent warning notices to the Norwegian Coastal Administration in 2015 and 2016 after conversations with Russian captains. All these warnings and notices expressed the same concern: "Russian authorities are encouraging Russian captains and crewmembers to acquire PECs and get to know as much of the coast as possible so they can be tasked as pilots and acquaintances on board Russian warships in the event of conflict or war."¹⁷⁴ The Norwegian Defence Security Department (FSA) has also received several alerts.

¹⁷⁰ "About the PEC," Kystverket [The Norwegian Coastal Administration], accessed April 26, 2023, <https://www.kystverket.no/en/pilotage-service-and-pilotage-exemption-certificate/pilotage-exemption-certificate/about-the-pilotage-exemption-certificate/>.

¹⁷¹ "Over 1000 utlendinger har fått utstedt norske farledsbevis uten krav til å kunne norsk [Over 1 000 foreigners have been issued Norwegian Pilotage Exemption Certificates without any requirements to the Norwegian language]," Skipsrevyen, June 17, 2020, <https://www.skipsrevyen.no/over-1000-utlendinger-har-fatt-utstedt-norske-farledsbevis-uten-krav-til-a-kunne-norsk/423905>.

¹⁷² Thomas Paust, "253 russere har gyldig farledsbevis i Norge: – Dette er en kjemperisiko [253 Russians have a valid pilotage exception certificate in Norway: – This is a huge risk]," Nettavisen, March 22, 2022, <https://www.nettavisen.no/12-95-3424259042>.

¹⁷³ Heier, *Militærmakt i Nord [Military Power In The High North]*, 31.

¹⁷⁴ "PST Kjent Med Putins Kystinteresse [PST Familiar with Putin's Coastal Interest]," Fiskeribladet, March 2, 2015, <https://www.fiskeribladet.no/nyheter/pst-kjent-med-putins-kystinteresse/8-1-40139>.

In May 2022, Russian authorities stated that a revised Marine Doctrine can now admit civilian ships and crewmembers as part of the Russian Navy.¹⁷⁵ This could mean the militarization of the Russian fishing fleet.¹⁷⁶ This case demonstrates, however, that the Russian fishing fleet has a long tradition in utilizing non-military ships for military objectives. Russian citizens have been able to obtain PECs for several years, and their associated externalities may be exploited for military purposes. Nevertheless, the revised Marine Doctrine prepares the ground for a systematic approach to applying trawlers and fishing vessels for military purposes.

The Norwegian maritime industry is a complex and extensive value chain. Norway's competitive advantage builds on long maritime traditions, high adaptability, and an active maritime policy.¹⁷⁷ Norwegian maritime companies and employees offer technology and expertise, providing a competitive advantage within several international market segments. However, the industry is competitive, especially for the short-sea shipping industry. Over time, the competitiveness in the global short-sea fleet in Norway and Europe has been challenged by other countries that can pay their workers lower wages.¹⁷⁸ As a result of these pressures, many Norwegian shipping companies are forced to look for cheaper crewmembers, which leads to crewmembers being turned into a commodity for the companies. Over time, it has become customary for Norwegian shipping companies to hire foreign captains and crewmembers. Thus, PECs are included as only a

¹⁷⁵ Kenneth R. Rosen, "A Battle for the Arctic Is Underway. And the U.S. Is Already Behind.," POLITICO, accessed January 2, 2023, <https://www.politico.com/news/magazine/2022/12/17/climate-change-arctic-00071169>.

¹⁷⁶ "Russia Outlines Militarization of Fishing Fleet and Icebreakers," *The Independent Barents Observer*, accessed November 28, 2022, <https://thebarentsobserver.com/en/security/2022/05/russia-militarizes-its-fishing-fleet-and-icebreakers>.

¹⁷⁷ "Meld.St.10 (2020-2021) Grønnere og smartere – morgendagens maritime næring [Greener and Smarter – The Maritime Industry of Tomorrow]," Det Kongelige Nærings-og fiskeridepartement [Norwegian Ministry of Trade, Industry and Fisheries], 2020. chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/<https://www.regjeringen.no/contentassets/391f633b512b4866a4193ba67be27c3b/no/pdfs/stm202020210010000dddpdfs.pdf>

¹⁷⁸ Rachel Tiller et al., "Work Segmentation in the Norwegian Salmon Industry: The Application of Segmented Labor Market Theory to Work Migrants on the Island Community of Frøya, Norway," *Marine Policy* 51 (January 31, 2015): 563–72, <https://doi.org/10.1016/j.marpol.2014.10.001>.

small part but significant of a complex and extensive value chain associated with the maritime industry in Norway.

2. Military Externalities

Norway's most important strategic area of interest is the northern areas, which make up 80% of Norway's sea territory.¹⁷⁹ The fact that Russian sailors, without any significant obstacles, can operate freely on the coast gives Russian authorities a unique opportunity to carry out mapping for military purposes. This includes information gathering against military and civil infrastructure, above and below water, and the potential to install reconnaissance and sabotage equipment under water and on land for later use. This situation corresponds with the Norwegian Police Security Service's (PST) public threat assessment: "To ensure success in future conflicts, Russian intelligence must carry out reconnaissance and planning for future sabotage against military targets and civil infrastructure in peacetime."¹⁸⁰

LoVe Ocean

LoVe Ocean is an underwater sensor network off the northern coast of Norway.¹⁸¹ It was established in 2013 through a collaboration between the Norwegian Institute of Marine Research and Equinor, Norway's largest state-owned oil and gas company. Within this network, high-tech platforms, so-called nodes, are linked together by a cable at depths up to 2,500 meters (8,200 feet). Established to support various research efforts, the network enables the Norwegian Institute of Marine Research to use the network sensors to document life in the sea, such as fish stocks, deep-sea coral, and seabirds. The Institute uses microphones and camera equipment connected to the cable to send information to land. Thus, the network makes it possible to collect data from the seabed in real-time.

¹⁷⁹ "Forsvarskommisjonen av 2021 – Forsvar for fred og frihet" [Defense Commission of 2021 – Defense of Peace and Freedom], 155.

¹⁸⁰ Norwegian Police Security Service, "Nasjonal trusselvurdering 2021 [National Threat Assessment 2021]," 2021, 9, <https://www.pst.no/alle-artikler/trusselvurderinger/nasjonal-trusselvurdering-2021/>.

¹⁸¹ "About LoVe," LoVeOcean, accessed November 21, 2022, <https://loveocean.no/about-love>.

In April 2021, the entire sensor system went black. Six months later, after extensive troubleshooting, Equinor's underwater vehicles found that more than 4 kilometers (2.5 miles) of submarine cable, weighing almost ten tons (20,000 pounds), which ran between two high-tech platforms, had disappeared without any trace.¹⁸² Equinor's images from the site revealed that the cable mounts on both nodes had been torn away, which requires a lot of force. The case has subsequently been investigated by the PST. The PST later said that the investigation pointed in the direction of a fishing vessel that may have dragged the cable with its trawler.¹⁸³ That said, there are several plausible theories, ranging from a fishing vessel to Russian submarines. Russia is a rival state and uses several different means to influence Norway. It is also worth noting that the sensor network also captures information from fishing vessels and trawlers, including accurate information about under water activity in the area.¹⁸⁴ Needless to say, the sensor network and the information it gathers is believed to be of great interest to Russian authorities.

SvalSat

Eight months later, in January 2022, an incident similar to the *LoVe Ocean* incident occurred outside the Svalbard archipelago. The Svalbard satellite station, *SvalSat*, is the northernmost in the world and started its operations in 1997. Svalbard has an ideal location for downloading satellite data from polar orbits.¹⁸⁵ Access to the internet is not widespread in the northern regions, and communication services using existing satellite capacities are either unavailable, do not have adequate capacity, or are unstable in that area. The development of small satellites for maritime surveillance and communication satellites for

¹⁸² Osman Kibar, "Flere kilometer undersjøisk kabel sporløst forsvunnet" [Several kilometers of submarine cable disappeared without a trace], DN Magasinet, November 5, 2021, <https://www.dn.no/magasinet/teknologi/equinor/havforskningsinstituttet/sissel-rogne/flere-kilometer-undersjoisk-kabel-sporlost-forsvunnet/2-1-1092764>.

¹⁸³ Kibar.

¹⁸⁴ Sofie Retterstøl Olaisen, "PST varsler om mysterium på havbotnen utenfor Bø i Vesterålen" [PST notify of mystery on the seabed off Bø in Vesterålen], NRK, November 9, 2021, https://www.nrk.no/nordland/mysteriet-pa-havbotnen_-ein-undersjoisk-kabel-er-sporlaust-forsvunne.-1.15722317.

