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THESIS

**CHINA'S LESSONS FROM THE RUSSO-UKRAINE
WAR APPLIED TO A TAIWAN CONTINGENCY**

by

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**CHINA’S LESSONS FROM THE RUSSO-UKRAINE WAR APPLIED
TO A TAIWAN CONTINGENCY**

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ABSTRACT

The People's Republic of China (PRC) has publicly stated its aspirations of subsuming pseudo-independent Taiwan under its formal control—by force if necessary. Several U.S. intelligence, military, and government authorities have asserted that the PRC aspires to possess the capability to achieve this forced unification of Taiwan with the Chinese mainland by the year 2027. The Russian invasion of Ukraine represents the closest modern analogy to a theoretical Chinese-forced subjugation of Taiwan, making it a critical case study for Chinese military, economic, and political observers to analyze in pursuit of improving their preparations for a Taiwan contingency. In many ways, the Russo-Ukraine War serves as a cautionary tale for China, while in others it reassures China to continue pursuing familiar efforts in preparation for forced unification and its probable consequences. Using a DIME (Diplomatic, Information, Military, Economic) framework, this thesis aims to primarily utilize Chinese-originating sources discussing the Russo-Ukraine War to understand what China is truly learning from the conflict—and perhaps more importantly, what concerns Russia's invasion raises for Chinese aspirations toward Taiwan and the all-too-soon year of 2027.

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LIST OF ACRONYMS AND ABBREVIATIONS

AAWS-M	Advanced Anti-Tank Weapon System-Medium
AFRF	Armed Forces of the Russian Federation
AMS	Academy of Military Sciences
ASEAN	Association of Southeast Asian Nations
C2	Command and Control
CCP	Chinese Communist Party
CIA	Central Intelligence Agency
CICIR	China Institute of Contemporary International Relations
CIPS	Cross-Border Interbank Payment System
CSIS	Center for Strategic and International Studies
DIME	Diplomatic, Informational, Military, Economic
DOD	Department of Defense
EU	European Union
EUR	European Union Euros
EW	Electronic Warfare
FIWCPAC	Fleet Information Warfare Command Pacific
GBP	Great Britain Pounds
GDP	Gross Domestic Product
HIMARS	High-Mobility Artillery Rocket System
IC	Intelligence Community
IMF	International Monetary Fund
ISR	Intelligence, Surveillance, and Reconnaissance

JPY	Japanese Yen
MANPADS	Man-Portable Air Defense System
MOFA	Ministry of Foreign Affairs
MSS	Ministry of State Security
NATO	North Atlantic Treaty Organization
NEA	National Energy Administration
PGM	Precision-Guided Munitions
PLA	People’s Liberation Army
PLAN	People’s Liberation Army Navy
PRC	People’s Republic of China
RMB	Renminbi
SAM	Surface-to-Air Missile
SASAC	State-owned Assets Supervision and Administration Commission of the State Council
SDR	Special Drawing Right
SWIFT	Society for Worldwide Interbank Financial Telecommunications
UAF	Ukrainian Armed Forces
UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
UN	United Nations
US	United States
USD	United States Dollar
USN	United States Navy
USNWC	United States Naval War College

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I. INTRODUCTION

A. MAJOR RESEARCH QUESTION

The People's Republic of China (PRC) has publicly stated its aspirations of subsuming another sovereign territory, Taiwan, under its control—by force if necessary. Several U.S. intelligence and military authorities have asserted that the PRC government intends to have the capability to achieve this forced unification of Taiwan to the Chinese mainland by the year 2027.¹ The February 2022 expanded Russian invasion of Ukraine, hence referred to as the Russo-Ukraine War, provides a rich case study for China to analyze, identify important lessons, and apply those lessons to its own intentions for Taiwan. Ultimately, China will not be dissuaded from pursuing the capability to force Taiwan's unification with the mainland by the Russo-Ukraine War; Taiwan's status is a critical strategic concern of the Chinese Communist Party (CCP), and a formally independent future Taiwan is unpalatable to Chinese leadership.² Therefore, the aspects of the Russo-Ukraine War that may originally appear to discourage China from forcing unification should instead be viewed as areas where the PRC can refine its Taiwan contingency plans should peaceful options fail. In that context, this thesis aims to identify the components of the Russo-Ukraine War that give China the most concern should they emerge in a Taiwan contingency.

B. SIGNIFICANCE OF THE RESEARCH QUESTION

China's aspiration to unify Taiwan with the mainland has direct parallels to Russia's attempt to assume sovereignty over Ukraine. The PRC government has repeatedly and explicitly stated it intends to incorporate Taiwan into the rest of the country, by force

¹ Office of the Director of National Intelligence, "2023 Annual Threat Assessment of the U.S. Intelligence Community" (Office of the Director of National Intelligence, February 6, 2023), 7.

² The Taiwan Affairs Office of the State Council and The State Council Information Office, "ITOW: The Taiwan Question and China's Reunification in the New Era," trans. China Aerospace Studies Institute, Air University (AU), August 10, 2022, <https://www.airuniversity.af.edu/CASI/Display/Article/3123062/itow-the-taiwan-question-and-chinas-reunification-in-the-new-era/https%3A%2F%2Fwww.airuniversity.af.edu%2FCASI%2FArticles%2FArticle-Display%2FArticle%2F3123062%2Fitow-the-taiwan-question-and-chinas-reunification-in-the-new-era%2F>.

if necessary, since the end of the Chinese Civil War in 1949. This intention was reiterated in the CCP's latest white paper on Taiwan released August 2022, in which it states: "Taiwan has belonged to China since ancient times" and that "External Forces Obstructing China's Complete Reunification Will Surely Be Defeated."³ Russian President Vladimir Putin expressed a similar sentiment in his June 2021 treatise "On the Historical Unity of Russians and Ukrainians" in which he states "Together we have always been and will be many times stronger and more successful. For we are one people."⁴ In both instances, a more powerful state is unilaterally asserting its sovereignty over a smaller territory that does not wish to be assimilated—though only Russia forcibly acted on its assertion over Ukraine at this time.

While the U.S. official policy regarding Taiwan remains strategically ambiguous, President Joe Biden has repeatedly stated the U.S. would defend Taiwan's sovereignty if it were attacked by China.⁵ The parallels between Ukraine and Taiwan are well-represented in a March 2022 statement by then-Commander of the U.S. INDO-PACIFIC COMMAND Admiral John Aquilino that Russia's invasion of Ukraine "underscored the serious threat that China poses to Taiwan."⁶ This sentiment was echoed even more directly by Deputy Director of the U.S. Central Intelligence Agency (CIA) David Cohen, who stated in September 2022 that, "We are watching very carefully how the Chinese are understanding the situation in Ukraine ... and the implications of that for their own plans as they may be in Taiwan."⁷ This thesis has similar aspirations; it will attempt to identify the repercussions

³ The Taiwan Affairs Office of the State Council and The State Council Information Office.

⁴ Elias Götz and Jørgen Staun, "Why Russia Attacked Ukraine: Strategic Culture and Radicalized Narratives," *Contemporary Security Policy* 43, no. 3 (July 3, 2022): 491, <https://doi.org/10.1080/13523260.2022.2082633>.

⁵ John Ruwitch, "Biden, Again, Says U.S. Would Help Taiwan If China Attacks," *NPR*, September 19, 2022, sec. National Security, <https://www.npr.org/2022/09/19/1123759127/biden-again-says-u-s-would-help-taiwan-if-china-attacks>.

⁶ Sheena Chestnut Greitens, "China's Response to War in Ukraine," *Asian Survey*, October 21, 2022, 766, <https://doi.org/10.1525/as.2022.1807273>.

⁷ Kevin Liptak Lendon Brad, "Biden Again Says U.S. Forces Would Defend Taiwan against Chinese Aggression," *CNN*, September 19, 2022, <https://www.cnn.com/2022/09/19/asia/biden-us-troops-defend-taiwan-intl-hnk/index.html>.

of Russia's actions that China finds most concerning, which can then provide critical insight into means to deter a Chinese attempt to force unification with Taiwan.

C. LITERATURE REVIEW

This thesis recognizes the novelty of the Russo-Ukraine War inherently bounds its findings; the Russo-Ukraine War is not over, and many potential developments could prove contrary to this thesis' analysis before it ends. However, despite being a relatively recent development in the grand scope of international relations, the Russo-Ukraine War and potential Chinese lessons derived from the conflict are robustly discussed topics in both Chinese and western international relations circles, presenting a wide breadth of source material for research. While analyses and conclusions will likely remain variable as the conflict persists, the content currently available presents a variety of viewpoints to contrast and analyze in response to this thesis' research question.