¹⁸⁵ "Svalbardsambandet" [The Svalbard Connection], Space Norway, accessed November 26, 2022, <https://spacenorway.no/hva-vi-gjor/operativ-infrastruktur/svalbardsambandet-verdens-nordligste-undersjoiske-fibersamband/>.

general needs and requirements in these regions are two main areas of priority for Norway's activities in space.¹⁸⁶

To cover the needs required for sending data in real-time, in 2004 a fiber cable was laid between Svalbard and the mainland.¹⁸⁷ The fiber connection consists of two separate cables that cover approximately 1,400 kilometers, or roughly 870 miles. Figure 5 shows where the cables from Svalbard are connected to the mainland.



Figure 5. Two Communication Cables between Longyearbyen at the Svalbard Archipelago and Andøya / Harstad on the Mainland¹⁸⁸

¹⁸⁶ “Dei nye norske satellittane” [The new Norwegian satellites], Norsk Romsenter [Norwegian Space Centre], accessed November 26, 2022, <https://www.romsenter.no/Aktuelt/Siste-nytt/Dei-nye-norske-satellittane>.

¹⁸⁷ “Dei nye norske satellittane” [The new Norwegian satellites].

¹⁸⁸ “Svalbardsambandet” [The Svalbard connection].

The cables are buried approximately 2 meters (6.5 feet) in certain areas to protect them from potential damage from the fishing fleet's trawlers or anchoring of ships. All electronic communication between the mainland and the Svalbard archipelago is sent through these cables, including vast amounts of data from the satellite station SvalSat. The Svalbard cable is designated as critical Norwegian infrastructure.¹⁸⁹ If both cables were to be damaged, most communication would be lost. On January 7, 2022, it was discovered that one of the two cables had been split.¹⁹⁰

Subsequently, Automatic Identification System (AIS) data revealed that three Russian fishing vessels were present near both the site of the *LoVe Ocean* cable break and the cable break off Svalbard. In both incidents, these three Russian trawlers passed the cables several times during the period the cables were broken. Moreover, a fourth trawler, the "Melkart 5," passed over the area where the cables are located outside Svalbard more than 30 times in just over two days before the cable stopped working. The Russian shipping company denies any connection with the cable incidents, and the captain onboard the "Melkart 5" stated that nothing unusual happened while fishing off Svalbard.¹⁹¹ The incident could have been an accident that nevertheless reveals a danger.

The PST has conducted underwater investigations to establish the reasons for the damaged cables.¹⁹² Potential causes include wear and tear, technical malfunctions, or fishing activities. While trawling along the seabed cannot be ruled out, it is unlikely that a vessel would not have noticed if it had hooked a cable because it would have required considerable force to break it. Nevertheless, both cases have been closed by the PST due

¹⁸⁹ "Svalbardsambandet" [The Svalbard connection].

¹⁹⁰ Dan Henrik Klausen, "Politiet tror det er en menneskelig årsak bak bruddet på sjøkabel på Svalbard" [The police believe there is a human cause behind the break in the submarine cable on Svalbard], NRK, February 11, 2022, <https://www.nrk.no/tromsogfinnmark/politiet-tror-det-er-en-menneskelig-arsak-bak-bruddet-pa-sjokabel-pa-svalbard-1.15850988>.

¹⁹¹ Benjamin Fredriksen, "Russiske trålere krysset begge kablene før forbindelsen forsvant" [Russian trawlers crossed both cables before the connection was lost], NRK, June 26, 2022, <https://www.nrk.no/nordland/xl/russiske-tralere-krysset-kabler-i-vesteralen-og-svalbard-for-brudd-1.16007084>.

¹⁹² "Henlegger sak etter brudd på internettkabel til Svalbard" [Dismisses case after breach of internet cable to Svalbard], accessed November 26, 2022, <https://e24.no/i/ALMrXq>.

to insufficient evidence.¹⁹³ Still, this case highlights the security loopholes associated with the PEC arrangement and how such vulnerabilities can be exploited through Russian beachhead warfare.

3. Military Advantage

When the Nord Stream gas pipeline was exposed to sabotage in September 2022, Norway's extensive offshore gas and oil infrastructure were highlighted as a possible target for Russian sabotage. Norwegian gas production is currently at a historically high level. The loss of access to significant quantities of Russian gas due to the ongoing conflict in Ukraine has caused Europe to close that gap through increased imports from Norway, among others, and reduced consumption. The European energy crisis makes Norwegian gas even more important for Europe than before.¹⁹⁴ Putting parts of Norway's oil and gas deliveries to Europe out of play could lead to an escalation of the energy war between Europe and Russia, which in turn could lead to critical consequences for European energy security.¹⁹⁵ However, what challenges does this represent for military power and warfighting functions? Although oil and gas are strategic resources that are extremely important in a war, they do not primarily threaten military capabilities—even though they could impact sustainment structures in a prolonged conventional war.

The challenges related to Norwegian shipping companies employing Russian crewmembers and the Norwegian Coastal Administration issuing PECs are primarily about reconnaissance, gathering information, or other intelligence activity, and these concerns

¹⁹³ “Henlegger sak etter brudd på internettkabel til Svalbard” [Dismisses case after breach of internet cable to Svalbard].

¹⁹⁴ “With Russia's Exit, Norway Becomes Europe's Energy Champion,” *The New York Times*, accessed April 11, 2023, <https://www.nytimes.com/2023/04/06/business/energy-environment/ukraine-russia-war-europe-energy.html>.

¹⁹⁵ Olje- og Energidepartementet, “Høy gassproduksjon og store ringvirkninger fra norsk sokkel” [High gas production and large spillover effects from Norway's production], Pressemelding, Regjeringen, October 6, 2022, <https://www.regjeringen.no/no/aktuelt/hoy-gassproduksjon-og-store-ringvirkninger-fra-norsk-sokkel/id2930619/>.

are not new. As long ago as the Nordic war, which took place between 1709 and 1720, it was recognized that having specialized knowledge of the coastal waterways was crucial for safeguarding the nation. Designated royal pilots had to undergo rigorous testing and swear an oath before receiving their pilot's license.¹⁹⁶ In modern times, coastal knowledge and pilot expertise played a crucial role in military operations during WWII as demonstrated by the actions of the Shetland Group, also known as the Royal Norwegian Naval Special Unit. This Norwegian unit operated in the waters between Shetland, Scotland, and German-occupied Norway from 1940 to 1945.¹⁹⁷ Their role was critical for the Norwegian and Allied war effort, as they conducted secret missions carrying soldiers, intelligence officers, refugees, and military supplies. The unit also laid mines and launched attacks on German ships. The significance of pilots and their familiarity with the Norwegian coast includes the well-known Måløy raid in 1941. During this assault, the British led the attack on the German coastal fortress, with 576 commandos. Among them were 33 Norwegian soldiers from the Linge company and seven pilots from the Shetland Group who led the attacking force safely through the coastal zone and towards the German fortress.¹⁹⁸

The German forces also relied heavily on coastal knowledge to launch attacks on convoys heading to Russia, with the aim of disrupting the allied sustainment functions.¹⁹⁹ Despite the danger, the Germans could demand pilots carry out the service for them. The German naval forces in northern Norway were assigned strategic objectives, which included the disruption of the Allied supply flow to the Russian front via Murmansk and

¹⁹⁶ "Med Los På Sjøsikkerhet – Losordningens Omfang, Organisering Og Regelverk" [With a Pilot on Maritime Safety – The Scope, Organization and Regulations of the Pilot Service], Kystverket [The Norwegian Coastal Administration], 2013, 31. <https://www.regjeringen.no/no/dokumenter/nou-2013-8/id729595/>

¹⁹⁷ David Armine Howarth, *The Shetland Bus: A WWII Epic of Courage, Endurance, and Survival* (Guilford, CT: Lyons Press, 2018), 19.

¹⁹⁸ "Offisiell åpning av Måløyraidsenteret" [Official opening of the Måløy raid centre], Kongehuset, accessed April 11, 2023, <http://www.kongehuset.no/tale.html?tid=164225&sek=26947>.