The Russian invasion of Ukraine is a widely discussed topic in political science circles the world over, especially among those specializing in defense issues and international relations. Within that discussion, a subset of writers directly compares Russia-Ukraine to the most significant security dilemma in US-PRC relations: the status of Taiwan. The comparisons emphasize various factors (e.g., economics, military power, international politics) and the overall impact of the Russian invasion on PRC perceptions of its chances of success vis-à-vis Taiwan. There are credible authors arguing very different lessons for China from the war—some view the Russo-Ukraine War as a source of encouragement for China's chances with Taiwan, others see it as a credible deterrent, and some argue the two are irrelevant to each other. It is in this discourse I will attempt to identify the most credible arguments for deterrence, expressed primarily by Chinese observers.

Authors discussing the Russo-Ukraine War often leverage similar evidence to reach differing conclusions. For example, the most striking difference between Ukraine and Taiwan from a military perspective is their geography; Taiwan is an island with 100 miles of water separating it from the PRC mainland, and Ukraine shares a 1,200-mile-long land border with its Russian aggressor. Different sources take this geographic difference to

mean different things. First, a recent Center for Strategic and International Studies (CSIS) wargame of China invading Taiwan asserts “Taiwan’s isolation means that there can be no ‘Ukraine model’”; in their assessment, China will be able to quickly isolate the island and prevent resupply during hostilities.⁸ Other analysts such as Andrew Erickson of the U.S. Naval War College (USNWC) and Gabriel Collins of Rice University emphasize layered defense of Taiwan’s shores will make it much more difficult to get invading troops on island than it was for Russia to enter Ukraine.⁹ A third, argument is postured by Joel Wuthnow of the National Defense University, who suggests that there may not be any lessons from the Russo-Ukraine conflict that the People’s Liberation Army (PLA) was not already considering and, even if there were, institutional resistance to criticism may prevent learning altogether.¹⁰ A Chinese defense journal article aligns with this indifferent viewpoint, stating “these people have probably forgotten that China’s Taiwan region is definitely not Ukraine, and the PLA is definitely not the Russian army” and “there is no comparison between the two.”¹¹ These viewpoints all make credible arguments, and this thesis intends to contest them against each other to develop a synthetic overall assessment. For the purpose of this literature review, I will not break down every individual variable by its disagreements, and instead emphasize broad trends identified in my research.

Most Chinese-originating analysis firmly supports the encouraged or indifferent arguments, likely due to restrictions on free speech within the PRC. Chinese sources tend to be critical of Russia and analytical towards Ukraine, focusing on where the Armed Forces of the Russian Federation (AFRF) went wrong and where the Ukrainian Armed Forces (UAF) performed better than expected. However, Chinese sources do not often

⁸ Mark F. Cancian, Matthew Cancian, and Eric Heginbotham, “The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan” (Center for Strategic & International Studies, January 9, 2023), 122, <https://www.csis.org/analysis/first-battle-next-war-wargaming-chinese-invasion-taiwan>.

⁹ Andrew Erickson and Gabriel Collins, “Eight New Points on the Porcupine: More Ukrainian Lessons for Taiwan,” War on the Rocks, April 18, 2022, <https://warontherocks.com/2022/04/eight-new-points-on-the-porcupine-more-ukrainian-lessons-for-taiwan/>.

¹⁰ Joel Wuthnow, “Rightsizing Chinese Military Lessons from Ukraine,” *Strategic Forum* 311 (September 2022): 1.

¹¹ Long Damao, “Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War,” trans. China Maritime Studies Institute, U.S. Naval War College, *Shipborne Weapons—Defense Review* 6 (June 2022): 6.

extend their AFRF criticism to self-reflection on the PLA, almost certainly due to limitations on public criticism of the CCP and the PLA within the PRC.¹² Still, the conflict is of great interest to Chinese analysts, as represented by the small sample below.

An example of this style of criticism can be found in an article in the Chinese defense journal *Aerospace Electronic Warfare*, where the authors individually criticize different aspects of the AFRF's command and control (C2); intelligence, surveillance, and reconnaissance (ISR); and electronic warfare (EW). The authors, representing the PLA National University of Defense Technology, discuss how Ukraine and partners disrupted the AFRF's ability to secure free use of the electromagnetic spectrum and deny its use to the UAF.¹³ While the article never directly ties Russian errors to the PLA, it asserts the conflict is "worth studying deeply" in order to lay "a solid foundation for winning high-end wars in the future."¹⁴ A second article from the same journal focuses more on the use of Unmanned Aerial Vehicles (UAVs) to support ISR and C2 in combat operations by both sides, states the conflict provides an "opportunity to reveal the veil of future warfare" and "it is necessary to learn from Russia's experience."¹⁵ And a third article, written in a Chinese defense industry magazine, takes a more direct tone by laying out several mistakes that the Russians made in Ukraine and argues that the PLA would be incapable of similar mistakes in a conflict with Taiwan, concluding "The PLA will definitely achieve quick, decisive victory, nothing like the war of attrition currently being conducted by the Russian army."¹⁶ These articles represent a sampling of the Chinese sources used to drive the conclusions of this thesis, and demonstrate that security-minded Chinese analysts are thinking about the Russo-Ukraine War's implications for their own country.

¹² P. W. Singer and Emerson T. Brooking, *Likewar: The Weaponization of Social Media* (Boston: Eamon Dolan/Houghton Mifflin Harcourt, 2018), 96.

¹³ Wu Tanran et al., "The Intervention of NATO Electromagnetic Spectrum Operation in the Russia-Ukraine Conflict and the Lessons Learned by the Russian Army," trans. Google Translate, *Aerospace Electronic Warfare* 2022, no. 3 (May 10, 2022): 2.

¹⁴ Wu et al., 3.

¹⁵ Cui Yongping, "The Challenge and Inspiration of UAVs to Field Air Defense from the Russia-Ukraine War," trans. Google Translate, *Aerospace Electronic Warfare* 2022, no. 4 (June 4, 2022): 4.

¹⁶ Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 10.

This thesis also incorporates Chinese media reporting, which offers perspectives unique from the defense-focused circles. In Chinese media, the discussion is usually less focused on military issues and provides useful insight into how the PRC views the international reaction to the Russian invasion, and how a similar reaction could affect the PRC. For example, in a March 2022 opinion piece offered by Hu Wei, chairman of Shanghai Public Policy Research Association, he criticizes Russia's decision to seize Ukraine by calling it a "political hot potato" and even recommending China should consider it "cannot be tied to Putin and needs to be cut off as soon as possible."¹⁷ While Wei avoids direct criticism of the CCP, he does suggest that the country needs to distance itself from Russia in this conflict to avoid damage to China's international standing. Other voices in Chinese media are more hawkish; a January 2023 article in the *China Daily* criticized the U.S. for seeking conflict with Russia via proxies and that it is attempting to do the same with Taiwan, casting blame for any potential future conflict in the western Pacific strictly on U.S. interference.¹⁸ Notably, the *China Daily* is a state-owned Chinese newspaper printed in English, making its expressed opinions directly allied to the CCP.¹⁹ However, while the information contained within the *China Daily* is state-sponsored propaganda, it remains relevant; the message within the propaganda can be taken as a reflection of what the CCP wants the world to learn from the Russo-Ukraine War, thereby demonstrating the CCP is also thinking about the conflict's implications.

Western sources offer mixed perspectives, with several sources individually making indifferent, encouraged, and discouraged arguments. Like in China, there are several defense and security focused journals that emphasize the tactical military lessons

¹⁷ Hu Wei, "ITOW: Possible Outcomes of the Russo-Ukrainian War and China's Choice," trans. China Aerospace Studies Institute, Air University (AU), March 18, 2022, <https://www.airuniversity.af.edu/CASI/Display/Article/2971999/itow-possible-outcomes-of-the-russo-ukrainian-war-and-chinas-choice/> <https://www.airuniversity.af.edu/CASI/Articles/Article-Display/Article/2971999/itow-possible-outcomes-of-the-russo-ukrainian-war-and-chinas-choice/>.

¹⁸ NewsBank: Access World News, "Washington's Warmongering Knows No Bounds," *China Daily*, January 12, 2023, <https://infoweb.newsbank.com/apps/news/document-view?p=AWNB&doref=news/18F00343825273B0>.

¹⁹ Falk Hartig, "Rethinking China's Global 'Propaganda' Blitz," *Global Media and Communication* 16, no. 1 (April 2020): 3, <https://doi.org/10.1177/1742766519871694>.

from the Russo-Ukraine War that can be applied to a China-Taiwan contingency. There are also several academic, news, and think tank articles that take a broader look at the implications of the conflict for international relations in Asia. Some of the opinions and arguments of these articles will be briefly discussed below.

Beginning with defense and security-focused articles, Western sources tend to emphasize the importance applying lessons from the Ukrainian's successes against Russia to improve Taiwan's defenses against China. Some studies, such as the United Kingdom's Royal United Services Institute's analysis of the first 6 months of the conflict, do not make a direct comparison but still offer insight into what went well or poorly for Ukraine that can then be extrapolated to Taiwan's defense.²⁰ As summarized by Brent D. Sadler of the Heritage Foundation, "battlefield insights from Russia's invasion of Ukraine provide the U.S. and its allies with a framework to discourage adversaries like China from future aggression."²¹ Many articles fall squarely into the discouragement camp, emphasizing the advantages of defense and the effectiveness of asymmetric warfare demonstrated by the UAF.²² Others emphasize a net encouragement, postulating that the PRC will learn from Russia's mistakes and thereby increase its confidence it will avoid making the same ones in a Taiwan contingency.²³ A third camp takes a more neutral stance, arguing the PRC may not learn anything at all; the Russo-Ukrainian conflict may not have revealed anything the Chinese were not already thinking about.²⁴ Regardless, there is ample discussion and varying viewpoints of the PRC's military lessons from the Russian invasion, much of it also derived from Chinese-originating sources.

²⁰ Mykhaylo Zabrotskyi et al., "Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022" (London, United Kingdom: Royal United Services Institute for Defence and Security Studies, November 30, 2022), 1.

²¹ Brent D Sadler, "Applying Lessons of the Naval War in Ukraine for a Potential War with China," *Backgrounder*, no. 3743 (January 5, 2023): 1.

²² Erickson and Collins, "Eight New Points on the Porcupine"; Alexander Crowther, "Russia's Military: Failure on an Awesome Scale," CEPA, April 15, 2022, <https://cepa.org/article/russias-military-failure-on-an-awesome-scale/>.

²³ John Culver and Bonny Lin, "China's Taiwan Invasion Plans May Get Faster and Deadlier," *Foreign Policy* (blog), April 19, 2022, <https://foreignpolicy.com/2022/04/19/china-invasion-ukraine-taiwan/>; Michael Schuman, "Is Taiwan Next?," *The Atlantic*, February 24, 2022, <https://www.theatlantic.com/international/archive/2022/02/vladimir-putin-ukraine-taiwan/622907/>.

²⁴ Wuthnow, "Rightsizing Chinese Military Lessons from Ukraine," 1.

There is equally robust discussion among scholars and analysts of international relations, looking at how countries have rejected Russia's invasion and speculating if an invasion of Taiwan would receive similar international condemnation. In this space, one of the key questions is whether the international community will be willing and able to provide a similarly strong economic and political response to the PRC as they did to Russia. Sheila Smith of the Council of Foreign Relations argues that convincing the PRC there would be strong international response to any aggression towards Taiwan is vital to its deterrence; she especially emphasizes the importance of Japan's engagement and general preparations to weather the economic ramifications of a strong anti-China response.²⁵ Drawing upon Chinese sources, Sheena Chestnut Greitens similarly assesses that the PRC is calculating the importance of mitigating economic impact of an invasion of Taiwan, using the Russian invasion of Ukraine as a case study to gauge their own resilience to international pressure.²⁶ Others still look away from the impact on relations between the U.S. and its allies and focus on Russia's invasion's impact on its relationship with China, assessing the conflict may have strengthened the two nations' resolve to resist the western-led international world order.²⁷ Overall, like defense issues, the western discussion of international relations implications offer many viewpoints to incorporate into this project's findings.

D. POTENTIAL EXPLANATIONS AND HYPOTHESIS

Initially, this thesis proposed an analysis of the three rough major viewpoints as discussed in the literature review to determine which is the most overall valid Chinese lesson from the Russo-Ukraine War regarding a Taiwan contingency: discouragement, encouragement, or indifference. However, upon consulting with several subject matter experts, this thesis pivoted to a different working explanation and hypothesis: that China would not be encouraged nor discouraged, but rather treat the Russo-Ukraine War as a case

²⁵ Sheila A. Smith, "The United States, Japan, and Taiwan: What Has Russia's Aggression Changed?," *Asia Policy* 29, no. 2 (April 2022): 70, <https://doi.org/10.1353/asp.2022.0029>.

²⁶ Chestnut Greitens, "China's Response to War in Ukraine," 767.

²⁷ Stephen Blank, "Liberalism's Puzzle: The Russo-Chinese Alliance in the Light of Russian Aggression against Ukraine," *Korean Journal of Defense Analysis* 34, no. 4 (December 2022): 570.

study to refine its Taiwan contingency plans. The onus for this pivot was based on the highly credible assessment that the CCP will not ever be truly dissuaded from aspiring towards the unification of Taiwan and the mainland, as often asserted by the Chinese government itself.²⁸ Therefore, looking at the Russo-Ukraine War as an encouraging or discouraging event for China vis-à-vis Taiwan is not the best way to wrestle with Chinese lessons derived from the conflict. Instead, the Russo-Ukraine War should be approached as a case study from which China can observe where it may experience unexpected friction in a Taiwan contingency and use those observations to plan countermeasures to remove or reduce that friction in future. In other words, this thesis does not expect to find a China discouraged or encouraged from the Russo-Ukraine War—simply a China that is studying, learning, and attempting to adapt to problems it now finds especially worrisome.

E. RESEARCH DESIGN

To maximize authenticity this thesis’ observations, the author has utilized China-originating sources to the greatest extent possible. In doing so, the author aims to identify Chinese lessons learned from the Russo-Ukraine War as expressed by Chinese government and defense industry-affiliated authors in their own words, as opposed to insinuating logical conclusions that should be made by Chinese observers. However, a limitation of this research approach is that the author is not proficient in Mandarin Chinese. Therefore, for primary sources from China, the author is reliant on work translated into English. Wherever possible, the researcher has utilized professionally translated material from three primary sources: first, translations from sources’ original Chinese producers, such as the Chinese Ministry of Foreign Affairs (MOFA); second, Western academic institutions, such as the USNWC China Maritime Studies Institute (CMSI); and third, think tanks, such as the CSIS Interpret: China team. When professional, human-translated options were not available, machine translation services such as Google Translate or the Open Source Enterprise were used instead—with the understanding that nuances from the original text are likely lost. To mitigate the lower reliability of machine translations, secondary sources were used to corroborate them. These secondary sources often included western articles

²⁸ The Taiwan Affairs Office of the State Council and The State Council Information Office, “ITOW.”

that derive their conclusions from Chinese sources, or Chinese sources that make similar points. So, while the author's inability to personally translate Mandarin is a limitation of this research, multiple methods remain to ground the conclusions of this thesis in authentic Chinese sources.

Western-originating observations of the Ukraine Crisis will also be utilized for two reasons: to provide additional expert analysis on critical issues, and to overcome limitations of freedom of speech among Chinese sources. First, many western scholars of China base their own writing on Chinese sources, giving their conclusions about Chinese perspectives greater authenticity. Second, China censors much of its public-facing media; it is illegal to directly criticize the Chinese government, the CCP, and instruments of governmental power like the PLA in China.²⁹ Western sources, however, are not limited by Chinese censorship law, and therefore can more openly discuss topics that may be intentionally excluded from public discourse in China. For example, Chinese sources may be willing to criticize the AFRF's performance in Ukraine, but they will not criticize the Russian government's decision to invade, as the Chinese government's official position is that Russia's security grievances with the North Atlantic Treaty Organization (NATO) are legitimate.³⁰ Meanwhile, un beholden to this limitation, Western discussions of Russia's actions cover the spectrum of criticism to empathy, with some even redirecting blame in stating that "The West, and especially America, is principally responsible for the crisis."³¹ Overall, western sources will be used to fill in gaps that Chinese analyses do not address—most likely deliberately—which can provide additional insight into what topics the CCP is especially concerned about, and does not want discussed publicly within its borders.

²⁹ Singer and Brooking, *Likewar*, 96.

³⁰ Xi Jinping, "Forging Ahead to Open a New Chapter of China-Russia Friendship, Cooperation and Common Development" (Ministry of Foreign Affairs of the People's Republic of China, March 26, 2023), https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/202303/t20230320_11044359.html.

³¹ John Mearsheimer, "John Mearsheimer on Why the West Is Principally Responsible for the Ukrainian Crisis," *The Economist (Online)*, March 11, 2022, <https://www.economist.com/by-invitation/2022/03/11/john-mearsheimer-on-why-the-west-is-principally-responsible-for-the-ukrainian-crisis>.

F. THESIS OVERVIEW

This thesis will organize Chinese lessons using the Diplomatic, Informational, Military, and Economic (DIME) framework for instruments of national power, as defined by U.S. Military Joint Doctrine.³² Recognizing each of these individual elements contains sufficient analytic fodder to support an entire thesis, and that this author cannot address everything contained within them within this paper alone, this author instead seeks to highlight important elements that are prevalent in Chinese unclassified discourse and are most relevant to a Taiwan contingency. Subsequently, as part of my efforts to efficiently bound this thesis' scope, the Diplomatic and Economic elements will be combined into a single chapter, as there is significant overlap between the two; meanwhile, the Information and Military elements will each receive its own chapter. While each of the elements of DIME could be expanded upon by future research, this thesis will attempt to identify and analyze PRC lessons from the Russo-Ukraine War that are more relevant to future Chinese planning for Taiwan contingencies.