¹⁹⁹ "Navigasjon for lostjenesten" [Navigation for the pilot service], Kystverket [The Norwegian Coastal Administration], 2021, 1–10. <https://www.calameo.com/hatlehols/books/0057643753f032c839700>

Archangel.²⁰⁰ When the anticipated invasion of Norway did not occur, and the Germans gradually recognized the impact of Allied aid on Russia's resistance, the convoys to Russia became the primary target of the German naval strategy in the northern sector. Consequently, the use of pilots with local knowledge of the Norwegian coast became increasingly crucial for the Germans. The significance of local coastal knowledge and the use of pilots in military operations is also emphasized by The Norwegian Coastal Administration, which reported that 60 Norwegian pilots had died while on duty between 1944 and 1945, supporting both Allied and German military operations.²⁰¹

Today, Norway's coast remains crucial for maintaining strategic logistics and sustainment functions. Russia may target Norway's ability to receive military reinforcements from NATO in case of a military confrontation, making the ports and related infrastructure vulnerable and critical targets for Russian intelligence and sabotage. Data regarding ports and their associated infrastructure is consequently a vulnerability with a significant value for the Russian authorities. The United States' ability to support Europe is a key aspect of NATO's military credibility, but American reinforcement forces must be transported across the Atlantic, with 90% of supplies and materials being transported by sea.²⁰² In the event of a conflict in the north, maritime logistics will be essential for all branches of the military. In addition, the road and rail networks that connect the country from south to north are at risk of sabotage and attacks, while the outer coastal areas are vulnerable to submarine threats and extreme weather conditions for a significant portion of the year. As a result, the inner coastal SLOCs have become essential for military operations, such as the transportation of forces and delivery of military supplies. However, sailing in many parts of this coastal zone, especially for larger vessels, is challenging,

²⁰⁰ "German Attacks on the Murmansk Run," U.S. Naval Institute, December 1, 1952, <https://www.usni.org/magazines/proceedings/1952/december/german-attacks-murmansk-run>.

²⁰¹ "Navigasjon for lostjenesten [Navigation for the pilot service]," 1–10.

²⁰² Gjermund Forfang Rongved and Per Martin Norheim-Martinsen (EDT.), *Totalforsvaret i Praksis [Total Defence in Practice]* (Oslo: Gyldendal, 2022), 138.

underscoring the importance of PEC arrangements, and emphasizing the critical role of the maritime domain for military power in this region. In the event of a military confrontation where Norway relies on military support from NATO, the issuance of PECs to Russians can impede Norway's ability to receive reinforcement forces.

The case illustrates vulnerabilities to command-and-control (C2) systems. In its annual unclassified assessment *Focus*, the Norwegian Intelligence Service (NIS) highlighted increased threats from Russia against underwater installations.²⁰³ The Main Directorate of Deep-Sea Research is part of the Russian Ministry of Defense. The organization is referred to in Russian as *Glavnoje Upravlenije Glubokovodnykh Issledovanija* (GUGI) and by NATO as the Russian Underwater Reconnaissance Program (RURP). GUGI conducts underwater research and deep-sea examination over large geographical areas, primarily focusing on the Atlantic Ocean. However, according to NATO's perception, Russia is enhancing its offensive military capabilities with the intention of targeting underwater installations as a component of its strategic deterrence strategy.²⁰⁴ As the Nord Stream 2 pipeline incident indicates it is very challenging to protect critical underwater infrastructure, including communication cables, against sabotage.²⁰⁵ An extensive breakdown in the underwater cable network would have negative consequences for vital societal functions and make all digital interaction challenging, including for the military. Against this backdrop, Russia's growing commitment to underwater capacities is becoming a severe threat to submarine cables and aquatic systems.

²⁰³ Norwegian Intelligence Service, "Focus 2021," 64.

²⁰⁴ "Russian 'Hybrid War' Tactics at Sea: Targeting Underwater Communications Cables," Jamestown Foundation, accessed November 26, 2022, <https://jamestown.org/program/russian-hybrid-war-tactics-sea-targeting-underwater-communications-cables/>.

²⁰⁵ "Nord Stream Gas 'Sabotage': Who's Being Blamed and Why?," Reuters, accessed November 26, 2022, <https://www.reuters.com/world/europe/qa-nord-stream-gas-sabotage-whos-being-blamed-why-2022-09-30/>.

Additionally, *Focus* highlights Russian threats to satellites in outer space.²⁰⁶ NATO is dependent on satellites, which makes communication systems vulnerable to interference. Space is becoming a crucial military domain and a vital enabler for many military capabilities, operations, and missions. Moreover, an information advantage could also decide future conflicts. The ability to gather and analyze extensive data from distributed sensors and weapon systems across all domains and use it to make informed decisions quickly and accurately can determine the outcome of a conflict.²⁰⁷ Therefore, a significant part of U.S. and NATO strength rests on extensive space capabilities. This makes NATO superior in space-based intelligence, command, control, and navigation.²⁰⁸ Consequently, as space is becoming more competitive, Russia and NATO are also developing antisatellite weapons.²⁰⁹ As this case illustrates, Russia may have the required intelligence and capabilities to disrupt underwater communication cables and sensors off the coast of Norway. In that case, it represents an advantage that can create relational dominance for Russian military power over Norwegian and Allied military forces in this region. That makes protection of Norway's satellite systems, and those of its allies, even more critical as these systems are essential for military power and C2 systems to respond to crises with greater speed, effectiveness, and precision.²¹⁰

²⁰⁶ Norwegian Intelligence Service, "Focus 2021," 64.

²⁰⁷ *C3 Modernization Strategy* (Washington, DC: Department of Defense, 2020), i, <https://dodcio.defense.gov/Porta/0/Documents/DOD-C3-Strategy.pdf>.

²⁰⁸ Norwegian Intelligence Service, "Focus 2021," 64.

²⁰⁹ NATO, "NATO's Approach to Space," NATO, accessed November 26, 2022, https://www.nato.int/cps/en/natohq/topics_175419.htm.

²¹⁰ NATO.

E. SUMMARY OF THE CASE

PECs represent only a small part of an extensive value chain associated with the maritime industry in Norway, but it is a vital one. Historical events have demonstrated the importance of pilots in protecting the nation and sustaining military operations during crises and war, particularly in the northern regions. The protection of reinforcement forces and supplies is still crucial for the defense of Norway, and ultimately, the defense of NATO's interests in Europe. Accordingly, PECs issued to Russian citizens pose a significant risk to Norway's intelligence systems. Civilian ships from Russia, operating under the guise of legal activities, can serve as a valuable military asset to establish Russian dominance in the High North. The freedom of navigation afforded PEC holders increases their insight into possible access routes, suitable quay facilities, and related support to military operations in the coastal zone. The growing emphasis of Russia on developing offensive military capabilities against underwater installations further underscores the potential threat towards communication cables and potential implications for C2 systems. The case also highlights the crucial need for the implementation of effective security measures and PEC arrangements to mitigate potential threats to gas and oil infrastructure, thereby ensuring energy security and maintaining military readiness. Furthermore, this case emphasizes the critical significance of the maritime domain for both Russia and NATO. In the event of a conflict between Russia and NATO, having control over the maritime domain in the High North could be pivotal. Such control would enable Russia to safeguard its Northern Fleet and impede or disrupt the transfer of U.S. and NATO forces and equipment over the Atlantic to support extended military operations in Europe.

Table 3. Application of the Beachhead Warfare Theory to the PEC Case.

Threats – Economic Statecraft				
	Yes	Partial	No	Explanation (how/why)
Economic Access				PECs are connected to value chains in the Norwegian maritime industry. Economic motives related to the maritime industry explain how it is possible to utilize the PEC for defense purposes.
State Controlled Actor				Some evidence indicates that Russian authorities are pressuring commercial actors such as shipping companies, fishermen, and other maritime industries to acquire PECs to be used for military purposes. Thus, it can be argued that the Russian authorities are deliberately incentivizing private and commercial actors to engage in activities that produce military externalities beneficial to the state's strategic interests.

Values – Military Advantage					
	Domain	Yes	Maybe	Unknown	Explanation (how/why)
Maneuver	Maritime				Evidence indicates that Russia's fishing fleet can challenge Norwegian and allied freedom of maneuver in the maritime domain.
Fires					
C2	Multi-Domain				Evidence shows that several Russian civilian vessels are equipped with capabilities to disrupt, tap, sabotage, or terminate underwater communication cables, including those carrying satellite data from Svalbard.
Intelligence	Maritime				Evidence shows that Russian civilian ships are being employed for intelligence purposes such as mapping of critical infrastructure above and under water, ports, essential sailing routes, etc.
Sustainment	Maritime				Evidence shows that concepts and systems connected to logistics and sustainment are challenged by the fact that Russian vessels with PECs can sail in restricted areas along the Norwegian coastal zone.
Force Prot.	Maritime				Evidence indicates that Russian vessels with PECs can be used to disrupt harbors and other maritime physical assets required to sustain combat power.