Chinese lessons vary across the spectrum of DIME, which will be explored in the subsequent three chapters of this thesis. First, in the Diplomatic and Economic spheres, which will be combined for sake of scoping this thesis paper to manageable bounds, China has paid greatest attention to the coalition of states that has come together to inflict economic punishment on Russia (and the potential for similar actions to be taken against China). Second, regarding Military factors, there are many directly applicable observations on the UAF's successes, the AFRF's blunders, the importance of information warfare in modern conflict, and the nuclear weapons' deterring power against direct intervention. And third, in the Information domain, China has been reassured on the importance of narrative—the West's ability to project their viewpoint as the truth, portray the Russian government's justification as dishonest, and establish legitimacy for supporting Ukraine and punishing Russia—all of which tie closely to China's persistent attempts to convince the world that Taiwan is part of China, and coercive action against Taiwan would be a

³² Joint Chiefs of Staff, "Joint Doctrine Note 1-18: Strategy" (Washington, DC: Joint Chiefs of Staff, April 25, 2018), https://www.jcs.mil/Portals/36/Documents/Doctrine/jdn_jg/jdn1_18.pdf.

Chinese internal affair. This thesis will then conclude with a brief discussion of the greatest Chinese concern derived from the Russo-Ukraine War that overarch all aspects of DIME.

II. DIPLOMATIC AND ECONOMIC

A. DIPLOMATIC AND ECONOMIC: INTRODUCTION

The diplomatic and economic elements of the DIME framework are combined into a single chapter of this thesis for two reasons. First, the diplomatic coalition of states that leveraged economic punishments on Russia is one of the most heavily discussed aspects of the Russo-Ukraine War among Chinese observers. Second, while an entire thesis could be written on the economic impacts of the Russo-Ukraine War, for sake of manageably scaling this project the author will focus on the ways the Russo-Ukraine War has exposed or re-emphasized potential Chinese economic vulnerabilities during a Taiwan contingency. In doing so, the author hopes to address what is likely one of the most caution-inducing lessons of the Russo-Ukraine War for China, while recognizing there is much more that could be said about both diplomacy and economic lessons from the conflict.

Diplomacy and economics are closely tied in Chinese lessons from the Russo-Ukraine War, primarily because the major economic impacts Russia faces are the product of a US-led diplomatic coalition of allies and partners. Chinese government, academic, and media authors have been consistently attentive and critical of this coalition, often speculating how its collective economic action could be similarly leveraged against China in a future contingency. The Institute of American Studies of the China Institute of Contemporary International Relations (CICIR), a Chinese Ministry of State Security (MSS)-sponsored think tank, wrote on the one-year anniversary of the war in Ukraine that the “severe sanctions by Western countries against Russia have triggered a chilling effect” on the Russian economy, referring to the 48 countries that have enacted 12,695 new sanctions against Russia since the war’s outbreak.³³ Yet as punishing as these sanctions may be to the Russia’s economy, its self-sufficiency in most critical resources remains outside of sanctions’ reach; the country remained a net exporter of food and energy before

³³ Institute of American Studies, China Institutes of Contemporary International Relations 中国现代国际关系研究院美国所, “The Impact and Implications of the Ukraine Crisis,” trans. Center For Strategic and International Studies, Interpret: China, *Contemporary International Relations* 现代国际关系, February 28, 2023, <https://interpret.csis.org/translations/the-impact-and-implications-of-the-ukraine-crisis/>.

and after the war's outbreak.³⁴ China does not share this luxury—it is heavily dependent on international trade to sustain its economy and ensure access to critical resources.³⁵ Seemingly recognizing this point in a rare expression of legitimate concern, Zuo Xiying, a professor at the Renmin University of China's School of International Relations, wrote in the CICIR's academic journal *Contemporary International Relations* that the economic punishments on Russia have “produced a powerful deterrent effect against China with regard to the Taiwan issue.”³⁶ In order to secure its strategic economic interests, China seeks to avoid Russia's fate. Thus, China has routinely demonstrated it has learned two primary diplomatic-economic lessons from Ukraine: first, it wants to diplomatically discourage nations of the world from joining a Taiwan-response coalition. Second, for nations that cannot be convinced, China seeks to armor its economy against its economic vulnerabilities highlighted by the Russo-Ukraine War.

This chapter will proceed in four sections. First, it will discuss China's lessons from the diplomatic formation of the coalition of states against Russia, and how it seeks to discourage a similar coalition developing against itself. Second, it will discuss China's pre-war energy and food security concerns, and how the Russo-Ukraine War has re-emphasized and affected those concerns. Third, it will discuss the US-led coalitions' international financial punishments on Russia, how China is vulnerable to similar effects, and how it seeks to mitigate those vulnerabilities. Finally, it will briefly discuss advanced semiconductor manufacturing, how the Russo-Ukraine War has exposed the criticality of semiconductors to high-end conflict, and how China seeks to secure its own semiconductor production capability to avoid the difficulties with supply currently faced by Russia.

³⁴ Ioannis E Kotoulas and Wolfgang Puztai, “Geopolitics of the War in Ukraine,” Foreign Affairs Institute Reports (Athens, Greece: Foreign Affairs Institute, June 30, 2022), 36, <https://fainst.eu/wp-content/uploads/2022/06/Geopolitics-of-the-War-in-Ukraine-FINAL.pdf>.

³⁵ Amy Hawkins, “China's War Chest: Beijing Seeks to Remedy Its Vulnerability to Food and Energy Embargoes,” *The Guardian*, May 28, 2023, sec. World news, <https://www.theguardian.com/world/2023/may/29/chinas-war-chest-beijing-seeks-to-remedy-its-vulnerability-to-food-and-energy-embargoes>.

³⁶ Zuo Xiying 左希迎, “The U.S. Deterrence Strategy and the Russia-Ukraine Conflict 美国威慑战略与俄乌冲突,” trans. Center for Strategic and International Studies, Interpret: China, *Contemporary International Relations* 现代国际关系, May 20, 2022, <https://interpret.csis.org/translations/the-u-s-deterrence-strategy-and-the-russia-ukraine-conflict/>.

B. DIPLOMATIC: THE COALITION

Beijing wants to prevent the U.S. from developing an anti-China coalition in a Taiwan contingency like it did in response to Russia's aggression toward Ukraine. In support of this goal, China seeks to convince other nations that Taiwan and Ukraine are different—especially those states that joined the anti-Russia coalition. China encourages states to view involvement in a Taiwan contingency as outside of their security interests, or as an issue that they could not hope to influence even if they wanted to. As stated by Chinese Ministry of Foreign Affairs spokesperson Wang Wenbin, the Taiwan issue is “entirely China's internal affairs while the Ukraine issue arose from contention between two countries.”³⁷ The broader narrative China seeks to promote regarding connections between Ukraine and Taiwan (or lack thereof) is discussed more broadly in the Information chapter of this thesis, but the diplomatic implications of that narrative will be discussed here.

Chinese diplomacy has long emphasized that great powers should not engage in what it views as hegemony-seeking behavior outside their local region. In 2014, Xi espoused his support for nations restricting intervention on security issues to those in their geographic proximity by stating “it is for the people of Asia to run the affairs of Asia, solve the problems of Asia and uphold the security of Asia.”³⁸ Disguised as a promotion of self-determination, this sentiment beguiles another reason China prefers strategic partnerships over formal alliances: strategic partnerships are bilateral, and China possesses the largest economy and military in Asia, therefore it operates from a position of strength relative to any individual country in its periphery. To preserve this singular advantage, China opposes other nations in Asia acting collectively—being stronger together than they are individually. For example, at the 2010 Association of Southeast Asian Nations (ASEAN) regional forum, several southeast Asia states were attempting to collectively resolved

³⁷ “Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on March 23, 2022,” Ministry of Foreign Affairs of the People's Republic of China, March 23, 2022, https://www.mfa.gov.cn/eng/xwfw_665399/s2510_665401/202203/t20220323_10654642.html.

³⁸ Xi Jinping, “New Asian Security Concept for New Progress in Security Cooperation,” Ministry of Foreign Affairs of the People's Republic of China, May 21, 2014, https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/201405/t20140527_678163.html.

South China Sea territorial disputes—an issue China prefers to negotiate individually with each competing claimant.³⁹ In a rare moment of bluntness, the Chinese representative, Foreign Minister Yang Jiechi, was said to have shot down one ASEAN nation’s proposals by declaring “China is a big country and you are small countries, and that is a fact.”⁴⁰

China’s anti-Asian-alliance sentiment continues today, as it has attempted to leverage the Russo-Ukraine War to frame security alliances as regionally destabilizing to dissuade Asian countries from seeking them in response to the European conflict. In May 2022, Vice Foreign Minister Le Yucheng accused the U.S. of “creating exclusive groups against China and inflaming the Taiwan question to test China’s red line” and that “Such a strategy, if left unchecked, would bring horrible consequences and push the Asia-Pacific over the edge of an abyss.”⁴¹ China will likely continue diplomatic efforts to encourage division among the smaller countries of the world, especially in its periphery, thereby ensuring China remains the objectively more powerful actor in its bilateral interactions—each individual diplomatic engagement contributing to the greater goal of economic security.

In addition to challenging the formulation of new alliances in Asia, Beijing aims to keep pre-existing strategic alliances focused on security issues besides Taiwan. Unfortunately for China, Russia’s actions in Ukraine have reinvigorated NATO—an alliance that is increasingly viewing Taiwan as relevant to its security interests. For Example, a September 2023 *NATO Review* article emphasized the connective tissue between Chinese aggression over Taiwan distracting the U.S. military and potentially opening doors for Russian aggressiveness in Europe.⁴² China views NATO’s current trends

³⁹ John Ruwitch and Ambika Ahuja, “China Ruffled at Security Forum Over Maritime Rows,” *Reuters*, July 23, 2010, sec. World News, <https://www.reuters.com/article/uk-asia-security-china-idUKTRE66M29F20100723>.

⁴⁰ Donald K. Emmerson, “Singapore and Goliath?,” *Journal of Democracy* 29, no. 2 (April 2018): 76, <https://doi.org/10.1353/jod.2018.0027>.

⁴¹ Le Yucheng, “Acting on the Global Security Initiative To Safeguard World Peace and Tranquility,” Ministry of Foreign Affairs of the People’s Republic of China, May 6, 2022, https://www.fmprc.gov.cn/eng/wjbxw/202205/t20220506_10682621.html.

⁴² Gregory Weaver, “The Urgent Imperative to Maintain NATO’s Nuclear Deterrence,” *NATO Review*, September 29, 2023, <https://www.nato.int/docu/review/articles/2023/09/29/the-urgent-imperative-to-maintain-natos-nuclear-deterrence/index.html>.

negatively—the CICIR writes that the Russo-Ukraine War pulled “NATO back from the brink of its ‘brain death’” but criticizes this revived unity as increasing the risks of bloc confrontation between the U.S. and other global powers.⁴³ The anti-alliance sentiment was repeated in the Chinese government’s February 2023 paper titled “China’s Position on the Political Settlement of the Ukraine Crisis,” which stated “The security of a region should not be achieved by strengthening or expanding military blocs.”⁴⁴ And finally, the Chinese MOFA’s Le Yucheng expressed similar anti-NATO in Asia sentiment by stating “the attempt to ‘copy and paste’ the Ukraine crisis in the Asia-Pacific is doomed to fail.”⁴⁵

While the 48 states that came together to enact collective sanctions on Russia is impressive, China is paying close attention to far greater number of nations that remained neutral. The CICIR poignantly observes that only four nations in the Asia-Pacific joined the coalition of sanctioning states against Russia: Japan, South Korea, Singapore, and Australia; in the think tank’s words, the states who refused to participate belong to the “non-aligned movement” who view neutrality as their “basic principle and long-term strategy for engaging in international relations.”⁴⁶ Zhou Yu, Director of the Center for International Financial and Monetary Studies at the Shanghai Academy of Social Sciences’ Institute of World Economics, optimistically observed in an article written for his Academy’s *Journal of International Relations* that the United States “lacks the ability to unilaterally impose effective financial sanctions.”⁴⁷ However, even if Zhou’s assessment is accurate, the Russo-Ukraine War demonstrated that multilateral unity is a very realistic response to unilateral international aggressors.

⁴³ Institute of American Studies, China Institutes of Contemporary International Relations 中国现代国际关系研究院美国所, “The Impact and Implications of the Ukraine Crisis.”

⁴⁴ Ministry of Foreign Affairs of the People’s Republic of China, “China’s Position on the Political Settlement of the Ukraine Crisis,” February 24, 2023, https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/202302/t20230224_11030713.html.

⁴⁵ Le, “Acting on the Global Security Initiative To Safeguard World Peace and Tranquility.”

⁴⁶ Institute of American Studies, China Institutes of Contemporary International Relations 中国现代国际关系研究院美国所, “The Impact and Implications of the Ukraine Crisis.”

⁴⁷ Zhou Yu, “The Weaponization of Global Financial Public Goods and Its Formation Mechanism 全球金融公共品的武器化及其形成机制,” trans. Center For Strategic and International Studies, Interpret: China, *Journal of International Relations 国际关系研究*, August 28, 2022, <https://interpret.csis.org/translations/the-weaponization-of-global-financial-public-goods-and-its-formation-mechanism/>.

China cannot assume collective inaction from the U.S. and all its allies during a Taiwan contingency, nor can it rely on the non-aligned nations to bail it out against a coalition similar to the one acting against Russia. While numerous, most non-aligned nations are not the consumerist societies China needs as trading partners to keep its economy booming—those almost entirely belong to the 48 states that are leveraging sanctions on Russia. The U.S., Canada, Japan, Korea, Australia, and NATO alone account for half of all PRC exports, and are all participants in the sanctioning coalition.⁴⁸ This thesis did not find any direct recognition of this vulnerability among Chinese writers, and it is this author’s opinion that this lack of recognition is telling—China knows it will likely not be able to dissuade at least some of its largest trading partners against economic intervention in a Taiwan contingency.

C. ECONOMIC: FOOD AND ENERGY SECURITY

Of the many secondary effects of the Russo-Ukraine War, food and energy security disruptions are perhaps the most globally impactful. The conflict has revealed all nations, neutral or otherwise, can be impacted by interruptions to supply chains of critical resources.⁴⁹ Most concerning to China, the Russo-Ukraine War has re-emphasized its vulnerabilities derived from a lack of control over these supply chains; commenting on western sanctions, CICIR wrote in February 2023 that “energy and food issues have been politicized and weaponized.”⁵⁰ China wants to prevent the weaponization, intentional or otherwise, of critical food and energy supplies against itself.

China has aspired to decrease its dependence on external suppliers of critical resources for decades, a trend that has continued under Xi Jinping. In 1996, the CCP release

⁴⁸ Jo Inge Bekkevold, “Imperialist Master, Comrade in Arms, Foe, Partner, and Now Ally? China’s Changing Views of Russia,” in *Russia-China Relations: Emerging Alliance or Eternal Rivals?*, ed. Sarah Kirchberger, Svenja Sinjen, and Nils Wörmer, Global Power Shift (Cham: Springer International Publishing, 2022), 50, <https://doi.org/10.1007/978-3-030-97012-3>.

⁴⁹ “Spotlighting Russian Federation-Ukraine War’s Impact on Global Food, Energy Stability, Delegates in Security Council Urge Renewing Grain Initiative” (United Nations, March 17, 2023), <https://press.un.org/en/2023/sc15233.doc.htm>.

⁵⁰ Institute of American Studies, China Institutes of Contemporary International Relations 中国现代国际关系研究院美国所, “The Impact and Implications of the Ukraine Crisis.”

a white paper targeting a self-sufficiency target for grain production at 95%.⁵¹ This goal remains—Xi has often expressed several times since taking office in 2013 that “the rice bowls of the Chinese people must always be held firmly in our own hand and filled mainly with Chinese grain.”⁵² The rice bowl is metaphorical and extends to all critical resources, not just food; for example, the Chinese National Energy Administration (NEA)’s 2022 Guiding Opinions references holding “the energy rice bowl firmly in our own hands.”⁵³ However, that metaphorical task has proven easier to quote than to achieve. Possessing a population of 1.4 billion people, China is a nation that is extremely dependent on imports of energy and food resources to sustain itself. 2021 NEA data shows that China is dependent on external sources for 72% of its oil and 42% of its natural gas, primarily imported by sea.⁵⁴ Additionally, in 2022 China’s self-sufficiency ratio for food produced domestically to total consumption was 65.8%, the remainder made up for in imports.⁵⁵ In light of these external dependencies and in the wake of the Russo-Ukraine War, Chinese economic analysts have expressed renewed emphasis on the importance of self-sufficiency—and where that is impossible, securing access to critical food and energy resources outside of channels the United States and allies can influence.

Of the two major import sectors of food and energy, food security seems less concerning to Chinese observers, likely because it is the more solvable of the two problems: China is technically able to feed its populace solely with its domestic agricultural capacity.

⁵¹ ChinaPower, “How Is China Feeding Its Population of 1.4 Billion?” (Center for Strategic & International Studies, August 26, 2020), <https://chinapower.csis.org/china-food-security/>.

⁵² Zongyuan Zoe Liu, “China Increasingly Relies on Imported Food. That’s a Problem.,” Asia Program (Council on Foreign Relations, January 25, 2023), <https://www.cfr.org/article/china-increasingly-relies-imported-food-thats-problem>.

⁵³ National Energy Administration, “Guiding Opinions on Energy Work in 2022,” trans. Center For Strategic and International Studies, Interpret: China, Interpret: China, March 17, 2022, <https://interpret.csis.org/translations/guiding-opinions-on-energy-work-in-2022/>.