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V. THE BERGEN ENGINES CASE

An Attempt to Acquire Military Technology?

A. INTRODUCTION

Norway has advanced, unique technology with a military multi-use potential.²¹¹ This case demonstrates how Russian direct investment in Norway could have led to unwanted technology transfer to the Russian Navy. In 2021, Norwegian media revealed that companies within the Russian-owned rail and transport conglomerate Transmashholding Group (TMH) were in the final phase of acquiring the Norwegian company Bergen Engines, a subsidiary of Rolls-Royce.²¹² Bergen Engines has delivered engines to the Norwegian intelligence ship “Marjata,” several coastguard ships, and allies.²¹³ By normal practice, Rolls-Royce notified Norwegian authorities about potential security challenges in the event of a sale. The Norwegian government eventually ordered Rolls-Royce to stop the sale of Bergen Engines. If Russian authorities were to obtain the technology of Bergen Engines, it could have potentially provided a military advantage to Russia that would have conflicted with the interests of Norway and its allies.²¹⁴

To what extent is Russia’s leadership using foreign direct investments as a tool of beachhead warfare? As this case demonstrates, a sale of Bergen Engines to Russian state-controlled entities would likely have far-reaching strategic and tactical consequences for military power. Among other things, evidence indicates that the technology of Bergen Engines would affect Russia’s capability for maritime maneuver systems. Moreover, a sale

²¹¹ Norwegian Police Security Service, “Nasjonal trusselvurdering 2021” [National Threat Assessment 2021].

²¹² Ministry of Justice and Public Security, “Government Blocks Sale of Bergen Engines,” Norwegian Government, March 26, 2021, <https://www.regjeringen.no/en/aktuelt/government-blocks-sale-of-bergen-engines/id2841869/>.

²¹³ “Engine Supplier to Norwegian Spy Ship Bought by Russian-Controlled Company,” *The Independent Barents Observer*, accessed November 16, 2021, <https://thebarentsobserver.com/en/security/2021/02/russian-company-buys-builder-engines-norwegian-spy-ship>.

²¹⁴ “Skriftlig spørsmål fra Emilie Mehl (Sp) til forsvarsministeren” [Written question from Emilie Mehl (Sp) to the Minister of Defense], DOK15, Stortinget, March 1, 2021, <https://www.stortinget.no/no/Saker-og-publikasjoner/Sporsmal/Skriftlig-sporsmal-og-svar/Skriftlig-sporsmal/?qid=83591>.

would also impact intelligence, sustainment, and force protection systems across multiple domains. From a medium to long-term perspective, it is very likely that such a sale of Bergen Engines would have contributed to eroding the West's lead in maritime engine technology. With these tactical and technological consequences in mind, the case indicates that Russian authorities were using a beachhead strategy to exploit military externalities related to direct investments in a technology enterprise in Norway.

B. NORWEGIAN MILITARY AND DUAL-USE TECHNOLOGY

Many Norwegian companies have considerable expertise in technology related to the maritime sector.²¹⁵ In numerous instances, readily available commercial components, technologies, and subsystems can be integrated into military systems to fulfill functional requirements at a lower cost than developing a new technology from scratch for a specific military customer.²¹⁶ For example, the technology used in mammogram X-rays to search for small abnormalities can also be used in sonars for submarines and other undersea capabilities.²¹⁷ Moreover, Norway also has a competitive defense industry with world-leading technology and products in areas such as missiles, air defense, munitions, and underwater systems.²¹⁸ It may be of interest to other states to gain access to these technologies. Dual-use technology, such as underwater or space technology, can be instrumental to rival states as they develop new weapons systems and platforms. Effective use of existing dual-use technologies can shorten the time to develop weapons systems and reduce costs for procuring leading-edge technology.²¹⁹ Compromised military and dual-use technology would have dangerous consequences for Norway's and its allies' military capabilities because it can negatively impact warfighting functions.

²¹⁵ Politiets sikkerhetstjeneste [The Norwegian Police Security Service] (PST), "National Threat Assessment 2021," 12.

²¹⁶ "Dual Use Technology: A Defense Strategy for Affordable, Leading-Edge Technology" (Washington, DC: Department of Defense, 1995), 4.

²¹⁷ "Dual Use Technology," Encyclopedia.com, accessed April 11, 2023, <https://www.encyclopedia.com/politics/encyclopedias-almanacs-transcripts-and-maps/dual-use-technology>.

²¹⁸ Det Kongelige Forsvarsdepartement [Ministry of Defense], "Meld. St. 17 – Samarbeid for sikkerhet: Nasjonal forsvarsindustriell strategi for et høyteknologisk og fremtidsrettet forsvar [National defence industrial strategy for a high-tech and future-oriented defence]," 2021, 20.

²¹⁹ "Dual Use Technology: A Defense Strategy for Affordable, Leading-Edge Technology," 12.

C. BERGEN ENGINES

Bergen Engines' current engine factory was built in 1971 outside Bergen, Norway's second largest city. It is the only remaining Norwegian manufacturer of marine and large industrial engines. The shipyard Bergen Mekaniske Verft (BMV), produced its first engine in 1855, quickly became one of the leading shipyards in Norway, building iron and steel vessels, boilers, and steel engines. In 1942, BMV began building diesel engines. However, the design was not completed until 1946 due to WWII. The company's first gas engine was introduced in 1985. Since 1946, Bergen Engines has constructed over 7,000 engines, of which over 5,000 are still in operation. The factory is among the world's leading manufacturers of diesel and gas engines for ships and land-based installations.²²⁰

In 1999, the company became part of Rolls-Royce and, from 2013, a subsidiary of Rolls-Royce Power Systems AG, with German Daimler on the ownership side. In 2018, Rolls-Royce Marine was sold to Kongsberg Gruppen, an international technology group headquartered in Norway.²²¹ Kongsberg Gruppen supplies high-technology systems to customers in the offshore oil and gas industries, defense, aerospace, and to the merchant marine.²²² Meanwhile, Rolls-Royce kept Bergen Engines in its portfolio.

In 2020, Rolls-Royce notified the Norwegian authorities that the company intended to sell Bergen Engines.²²³ A letter addressed to the Ministry of Foreign Affairs indicated that TMH was among the potential buyers. Moreover, the letter specified that the purchase itself would be conducted by TMH International AG (TMHI), which is a Swiss-registered company, but owned by the TMH registered in Russia. In February the following year, Rolls-Royce announced it had entered into a deal with TMH for the proposed sale of

²²⁰ "Company History – About," *Bergen Engines* (blog), accessed December 2, 2022, <https://www.bergenengines.com/about/history/>.

²²¹ "Kongsberg Acquires Rolls-Royce Commercial Marine," Kongsberg Gruppen, accessed December 2, 2022, <https://www.kongsberg.com/no/kmagazine/2018/7/acquires-rolls-royce-commercial-marine/>.

²²² "Who We Are," Kongsberg Gruppen, accessed December 2, 2022, <https://www.kongsberg.com/no/who-we-are/>.

²²³ "Metoderapport Skup 2021 – Salget Av Bergen Engines [Methodology Report Skup 2021 – The Sale of Bergen Engines] (Bergen, Norway: Bergens Tidende, 2021), 39, <https://www.skup.no/rapporter/2021/salget-av-bergen-engines>.

Bergen Engines.²²⁴ The proposed deal would include the engine factory, the service workshop, the industrial property in Bergen, and a service network spanning seven countries. The sale was expected to be completed in the fourth quarter of 2021.²²⁵

Bergen Engines was Norway's only manufacturer of marine engines and a cornerstone company with 650 employees. After Rolls-Royce had announced the previous year that it wanted to sell, local newspapers speculated on potential buyers. When Rolls-Royce announced the signing of an agreement with TMH, a local newspaper published a news article about TMH. According to the newspaper's research, two of the company's owners were among the world's richest and some of Russia's most powerful men.²²⁶ The newspaper suspected something was wrong and decided to ask the Norwegian Ministry of Trade and Fisheries if it had been involved in the transaction. Shortly after, the newspaper received the answer: According to the agency, "The authorities do not monitor transactions carried out by commercial players. The ministry was aware of the sale. We consider this to be an agreement on sales between two commercial actors, something the ministry should not interfere with."²²⁷

Despite this, the newspaper continued to investigate TMH. Soon it became evident that such a sale would have significant security challenges for the NAF and close allied countries, including the United States. The case led to a public debate about the consequences for national security interests of the potential sale.²²⁸ The government received harsh criticism due to the serious revelations, and soon, the opposition's first

²²⁴ "Press Releases," Rolls Royce, accessed May 23, 2023, <https://www.rolls-royce.com/media/press-releases.aspx>.