⁵⁴ Andrew S Erickson and Gabriel B Collins, “Putin’s Ukraine Invasion: Turbocharging Sino-Russian Collaboration in Energy, Maritime Security, and Beyond?,” *Naval War College Review* 75, no. 4 (Autumn 2022): 95; Fanting Gao, “In an Oil and Gas Fumed Atmosphere — The Russia-Ukraine Conflict and the Suddenly Magnified Energy Security Perspective [Excerpt],” trans. Center For Strategic and International Studies, Interpret: China, *China State-Owned Enterprise Management 国企管理*, March 16, 2022, <https://interpret.csis.org/translations/in-an-oil-and-gas-fumed-atmosphere-the-russia-ukraine-conflict-and-the-suddenly-magnified-energy-security-perspective-excerpt/>.

⁵⁵ Liu, “China Increasingly Relies on Imported Food. That’s a Problem.”

Wang Haibin, Chief Economist of the Sinochem Energy Company, expressed as much in the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)’s online publication *Energy* by writing “the Chinese government and people do not need to worry about food supply security, the reason being that China has a high rate of self-sufficiency in food, especially grains.”⁵⁶ Wang believes this is because “average domestic self-sufficiency rate across China’s three major grains, rice, wheat, and corn, is above 97%.”⁵⁷ However, the issue of food security is more complicated than that—especially if the Chinese government assumes its people would be willing to take a major step back in their nutritional quality of life.

The main reason China’s dependency on food imports has increased is not due to a lack of domestic production capacity, but rather an increase in demand for a more varied and nutritious diet among the expanding Chinese middle class.⁵⁸ China’s farmers have been able to meet increased demands for grains; despite domestic consumption of grains increasing from “125 million metric tons (tonnes, t) in 1975 to 420 million tonnes in 2018,” China’s production-to-consumption ratio of grains remains about one-to-one according to research by the CSIS.⁵⁹ Yet over the same period from 1975–2018, meat consumption in China grew from 7 million metric tons to 86.5 million.⁶⁰ This carnivorous appetite has led to increased domestic livestock production, which in turn drastically increases demand for grains—Chinese imports of soy beans increased in 2000 to 2018 from \$2.3 to \$38.1 billion, primarily for use as animal feed.⁶¹ Other foodstuffs, such as oils, sugar, and processed foods have also proportionally increased in Chinese diets, so while China was a net

⁵⁶ Wang Haibin, “In an Increasingly Tumultuous World, How Can China’s Energy Achieve Energy Sustainable Security?,” trans. Center For Strategic and International Studies, Interpret: China, *Energy 能源杂志*, March 16, 2022, <https://interpret.csis.org/translations/in-an-increasingly-tumultuous-world-how-can-chinas-energy-achieve-energy-sustainable-security/>.

⁵⁷ Wang.

⁵⁸ Liu, “China Increasingly Relies on Imported Food. That’s a Problem.”

⁵⁹ ChinaPower, “How Is China Feeding Its Population of 1.4 Billion?”

⁶⁰ ChinaPower.

⁶¹ ChinaPower.

exporter of agricultural goods as recently as 2003, it now imports more agricultural goods than any other country in the world.⁶²

To counter this growing external food dependency, the Chinese government is pursuing two lines of effort: increase domestic agricultural self-sufficiency and pivot external suppliers away from western-aligned nations. While China's food security concerns existed before the Russo-Ukraine War, the conflict has energized efforts to address them. In October 2022, Xi Jinping himself stated in his report to the 20th National Congress of the CCP that "we must reinforce the foundations for food security on all fronts."⁶³ Reflecting on the war's impact on food security, the CICIR wrote in February 2023 that "the tight global food supply caused by the war has forced many countries to reduce exports to ensure their own food security" and may "shroud the international food market with protectionism."⁶⁴ As China's domestic agricultural production has not been able to keep up with its population's needs and wants, it has to increasingly look to this international market for its foodstuffs.⁶⁵

China is seeking to nurture relationships with partners who can provide food imports as an alternative to the United States.⁶⁶ For example, China has drastically decreased its food imports from the United States in recent years. The U.S. Department of Agriculture reports that Chinese orders for US-produced corn decreased 70% in 2022–2023 from the previous year.⁶⁷ China has enabled this reduction by developing alternative suppliers like Brazil, which replaced the United States as China's number one agricultural supplier in 2021.⁶⁸ China has also increased its agricultural supply from Russia, the two nations inking a deal expanding Chinese access to Russian wheat exports during Putin's

⁶² Liu, "China Increasingly Relies on Imported Food. That's a Problem."

⁶³ Hawkins, "China's War Chest."

⁶⁴ Institute of American Studies, China Institutes of Contemporary International Relations 中国现代国际关系研究院美国所, "The Impact and Implications of the Ukraine Crisis."

⁶⁵ Liu, "China Increasingly Relies on Imported Food. That's a Problem."

⁶⁶ Liu.

⁶⁷ Hawkins, "China's War Chest."

⁶⁸ Liu, "China Increasingly Relies on Imported Food. That's a Problem."

February 2022 visit to China prior to the Beijing Olympics and the invasion of Ukraine.⁶⁹ China is likely to continue to pursue expanded agricultural trade relationships with the unaligned nations of the world, though these relationships may not solely overcome one of China's greatest economic vulnerabilities: sea-based trade. Indeed, when Russia backed out of the Black Sea Grain Initiative (a United Nations (UN) deal to ensure continued grain exports from Ukraine and Russia during their conflict) in July 2023, China's UN representative Zhang Jun expressed rare (but veiled) criticism of Russia by stating "we must firmly oppose actions that affect global food security and international cooperation, such as unilateral sanctions, decoupling and severing supply chains, disrupting market order and suppressing enterprises from other countries."⁷⁰ This criticism reflects China's reliance on maritime trade for several critical resources—and its sensitivity to that trade's disruption.

The Russo-Ukraine War has invigorated Chinese discussion on the nation's dependency on sea-based imports, especially in the realm of energy security. While China's food situation is certainly vulnerable to external disruptions, its energy sector is vastly more dependent on non-domestic suppliers of oil and natural gas. As described by Gao Fanting, a senior reporter for the Chinese magazine *China State-owned Enterprise Management*, "although the Russia-Ukraine conflict is far from Asia, the global energy market is unitary in nature."⁷¹ While 80% of China's electricity comes from coal, and most of that is produced domestically, about three-quarters of China's oil and two-fifths of its natural gas are imported.⁷² These critical resources are also primarily transported via seaborne tankers from Russia and the Middle East, making them susceptible to interception in a time of conflict by adversarial actors.⁷³ According to the China General Administration

⁶⁹ Genevieve Donnellon-May and Hongzhou Zhang, "What Do We Really Know About China's Food Security?," *The Diplomat*, February 7, 2023, <https://thediplomat.com/2023/02/what-do-we-really-know-about-chinas-food-security/>.

⁷⁰ Zhang Minlu, "Chinese UN Envoy Calls for Food-Security Cooperation," *China Daily*, August 8, 2023, <https://www.chinadaily.com.cn/a/202308/04/WS64cc58f0a31035260b81a4bb.html>.

⁷¹ Gao, "In an Oil and Gas Fumed Atmosphere — The Russia-Ukraine Conflict and the Suddenly Magnified Energy Security Perspective [Excerpt]."

⁷² Hawkins, "China's War Chest."

⁷³ Hawkins.

of Customs, nine-tenths of Chinese oil imports and two-thirds of its natural gas imports are delivered via maritime trade.⁷⁴ Wang Haibin succinctly summarizes the issue by stating “oil security is the soft underbelly of China’s energy security” and connects this vulnerability to its logical next step, stating “some major powers have become increasingly enamored with using oil and gas as a weapon to achieve their strategic goals.”⁷⁵ Chinese energy business leaders are especially concerned by this vulnerability and seek to mitigate it.

The primary way China’s business community seeks to reduce their seaborne vulnerability is by increasing overland sources of critical fossil fuels. Xu Jin, the Chief Economist of state-owned China Energy Construction Group Investment Co., wrote in another issue of SASAC’s *Energy* that “ensuring diversification of energy supply is imperative” to “avoid having all our eggs in one basket.”⁷⁶ Wang Haibin is more descriptive, stating China has “four main strategic energy channels: the maritime, northeast (referring to the Sino-Russian oil and gas pipeline), northwest (referring to the China-Central Asia oil and gas pipeline), and southwest (referring to the China-Myanmar oil and gas pipeline) channels.”⁷⁷ To compensate for vulnerabilities in the maritime channel, China seeks to expand their pipeline infrastructure. To that end, several Chinese energy business leaders see an obvious answer: increasing Chinese access to Russian oil and gas.⁷⁸

The Russo-Ukraine War’s subsequent European dissociation from Russian energy exports provided China with an opportunity to expand its share of the Russian energy market, and it capitalized. In 2022, Chinese imports of Russia oil increased 55% over the

⁷⁴ Erickson and Collins, “Putin’s Ukraine Invasion: Turbocharging Sino-Russian Collaboration in Energy, Maritime Security, and Beyond?,” 96–101.

⁷⁵ Wang, “In an Increasingly Tumultuous World, How Can China’s Energy Achieve Energy Sustainable Security?”

⁷⁶ Xu Jin 徐进, “Ten Revelations from the Russia-Ukraine Conflict Concerning China’s Energy Security 俄乌冲突给我国能源安全的十大启示,” trans. Center For Strategic and International Studies, Interpret: China, *Energy 能源杂志*, May 10, 2022, <https://interpret.csis.org/translations/ten-revelations-from-the-russia-ukraine-conflict-concerning-chinas-energy-security/>.

⁷⁷ Wang, “In an Increasingly Tumultuous World, How Can China’s Energy Achieve Energy Sustainable Security?”

⁷⁸ Xu, “Ten Revelations from the Russia-Ukraine Conflict Concerning China’s Energy Security 俄乌冲突给我国能源安全的十大启示”; Gao, “In an Oil and Gas Fumed Atmosphere —The Russia-Ukraine Conflict and the Suddenly Magnified Energy Security Perspective [Excerpt].”

previous year, and Russia is now the largest supplier of oil to China (overtaking Saudi Arabia).⁷⁹ Additionally, China's expanded diplomatic and security leverage over Russia has put it in a more favorable position to negotiate expansion of the Siberian oil pipeline.⁸⁰ This appears to be the most frequently suggested strategic solution to China's oil vulnerabilities; the NEA, Wang Haibin, and Xu Jin all express the importance of expanding China's overland oil and gas pipelines.⁸¹ However, due to the infrastructure costs and capacity limitations they cannot be reasonably expected to replace the 90% of Chinese oil imports that currently come from seaborne imports.⁸² And, perhaps more importantly, pipelines are fixed targets that run for hundreds of miles through isolated territory; in an armed conflict, they are almost impossible to defend.⁸³ While expanded pipelines do provide strategic depth for Chinese energy security, they are far from a panacea to China's oil security woes.

Overall, the Russo-Ukraine War has reinvigorated Chinese efforts to secure reliable access to natural resources from avenues outside of potential U.S. influence. For food, China will seek to increase its domestic agricultural capacity and secure trade non-aligned trade partners in the global south. For energy, China will continue to pursue greater access to Russian oil—a line of effort that could serve another strategic economic goal: broader global adoption of the Chinese Renminbi (RMB), one of the important financial effects discussed in the next section.

⁷⁹ Morena Skalamera, "The Geopolitics of Energy after the Invasion of Ukraine," *The Washington Quarterly* 46, no. 1 (Spring 2023): 18.

⁸⁰ Alexander Gabuev, "China's New Vassal," *Foreign Affairs*, August 9, 2022, <https://www.foreignaffairs.com/china/chinas-new-vassal>.

⁸¹ Wang, "In an Increasingly Tumultuous World, How Can China's Energy Achieve Energy Sustainable Security?"; Xu, "Ten Revelations from the Russia-Ukraine Conflict Concerning China's Energy Security" 俄乌冲突给我国能源安全的十大启示; National Energy Administration, "Guiding Opinions on Energy Work in 2022."

⁸² Erickson and Collins, "Putin's Ukraine Invasion: Turbocharging Sino-Russian Collaboration in Energy, Maritime Security, and Beyond?," 98–99.

⁸³ Erickson and Collins, 100.

D. ECONOMIC: INTERNATIONAL FINANCE

The Russo-Ukraine War has also elevated the sense of urgency surrounding one of China's major strategic goals: promoting wider adoption of the Chinese financial institutions in the international economy, thereby increasing China's resilience to western sanctions. In some ways, China's economy is even more vulnerable to western financial restrictions than Russia.⁸⁴ While the Chinese government has long endeavored to increase its resilience to U.S. economic pressure, the economic coalition against Russia has re-energized the urgency to develop that resilience among Chinese economic analysts.

As part of its efforts to punish Russia for its invasion of Ukraine, the United States led a coalition of allies in launching wide-reaching economic sanctions. Zhang Bei, Deputy director and senior economist at the Financial Research Institute of the People's Bank of China, wrote in the CICIR's *China Security Studies* journal that of the financial punishments used on Russia, three most threaten a country's national security: freezing assets held in foreign states, restricting access to international financial institutions and foreign direct investment, and denying access to international financial payment systems and currencies.⁸⁵ Zhang recommends her country must strengthen itself against these punishments, as the possibility that "some countries will stir up trouble and find excuses to impose financial sanctions on China cannot be ruled out."⁸⁶ She is not alone—similar sentiments have been expressed by several public and private sector Chinese leaders. By carefully studying the actions leveraged against Russia, and the ways Russia is fighting them, China hopes to be better prepared to guard against such punishments itself.

Chinese scholars have analyzed Russia's attempt to increase its own resistance to international sanctions following its 2014 invasion of Crimea, and how its preparations underestimated the severity of the sanctions it now faces. Zhang specifically noticed that

⁸⁴ Audrye Wong, "China's Economic Statecraft: Lessons Learned from Ukraine," *The Washington Quarterly* 46, no. 1 (Spring 2023): 133.

⁸⁵ Zhang Bei 张蓓, "Impact of Financial Sanctions on National Financial Security and Countermeasures 金融制裁对国家金融安全的影响与应对," trans. Center For Strategic and International Studies, Interpret: China, *China Security Studies 国家安全研究*, October 30, 2022, <https://interpret.csis.org/translations/impact-of-financial-sanctions-on-national-financial-security-and-countermeasures/>.

⁸⁶ Zhang.

after invading Crimea, Russia made deliberate efforts to “de-dollarize” by decreasing its foreign holdings of United States Dollars (USD), thereby weakening the US’ unilateral economic leverage over Russia.⁸⁷ This topic is also of great interest to Zhou Yu, who observed in an article written in the Chinese *Journal of International Relations* that from 2017 to 2021 Russia decreased its foreign reserves of USD from 46.3% of all assets to just 10.9%; in exchange, Russia increased its reserves of European Union Euros (EUR), Chinese RMB, Gold, and other currencies.⁸⁸ As a more micro-level example, the Russian Central Bank increased its reserve of Japanese Yen (JPY) from almost nothing in 2014 to 6% (\$33 million) of its \$550 million in total foreign assets by 2021.⁸⁹ Additionally, recognizing the vulnerability of overreliance on the Belgian Society for Worldwide Interbank Financial Telecommunications (SWIFT) international transaction system, Russia developed its own Mir Credit system as an alternative to SWIFT to enable cross-border trade in Russian Rubles.⁹⁰ However, Zhou points out these moves were predicated on the assumption that “given that the European Union was highly dependent on its energy supply, Russia had always believed that it would not agree to the SWIFT sanctions or freeze its foreign assets” in euros; ultimately, the U.S. was able to convince its partners to do both of these things.⁹¹

The European Union, combined with Canada, Japan, and the UK, agreed to freeze over \$300 billion in Russian non-USD assets within their countries, making half of all Russian international holdings inaccessible.⁹² In addition to the SWIFT ban, the U.S. declared any nation utilizing the Mir system would be violating sanctions and be subject to its own economic punishment, which caused every nation using the system (Kazakhstan,

⁸⁷ Zhang.

⁸⁸ Zhou, “The Weaponization of Global Financial Public Goods and Its Formation Mechanism” 全球金融公共品的武器化及其形成机制.

⁸⁹ Caileigh Glenn, “Lessons in Sanctions-Proofing from Russia,” *The Washington Quarterly* 46, no. 1 (Spring 2023): 105–20.

⁹⁰ Evan A. Feigenbaum and Adam Szubin, “What China Has Learned From the Ukraine War,” *Foreign Affairs*, February 14, 2023, <https://www.foreignaffairs.com/china/what-china-has-learned-ukraine-war>.

⁹¹ Zhou, “The Weaponization of Global Financial Public Goods and Its Formation Mechanism” 全球金融公共品的武器化及其形成机制.

⁹² Feigenbaum and Szubin, “What China Has Learned From the Ukraine War.”

Tajikistan, Uzbekistan, Turkey, and Vietnam) to drop it.⁹³ Through the power of a coalition, the United States and allies had inflicted greater economic punishment on Russia than it had anticipated as possible—and demonstrated to China that similar methods to mitigate its own vulnerability to economic punishment would not suffice. In response, Zhang advocates China must “diversify our trading channels, strive to diversify and decentralize our investment, reduce our dependence on any single financial trading platform, and make adjustments to establish a multi-currency financial portfolio.”⁹⁴ However, China may uniquely face some financial obstacles that Russia was able to circumvent.

Fortunately for Russia, when it was locked out of trading in USD, EUR, JPY, and British Pound Sterling (GBP), it still had an International Monetary Fund (IMF)-backed Special Drawing Right (SDR) currency available to conduct international trade: China’s RMB. Subsequently, Russian businesses and banks rapidly expanded their reserves of RMB and began using the currency in record numbers. By August 2022, RMB trade on the Russian market had grown exponentially, overtaking the Euro as the top currency in trade volume for the first time.⁹⁵ In order to conduct international transactions with their new favored currency, Russian businesses rapidly adopted the Chinese alternative to SWIFT: the Cross-Border Interbank Payment System (CIPS).⁹⁶ Sino-Russian trade rapidly accelerated and hit a record high \$190 Billion in 2022 overall—34.3% more than the year prior.⁹⁷ Reflected in the writings of Xu Jin, Zhou Yu, and Zhang Bei, this new economic dependence of Russia is an individual exemplar of how China wants other nations to

⁹³ Feigenbaum and Szubin.