²²⁵ Justis- og Beredskapsdepartementet [Ministry of Justice], "Kongelig Resolusjon – Stans av salget av Bergen Engines AS" [Royal decree – Stopping the sale of Bergen Engines AS], 2021, 21/1898, 47.

²²⁶ "Russlands største togprodusent kjøper Bergen Engines fra Rolls-Royce" [Russia's largest train manufacturer buys Bergen Engines from Rolls-Royce], E24, February 4, 2021, <https://e24.no/i/x3OLrl>.

²²⁷ "Skriftlig spørsmål fra Emilie Mehl (Sp) til forsvarsministeren" [Written question from Emilie Mehl (Sp) to the Minister of Defense].

²²⁸ "Bergen Engines-saken: – Regjeringen må stoppe salget, vitner om komplett svikt i alle ledd" [The Bergen Engines case: – The government must stop sales, evidence of complete failure at all levels], E24, March 2, 2021, <https://e24.no/i/aP3WkO>.

threats of impeachment came.²²⁹ Based on this, Norwegian authorities initiated work to evaluate all conditions related to the possible sale of Bergen Engines. The government decided to stop the deal based on the Security Act. The decision came, among other things, because the technology at Bergen Engines would strengthen Russia's military capacity and give Russia access to essential military strategic knowledge and technology. The Parliament severely criticized the government's handling of the case and labeled it highly objectionable and serious. The Parliament also underlined the concern about whether the case had been revealed and how it would have been handled had it not been for external notices, pressure from the opposition, and investigative media.

D. EVALUATION OF THE CASE

1. Economic Statecraft

At the time, the two largest owners in TMH were the Russian oligarchs Iskander Makhmudov and Andrei Bokarev. The two oligarchs are considered to be among the world's richest men. According to *Forbes*, Makhmudov is listed as the 380th richest person in the world, with a total wealth of more than 6.5 billion USD.²³⁰ In addition, Bokarev was found on the so-called oligarch list for the United States. The two have also been co-owners of the well-known Russian arms manufacturer Kalashnikov, which was included on the EU and U.S. sanctions lists. One of Bokarev's former partners, Alexei Krivoruchko, was appointed deputy minister of defense for Russia in 2018.²³¹ Consequently, Iskander Makhmudov and Andrei Bokarev are among Russia's most powerful men, who have close ties to the Kremlin.

The Bergen Engines case makes clear that Russian direct investments and acquisitions in Norway can create opportunities to transfer technology or expertise to a foreign-controlled entity that could use this to harm Norway's or another state's national

²²⁹ "Stortinget retter hard kritikk mot regjeringen i Bergen Engines-saken" [The Parliament harshly criticizes the government in the Bergen Engines case], E24, May 19, 2021, <https://e24.no/i/39v9xP>.

²³⁰ "Iskander Makhmudov," *Forbes*, accessed December 2, 2022, <https://www.forbes.com/profile/iskander-makhmudov/>.

²³¹ "Andrei Bokarev," *Forbes*, accessed December 2, 2022, <https://www.forbes.com/profile/andrei-bokarev/>.

interests.²³² In 2019, the total portfolio of foreign direct investments in Norway was about 210 billion USD, and it came from 66 different countries.²³³ Of those, the Russian share of direct investments in Norway in 2019, including figures for ultimate ownership, was approximately 51 million USD, or less than 0.5% of the total portfolio.²³⁴ Despite the small share, it is worrisome given that Russia may previously have used direct investments to strengthen its military capabilities.²³⁵ Unfortunately, open sources do not specify in which sector or industry Russia's investments were made. Furthermore, those figures may not be entirely accurate. In some cases, Russia has manipulated trade information by investing in companies and by setting up a company in a third country to obscure their direct investment activities.²³⁶ Nevertheless, as this case indicates, there is a potential to use direct investments to harm or acquire infrastructure, target services, value chains, or obtain sensitive technology.

2. Military Externalities

Further research into TMH's links to the Russian Navy uncovered an article in the Russian business newspaper *Kommersant*. The article mentioned the acquisition of Bergen Engines as attractive, considering acquisition of technologies that may be implemented in Russia.²³⁷ The article also referred to an interview with the head of Russia's largest manufacturer of warships, United Shipbuilding Corporation (USC). USC was created by a decree from President Vladimir Putin to bring together the country's shipbuilders and is on the U.S. sanctions list. According to the USC manager, the company negotiated with TMH

²³² Benjamin J. Cohen, "Sovereign Wealth Funds and National Security: The Great Tradeoff," *International Affairs* 85, no. 4 (July 1, 2009): 713–31, <https://doi.org/10.1111/j.1468-2346.2009.00824.x>.

²³³ "Foreign Direct Investment," SSB, accessed February 27, 2022, <https://www.ssb.no/en/utenriksokonomi/forordringer-og-gjeld-overfor-utlandet/statistikk/direkteinvesteringer>.

²³⁴ "11322: Direct Investments (NOK Million), by Transaction, Country, Contents and Year. Statbank Norway," SSB, accessed February 27, 2022, <https://www.ssb.no/en/system/>.

²³⁵ Waage, Kvalvik, and Lindgren, "Utenlandske investeringer og andre økonomiske virkemidler – når truer de nasjonal sikkerhet?" [Foreign Investments and Other Economic Means – When Do They Threaten National Security?], 46.

²³⁶ Waage, Kvalvik, and Lindgren, 52.

²³⁷ "ТМХ Пошел За Двигателями в Норвегию" [TMH Went to Norway for Engines], Port News, accessed December 2, 2022, <https://portnews.ru/digest/22304/>.

to establish a collaboration and a development program for diesel engines.²³⁸ Several of Norway's coast guard vessels have engines from Bergen Engines, and at that time, several ships under construction were to get engines from Bergen Engines. Additionally, it turned out that the Norwegian intelligence ship "Marjata" had engines from Bergen Engines onboard and that Bergen Engines was responsible for the maintenance and service.²³⁹



Figure 6. "MS Marjata" Research Vessel, Norwegian Intelligence Service²⁴⁰

NAF officials stated that they had initiated a dialogue with Rolls-Royce to clarify whether the sale of the engine factory would lead to the contracts having to be changed. Furthermore, the media revealed that Bergen Engines had signed military contracts with

²³⁸ *Metoderapport Skup 2021 – Salget Av Bergen Engines* [Methodology Report Skup 2021 – The Sale of Bergen Engines].

²³⁹ "Engine Supplier to Norwegian Spy Ship Bought by Russian-Controlled Company."

²⁴⁰ Jacob Børresen, "Marjata," in *Store norske leksikon* [Large Norwegian Encyclopedia], November 29, 2021, <https://snl.no/Marjata>.

several NATO countries, including New Zealand, Australia, the Netherlands, and the United States.²⁴¹

3. Military Advantage

An edition of TMH's internal magazine from 2017 confirmed that TMH took an active part in the revival of the Russian fleet. The article "We conquer seas and ocean" stated that the "development and production of modern diesel engines for the Navy and river fleet is one of the strategic directions for the development of TM."²⁴² Director Evgeny Vozhakin was quoted as saying that "the enterprise takes an active part in the revival of the Russian fleet—it participates in several projects of the Russian Navy for the construction of surface ships and submarines."²⁴³ According to open sources, TMH has close ties to Russian authorities and the Russian defense sector in general, which suggests that the company takes part in developing military warfighting functions.

It is worth noting that Russian ship construction proceeds at a slow pace, taking up to six years to produce one corvette warship, and the maneuver systems are often the bottleneck in this process.²⁴⁴ According to defense analyst James Bosbotinis, who is associated with the magazine *Warships International Fleet Reviewer*, the sanctions from the West have severely disrupted Russian warship construction.²⁴⁵ Further, Ukrainian manufacturers had previously supplied diesel engines for the Russian Navy. Deliveries of Ukrainian engines stopped due to the Crimea conflict in 2014, while the subsequent Western sanctions against Russia have restricted the country's access to marine propulsion systems of the desired quality from Western manufacturers. This has led to delays in delivering vessels to the Russian Navy, forcing a halt in the construction of three Admiral

²⁴¹ *Metoderapport Skup 2021 – Salget Av Bergen Engines* [Methodology Report Skup 2021 – The Sale of Bergen Engines], 7.

²⁴² Konstantin Nikolayevich Dorokhin, trans., review of *Transmashholding Magazine for Partners*, by Larisa Rudakova, *Futura Media*, 2017, 16.

²⁴³ Dorokhin, 16.

²⁴⁴ *Metoderapport Skup 2021 – Salget Av Bergen Engines* [Methodology Report Skup 2021 – The Sale of Bergen Engines], 36.

²⁴⁵ *Metoderapport Skup 2021 – Salget Av Bergen Engines* [Methodology Report Skup 2021 – The Sale of Bergen Engines], 38.

Grigorovich frigates intended for the Black Sea Fleet. The three frigates were finally sold to India without engines.²⁴⁶ Moreover, the lack of engines and those of acceptable quality almost forced the Russians to abandon plans for new corvettes entirely. At the time of the potential sale, Russian defense analysts had stated that the Russian Navy would benefit from the acquisition of Bergen Engines and that it would enable faster construction and equipping of vessels.²⁴⁷ The technology and expertise from Bergen Engines would consequently have been at odds with Norwegian and allied interests. Moreover, it could have been a potential game changer in developing adequate maritime maneuver systems.

The sale of Bergen Engines would have also impacted sustainment functions. The service organization of Bergen Engines manages some of the maintenance responsibilities for the engines, including spare parts. Essential customers in recent years include the Norwegian Navy. In addition to the intelligence ship “Marjata,” Norway’s largest coast guard ship and the three new vessels in the “Jan Mayen” class have engines from Bergen Engines.²⁴⁸ Bergen Engines not only manufactures but installs the engines in the Norwegian Navy’s vessels and is responsible for maintenance tasks related to the engines. In the event of a sale, the NAF would still have needed such essential services from Bergen Engines. To continue to carry out its mission and tasks, the Norwegian Navy would have had to secure solutions for maintenance and procurement of spare parts. In the hands of TMH, it would have been possible to disrupt or stop logistics and sustainment functions linked to central capacities in the Norwegian Navy and the NIS.

Acquiring Bergen Engines could also have posed an increased intelligence threat through the company’s deliveries and contracts with the defense sector. The role of Bergen Engines as a supplier and subcontractor to the defense sector means that the company

²⁴⁶ Reuters, “Despite Putin’s Swagger, Russia Struggles to Modernize Its Navy,” *The Moscow Times*, February 21, 2019, <https://www.themoscowtimes.com/2019/02/21/despite-putins-swagger-russia-struggles-to-modernise-its-navy-a64582>.

²⁴⁷ *Metoderapport Skup 2021 – Salget Av Bergen Engines* [Methodology Report Skup 2021 – The Sale of Bergen Engines], 12.

²⁴⁸ *Metoderapport Skup 2021 – Salget Av Bergen Engines* [Methodology Report Skup 2021 – The Sale of Bergen Engines], 51.

represents a value for military power.²⁴⁹ Access to goods, information, and technology can be exploited for intelligence purposes. Although Bergen Engines did not have direct access to classified information through its contracts with the Norwegian Navy, the overall knowledge and expertise the company has acquired would have been information with a clear intelligence value for the Russian authorities.²⁵⁰ Sensitive knowledge and information transferred from TMH to the Russian authorities could have damaged Norway's defense sector and national security writ large.

A sale of Bergen Engines would also have included considerable real estate. The company's property is strategically located close to vital defense installations in Bergen. Some of these installations have fundamental importance for Norwegian and allied military power, such as the Haakonsvern Naval Base, one of the largest naval bases in Northern Europe.²⁵¹ The waters at the naval base are a national secret. The same applies to details on the seabed along the Norwegian coast and is referred to as vital for national security, among other things, because it helps to make it more difficult for the enemy to hide submarines or lay mines effectively along the coast.²⁵² This way, Norway maintains a "home-court advantage" along the coastal zone. An enemy with equally good information about the Norwegian coastal zone is far more dangerous. Russian intelligence activity against such targets and defense interests may result in the property developing as an essential platform for Russian intelligence services. According to the Norwegian Ministry of Defense, the strategic location of Bergen Engines, among other things in the vicinity of defense installations, poses an increased risk of sabotage and intelligence activities toward force protection systems.²⁵³

²⁴⁹ "Kongelig Resolusjon – Stans av salget av Bergen Engines AS" [Royal Decree – Stopping the sale of Bergen Engines AS], 4.

²⁵⁰ Justis- og Beredskapsdepartementet [Ministry of Justice], 5.

²⁵¹ Erlend Hammer, "Haakonsvern orlogsstasjon [Haakonsvern Naval Base]," in *Store norske leksikon* [Large Norwegian Encyclopedia], July 7, 2022, http://snl.no/Haakonsvern_orlogsstasjon.

²⁵² "Lov Om Informasjon Om Bestemt Angitte Områder, Skjermingsverdige Objekter Og Bunnforhold" [Act on Information on Specified Areas, Objects Worthy of Protection and Bottom Conditions], Lovdata, accessed December 31, 2022, <https://lovdata.no/dokument/NL/lov/2017-06-21-88>.

²⁵³ Justis- og Beredskapsdepartementet [Ministry of Justice], "Kongelig Resolusjon – Stans av salget av Bergen Engines AS" [Royal Decree – Stopping the sale of Bergen Engines AS], 4.

E. SUMMARY OF THE CASE

This case study demonstrates that foreign direct investments can be exploited to influence a host nation's military capabilities and warfighting functions. The Russian company TMH has close ties to Russian authorities and the defense sector, which suggests that the company takes part in the development of Russian military power. Selling Bergen Engines to TMH would have had a significant negative impact on the military readiness and national security of Norway and its allies.

Specifically, the acquisition would have enabled faster construction and equipping of Russian vessels, and the technology and expertise from Bergen Engines could potentially have been a game changer in developing adequate maritime maneuver systems for the Russian Navy. The sale of Bergen Engines would also impacted sustainment functions, as the company manages some of the maintenance responsibilities for these engines, including spare parts, for the Norwegian Navy and NIS. In the event of a sale, the NAF would still need essential services from Bergen Engines, and the Russian authorities could have been interested leveraging their ownership of the company to disrupt or stop logistics and sustainment functions linked to central capacities in the Norwegian Navy and the NIS. The sale could also have posed an increased intelligence threat through the company's deliveries to and contracts with the defense sector. Access to goods, information, and technology can be exploited for intelligence purposes, which could damage the defense sector and national security writ large. Furthermore, the property of Bergen Engines is located close to vital defense installations in Bergen, including the Haakonsvern Naval Base, one of the largest naval bases in Northern Europe. Russian intelligence activity against such targets and defense interests would have resulted in the property developing as an essential platform for Russian intelligence services, posing an increased risk of sabotage and intelligence activities targeting Norway's sustainment and force protection systems.

Table 4. Application of the Beachhead Warfare Theory to the Bergen Engines Case.

Threats – Economic Statecraft				
	Yes	Partial	No	Explanation (how/why)
Economic Access				The acquisition of Bergen Engines by TMH would have been a so-called FDI where a financial transaction would have led to the company changing ownership.
State Controlled Actor				Evidence points to the fact that TMH had close ties to Russian central authorities, including the Russian Armed Forces. In addition, TMH is important in the renewal and development of Russian military capabilities.

Values – Military Advantage					
	Domain	Yes	Maybe	Unknown	Explanation (how/why)
Maneuver	Maritime				Evidence shows that acquisition of Bergen Engines would have enabled faster construction and equipping of Russian vessels and capabilities connected to the maritime domain.
Fires					
C2					
Intelligence	Multi-Domain				Evidence shows that the overall knowledge and expertise Bergen Engines has acquired through its defense-related contracts is information that has a significant intelligence value for the Russian authorities with the potential to damage Norwegian security interests related to defense and preparedness across all domains.
Sustainment	Maritime				A sale of Bergen Engines would include the service organization that manages some of the maintenance responsibilities for the engines, including spare parts. Evidence shows that it is likely that access to goods, information, and service contracts through Bergen Engines would have made it possible for a new owner to carry out security-threatening activities or in other ways disrupt sustainment functions related to the maritime domain.
Force Prot.	Maritime				Bergen Engines owns a large property strategically located against the northern approach to Bergen and Haakonsværn Naval Base, a vital defense installation and main port for the Norway Navy. This property is consequently an ideal starting point for carrying out intelligence activities or sabotage in general and against Haakonsværn Naval Base in particular.

VI. CONCLUSION AND RECOMMENDATIONS

Money is Ammunition?

The primary objective of this thesis has been to enhance comprehension of economic statecraft's ability to impact military power. To accomplish this goal, the thesis examined three cases linked to Russian beachhead warfare in Norway. The research indicates that a nation exercising economic statecraft can pose a significant threat to the military power of the target nation, with beachhead warfare potentially affecting all warfighting functions across all domains, including the strategic, operational, and tactical levels. Furthermore, the study suggests that economic statecraft is employed as part of a long-term strategy to influence military power, with economic tactics used to gain access to critical military infrastructure, technology, and supply chains. This underscores the importance of identifying vulnerabilities in value chains, trade, and investment, as foreign interference in these areas can indirectly impact military power. Moreover, the successful execution of a beachhead warfare strategy can lead to the establishment of relational dominance over other countries. This is consistent with the beachhead warfare theory in which level zero and peacetime are viewed as critical phases in a conflict, as they enable the most significant preparations to be made.

A. CASE ANALYSIS SUMMARY

Relational dominance is the desired end state in beachhead warfare. The central aspect of achieving relational dominance is the ability to control key resources and dependencies for military power such as technology, infrastructure, and supply chains, as highlighted in this thesis. By controlling such resources, a nation can limit the ability of its opponents to pursue their objectives and force them to react to its actions, thereby gaining an advantage in military conflicts. The ability to control domains and key terrain can determine the outcome of battles. Hence, achieving relational dominance enables a nation to establish a position of strength which can be critical for the outcome of military operations.

However, acquiring footholds in such areas can be challenging. As exemplified in the Bergen Engines case, dependencies for military power pertain to national security and are subject to extensive government control, monitoring, and protection to prevent any adverse impact. Like defenses around a target, the closer the attacking force gets, the more challenging the defenses become. A prime instance is the U.S. National Security Agency's (NSA) blocking network operators AT&T and Verizon from accepting Huawei's bid to make partial deliveries to the American 5G network, a ban which came into effect because of concern about foreign access and associated vulnerabilities related to external interference in communication networks.²⁵⁴

The Bergen Engines case and the example with 5G supplier Huawei highlights the importance of the pivotal moment in an engagement. A pivotal moment in beachhead warfare is primarily related to strategic acquisitions that significantly impact military power and national security, such as digital infrastructure.²⁵⁵ Frequently, various obstacles and defensive measures are established. However, once these barriers or defenses are overcome, the likelihood of achieving success significantly rises. In the context of beachhead warfare, these barriers may pertain to state regulations and screening procedures concerning economic activity. These measures aim to capture, assess, and intervene in investment activities that may pose a security risk. Robust screening mechanisms are often implemented to safeguard critical infrastructure and essential military functions, shielding them from foreign interference. Still, in the Bergen Engines case the security risks were at first not sufficiently recognized emphasizing the importance of improving the understanding of how, why, and which types of economic activity can potentially pose a threat to military power.

Assessing time and space is essential in demonstrating how beachhead warfare can be exploited to achieve relational dominance. Commanders often rely on time as a guiding factor when selecting tactics and strategies for accomplishing military objectives.

²⁵⁴ "The United States Further Restricts Huawei Access to U.S. Technology," *United States Department of State* (blog), accessed November 16, 2022, <https://2017-2021.state.gov/the-united-states-further-restricts-huawei-access-to-u-s-technology/>.

²⁵⁵ McRaven, 5.

Moreover, the success of military campaigns is typically evaluated based on past, present, and future circumstances. Space, in contrast to domains, includes geography at the local, regional, and global level and the extent to which the threat impacts military levels of war. The space considerations are important for understanding *how* and *where* a threat to values may occur. The time consideration is important for understanding *when* a threat to values may occur. The following section summarizes how and where the three case studies could have impacted the strategic level of warfare from both the short and long-term perspective.

1. Olavsvern Case

From a long-term perspective, Russian presence at Olavsvern could have severely impacted protection, sustainment, and logistics aspects of warfighting functions for Norwegian and NATO forces in the High North. Moreover, it also suggests that such a presence could have bolstered Russian intelligence and sabotage operations.

From a short-term perspective, Russian presence at Olavsvern may have contributed to the enhancement of Russian intelligence operations in the High North, thereby improving the tactical and operational capabilities of Russian forces.

2. Pilotage Exception Certificate Case

Ever since WWII to the present, the U.S. military has continued to play a decisive role in ensuring European security, which remains central to the concept of transatlantic security and constitutes an indispensable pillar of the NATO alliance. From a long-term perspective, Russian vessels or captains possessing PECs could disrupt Norway's ability to receive and efficiently use reinforcement forces from the United States and other NATO countries in Europe, leading to significant implications across all warfighting functions.

From a short-term perspective, the disruption of underwater communication cables has the potential to undermine C2 functions, leading to adverse effects on strategic, operational, and tactical levels.

3. Bergen Engines Case

The acquisition of Bergen Engines by TMH would have granted the Kremlin the capability to construct and equip vital maritime assets and get rid of acute bottlenecks in ongoing production essential to the renewal of the Russian Navy. Over time, this could have allowed Russia to create maritime engines of comparable or superior quality to those made by

Western nations. Furthermore, the considerable delivery and maintenance agreements linked to Bergen Engines, as well as the factory premises, would have impacted intelligence and sustainment functions as it would have offered the Kremlin indirect access to the supply chains to strategic capabilities and assets, including Norway’s intelligence ship “Marjata.”

Taken together, the three cases discussed in this thesis illustrate the significant impact economic statecraft can have on the strategic level of military power, demonstrating that Russia’s beachhead warfare strategy could have led to relational dominance over Norway and thereby NATO in the High North. The natural vulnerability of the sea and coastal areas in Norway and the High North raises significant concerns about the potential long-term consequences of this strategy on all warfare functions, particularly in the maritime domain. Figure 7 provides a visualization of how the three case studies might appear if the Russian authorities had successfully secured all three beachheads optimally.

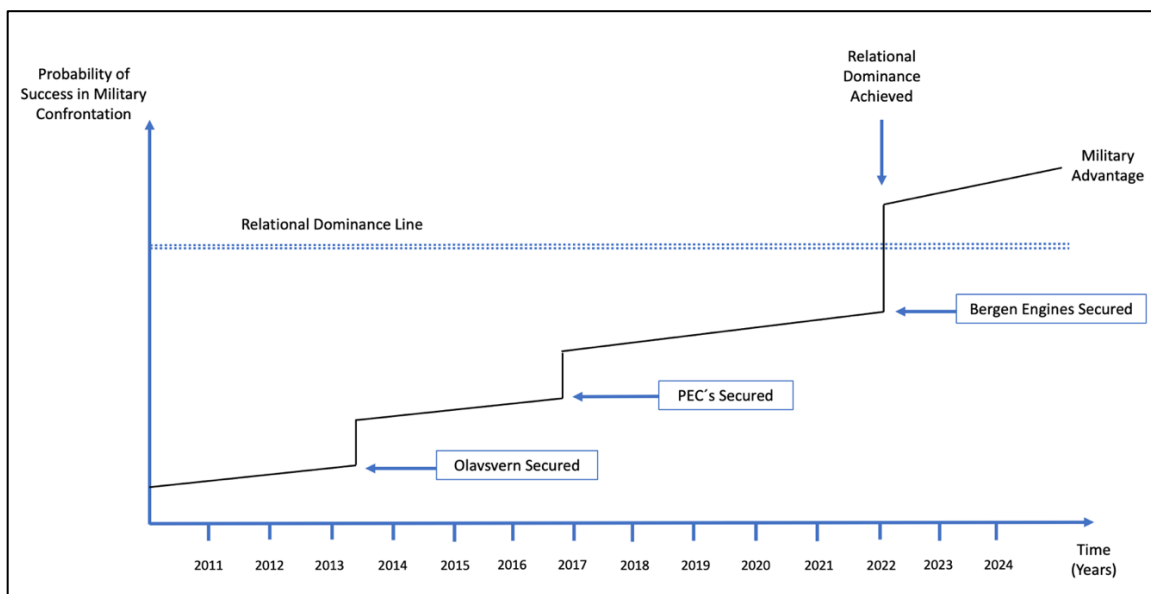


Figure 7. Relational Dominance Graph Visualizing the Three Cases’ Potential Cumulative Impact on Military Power

B. CHALLENGES FOR COUNTERING BEACHHEAD WARFARE

Beachhead warfare presents complex threats and dilemmas, especially for liberal countries. Vulnerabilities emanate from cultural aspects and democratic principles such as an open economy, international trade, and public procurement processes for military hardware and software.²⁵⁶ It is challenging to trace, synchronize, and block potential threats across different sectors and governmental responsibilities. Furthermore, as evident in this research, there are many means a state can employ to exercise beachhead warfare, such as state-owned companies, government investment funds, banks, and private companies in their own country, the host country, or a third country.²⁵⁷ Countering beachhead warfare means retaining freedom of action to pursue national interests at an acceptable risk and sustainable cost while avoiding armed conflict with adversaries. But it also means setting conditions for succeeding in armed conflict, should competition and deterrence fail to protect vital national interests.

C. RECOMMENDATIONS FOR NORWAY'S SECURITY APPARATUS

This thesis establishes a theoretical and analytical framework that bridges the gap between economic activity and military power, offering a valuable starting point for comprehending the detrimental ramifications of economic activity. The cases examined in this thesis illustrate how beachhead warfare can unfold on multiple fronts simultaneously, thereby posing challenges in achieving a holistic understanding of the situation. Additionally, classified information about the three cases, which could not be included in this thesis, also revealed vulnerabilities with substantial challenges for military power.

Norwegian authorities and businesses must strengthen their competence and awareness of the use of security-threatening economic activity.²⁵⁸ What is missing is a risk-reducing strategic plan and organization that ties together existing knowledge and

²⁵⁶ Waage, Kvalvik, and Lindgren, “Utenlandske investeringer og andre økonomiske virkemidler – når truer de nasjonal sikkerhet?” [Foreign Investments and Other Economic Means – When Do They Threaten National Security?], 35.

²⁵⁷ Waage, Kvalvik, and Lindgren, 9.

²⁵⁸ “Sikkerhetsfaglig Råd – Et Motstandsdyktig Norge” [Safety Council – A resilient Norway], 64.

capabilities. Filling this void requires forward-looking assessments rather than reactive systems. The Ministry of Defence should take a leadership role in a cross-sectoral cooperation and bring the necessary resources and stakeholders together to reduce vulnerabilities, particularly related to maritime transport, logistical services, and the cyber and space domain.

Economic interference by foreign powers in dependencies for military power pose a security threat, even if Norway is not the primary target. Norway's military geography is primarily maritime, which makes vulnerabilities to its maritime domain a recurring concern for beachhead warfare. A major security challenge in the High North is freedom of maneuver and SLOCs across the Atlantic. Norwegian and NATO forces here are within range of Russian military capabilities, and freedom of action can quickly be challenged. Norwegian and allied forces must be able to facilitate and support allied reinforcement and operate under high threat if need be. As the primary NATO member in the High North, Norway has a significant responsibility which, due to Norway's limited military resources, also provides a more extensive area of vulnerability.

Both civilian and military infrastructure the NAF rely on are often owned by private businesses and not designed for war.²⁵⁹ Given the military's pivotal role in safeguarding national security, recognizing the interdependence of the civil and military sectors is crucial. Thus, it is imperative to define clear responsibilities and security requirements for actors that support the NAF, and ensure they possess the necessary expertise to understand how their business's vulnerabilities can impact national security writ large. This includes expertise in security management and risk assessments.

Twenty-first century technological trends are another challenge. There is currently no comprehensive overview in Norway that identifies sectors, businesses, and technology areas that are vulnerable to foreign economic interference.²⁶⁰ As the great power rivalry increasingly revolves around access to data, knowledge, and technology, the growing reliance on space and digital services presents significant challenges to Norwegian military

²⁵⁹ "Sikkerhetsfaglig Råd – Et Motstandsdyktig Norge" [Safety Council – A resilient Norway], 32.

²⁶⁰ "Sikkerhetsfaglig Råd – Et Motstandsdyktig Norge" [Safety Council – A resilient Norway], 66.

power. Furthermore, attacks on new domains, such as underwater infrastructure for digital transmission, can severely undermine all warfighting functions.

Moreover, Russia is not the only threat. In the long term, the CCP's global economic influence in combination with its growing presence in the Arctic region represents a challenge to Norwegian national security.²⁶¹ The challenges presented by climate change enabling increased activity in polar regions underscore the significance of mitigating vulnerabilities linked to beachhead warfare and ensuring Norway's long-term security.²⁶² The CCP's expressed ambition to establish itself in the Arctic could potentially affect Norway's security interests, and the ability to protect against Chinese beachhead warfare in the short term will have consequences for Norway's ability to withstand the challenge in the long run.

D. RECOMMENDATIONS FOR FUTURE RESEARCH

Insufficient insight about own values and vulnerabilities for warfighting functions creates uncertainty and increases risk. Following the end of the Cold War, significant reforms were made to the defense forces in Norway, aimed at delivering defense services more affordably while maintaining or improving quality. As a result, much of the NAF's activities have been outsourced to the open private market, where competition, ownership structures, and interests may differ from Norwegian security interests. As this study highlights, the consequences for national interest and military power can be challenging and therefore a subject for further research.

Moreover, the examination of Russian beachhead warfare in Norway reveals the potential involvement of Russian oligarchs as instruments of economic statecraft. Exploring the oligarchs' affiliations outside of this context and their implications could be a valuable area for further research.

²⁶¹ "The Three-Fold Path of the Snow Dragon: China's Influence Operations in the Arctic," *Air University (AU) Journal of Indo-Pacific Affairs*, accessed May 10, 2023, <https://www.airuniversity.af.edu/JIPA/Display/Article/3171142/the-three-fold-path-of-the-snow-dragon-chinas-influence-operations-in-the-arctic/>.

²⁶² "Norway's Chairship, 2023–2025," Arctic Council, accessed May 23, 2023, <https://arctic-council.org/about/norway-chair-2/>.

From a long-term perspective, however, the CCP has the strongest hand to be successful with beachhead warfare. China's integration into the global economy was predicated on the underlying notion that this regime would encourage greater economic and political openness.²⁶³ Likewise, the post-Soviet shift from a centrally planned economy to a capitalist system aimed to establish the foundations for a democratic Russia integrated with the West.²⁶⁴ Now that these assumptions clearly have failed, the West must establish adequate mechanisms to prevent these countries from succeeding with beachhead warfare. The Chinese Counterintelligence Law from 2014 imposes obligations to relevant Chinese organizations and individuals to assist the PRC's security entities, and these organizations and individuals cannot refuse to cooperate.²⁶⁵ Most companies are at a disadvantage against competitors who do not need to make profit. It can also be difficult for Norwegian decision makers, both public and private, to reject business offers that in isolation are very favorable. Consequently, Chinese companies can essentially be a product and instrument of beachhead warfare, creating backdoors designed to work in the interest of China's military interests. Such actors will often take advantage of the fact that the decision and the gain happen at the local level, while its consequences impact the national level. This harmonizes with the characteristics of political warfare and economic warfare where the military instrument plays a less active role while the diplomatic, information, and economic instruments are at the frontline of competition in a permanent war.²⁶⁶ Enhancing understanding of, and taking action against this threat is imperative and is recommended as priority for further research.

²⁶³ Kurt M. Campbell and Ely Ratner, "The China Reckoning: How Beijing Defied American Expectations," *Foreign Affairs* 97, no. 2 (March-April 2018): 2.

²⁶⁴ "Strengthening Russia's Influence in International Affairs, Part II: Russia and Its Neighbors: A Sphere of Influence or a Declining Relationship?," *The Nuclear Threat Initiative* (blog), accessed January 30, 2022, <https://www.nti.org/analysis/articles/strengthening-russias-influence-in-international-affairs-part-ii-russia-and-its-neighbors-a-sphere-of-influence-or-a-declining-relationship/>.

²⁶⁵ Kadri Kaska, Henrik Beckvard, and Tomáš Minárik, *Huawei, 5G and China as a Security Threat*, (Tallinn: NATO Cooperative Cyber Defence Centre of Excellence, 2019), 11.

²⁶⁶ Bērziņš, "The Theory and Practice of New Generation Warfare," 359–62; Gershaneck, *Political Warfare*, 48–49; Qiao and Wang, *Unrestricted Warfare*, 118.

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