⁹⁴ Zhang, “Impact of Financial Sanctions on National Financial Security and Countermeasures” 金融制裁对国家金融安全的影响与应对.

⁹⁵ Gabuev, “China’s New Vassal.”

⁹⁶ Huileng Tan, “China and Russia Are Working on Homegrown Alternatives to the Swift Payment System. Here’s What They Would Mean for the U.S. Dollar.,” Business Insider, April 28, 2022, <https://www.businessinsider.com/china-russia-alternative-swift-payment-cips-spfs-yuan-ruble-dollar-2022-4>.

⁹⁷ Feigenbaum and Szubin, “What China Has Learned From the Ukraine War.”

conduct business: using Chinese systems to trade in Chinese currency.⁹⁸ In doing so, China's financial security, and by extension its national security, is better insulated from western influence. But Russia's newfound dependence came out of a lack of alternative options; when other nations have a choice of economic systems, China is finding less success.

Despite its status as the world's second largest economy, the RMB lags behind other major currencies in foreign exchange reserves and international payments.⁹⁹ IMF data from 2021 shows that China accounts for about 18% of the global Gross Domestic Product (GDP) and 13% of global trade.¹⁰⁰ Because of its economic strength, the RMB was added to the IMF's SDR of currencies it reserves for lending out to client nations, joining the ranks of the USD, EUR, JPY, and GBP. However, among SDR currencies RMB utilization is comparatively low; the IMF calculates only 2.79% of global foreign exchange reserves and 2.70% of international payments are in RMB in 2021.¹⁰¹ For context, in the same year USD accounted for 58.81% of exchange reserves and 40.51% of transactions.¹⁰² Combined with the EUR, JPY, and GBP (all nations that joined the economic coalition against Russia), the U.S. and allied nations' currencies account for 89.8% of all foreign exchange reserves and 85.6% of international payments.¹⁰³ Despite possessing a larger economy than every SDR currency-supplying nation besides the United States, China's RMB is the least utilized of the five. In other words, China's financial position remains very vulnerable to western economic influence. As such, Chinese economic scholars frequently advocate for policy to expand usage of the RMB in international trade.

⁹⁸ Xu, "Ten Revelations from the Russia-Ukraine Conflict Concerning China's Energy Security" 俄乌冲突给我国能源安全的十大启示; Zhou, "The Weaponization of Global Financial Public Goods and Its Formation Mechanism 全球金融公共品的武器化及其形成机制"; Zhang, "Impact of Financial Sanctions on National Financial Security and Countermeasures" 金融制裁对国家金融安全的影响与应对.

⁹⁹ Zhou, "The Weaponization of Global Financial Public Goods and Its Formation Mechanism 全球金融公共品的武器化及其形成机制."

¹⁰⁰ Hector Perez-Saiz and Longmei Zhang, "Renminbi Usage in Cross-Border Payments: Regional Patterns and the Role of Swap Lines and Offshore Clearing Banks," IMF Working Papers (International Monetary Fund, March 2023).

¹⁰¹ Zhou, "The Weaponization of Global Financial Public Goods and Its Formation Mechanism" 全球金融公共品的武器化及其形成机制.

¹⁰² Zhou.

¹⁰³ Zhou.

China does not have an economic escape hatch if put under financial coercion—it lives and dies by the RMB. As astutely described by Evan Feigenbaum and Adam Szubin, former U.S. Deputy Assistant Secretary of State and Acting Undersecretary of the Treasury, respectively: “unlike Russia, [China] cannot move any of its foreign reserves into renminbi ... the economies that have the depth to absorb a meaningful part of China’s foreign reserves are all part of the coalition that has stood up against Russia’s violation of international law.”¹⁰⁴ China needs other large economies to rely on RMB enough that decoupling from it would be too economically painful to bear. Zhang wrote on the topic in the context of the anti-Russian sanctions that China “must promote the internationalization of RMB in an orderly manner.”¹⁰⁵ Tying the financial issue to energy security, Xu states that “China must take precautions and participate more actively in the international financial system” and “accelerate the establishment of a ‘petro-RMB’ system” to compete with the currently-used petrodollar.¹⁰⁶ However, China is a long way from reaching this goal—the international financial system remains dominated by western systems.

This is not to say that sanctioning and decoupling from China would be painless for the west—only that it would be more painful for China. China remains the leading trading trade partner for most nations in the world.¹⁰⁷ Additionally, some Chinese scholars view their post-Russo-Ukraine War economic position optimistically, seeing opportunities to increase RMB’s footprint in the international economy. For example, Zhou argues that the US-led sanctions against Russia are harming the global economy and “may cause some countries to break away from the Western-dominated international monetary system” and that “the sanctions will help boost the international status of the renminbi.”¹⁰⁸ However, there are signs that the opposite may be in effect, with the global economy already pivoting

¹⁰⁴ Feigenbaum and Szubin, “What China Has Learned From the Ukraine War.”

¹⁰⁵ Zhang, “Impact of Financial Sanctions on National Financial Security and Countermeasures” 金融制裁对国家金融安全的影响与应对.

¹⁰⁶ Xu, “Ten Revelations from the Russia-Ukraine Conflict Concerning China’s Energy Security” 俄乌冲突给我国能源安全的十大启示.

¹⁰⁷ Feigenbaum and Szubin, “What China Has Learned From the Ukraine War.”

¹⁰⁸ Zhou, “The Weaponization of Global Financial Public Goods and Its Formation Mechanism” 全球金融公共品的武器化及其形成机制.

away from China; as of July 2023, value of Chinese exports were down 14.5% from the year prior.¹⁰⁹ Additionally, China's financial transaction systems may not be a bastion from western influence; Chen Hongxiang, a researcher at the People's Bank of China, worries CIPS is vulnerable to foreign interference because it utilizes US-made software, and suggests additional security must be placed around Chinese financial systems.¹¹⁰ Overall, China is not in an invulnerable position—it has a long way to go before the RMB is the aegis it desires against economic coercion.

Overall, the Russo-Ukraine War has demonstrated that the western world is willing to decouple from Russia, the world's tenth largest economy in February 2022; China, the world's second largest economy, does not seem so untouchable as it used to.¹¹¹ The coalition economic sanctions package leveraged by the United States and allies has emphasized some key Chinese economic vulnerabilities—ones that could become targets in a Taiwan contingency. While China will seek to mitigate these vulnerabilities, many of the desired solutions will take time, effort, and international cooperation—whether China will achieve them remains to be seen.

E. ECONOMIC: SEMICONDUCTORS

Semiconductors, most commonly associated with their role in enabling silicon computer chips to function, and their production's reliance on the interconnected global economy have skyrocketed in global attention in recent years. This drastic increase in attention has many factors, some of the most prominent being increasing strategic tensions between the United States and China and the importance of microchip-enabled military

¹⁰⁹ Laura He, "China's Economy Suffers New Blow as Exports Drop 14% in July | CNN Business," CNN, August 8, 2023, <https://www.cnn.com/2023/08/08/economy/china-trade-exports-decline-july-intl-hnk/index.html>.

¹¹⁰ Karen Sutter, Michael Hirson, and Meg Rithmire, "Chinese Assessments of Countersanctions Strategies" (Center for Strategic & International Studies, June 14, 2023), <https://interpret.csis.org/chinese-assessments-of-countersanctions-strategies/>.

¹¹¹ Erickson and Collins, "Putin's Ukraine Invasion: Turbocharging Sino-Russian Collaboration in Energy, Maritime Security, and Beyond?"

systems in the Russo-Ukraine War.¹¹² The globalized manufacturing of semiconductors and its associated strategic security impacts is a rich topic that could encompass an entire thesis on its own; this thesis intends to cover the topic only briefly, with an understanding that it could be greatly expanded by additional research (and has been—the author highly recommends the Hoover Institute’s report *Silicon Triangle* and Chris Miller’s book *Chip War*). As such, prior to the Russo-Ukraine War, China had demonstrated great foresight on the importance of developing an autarkic semiconductor manufacturing capability; like food and energy security, China’s lessons from the war appear to be a re-emphasis on the urgency of advancing that capability.¹¹³

In the Russo-Ukraine War, the AFRF’s offensive military strike capability has been negatively impacted by its limited ability to domestically produce semiconductors for the computer chips in its long-range precision-guided munitions (PGMs). The world’s semiconductor supply chains are primarily dependent on only a few countries, namely the United States, South Korea, Japan, Taiwan, and the Netherlands.¹¹⁴ Notably, all of these countries joined the US-led economic coalition against Russia, and included export bans on microchips in their sanctions.¹¹⁵ Subsequently, a lack of reliable imports paired with Russia’s negligible domestic semiconductor production capacity has resulted in the AFRF rapidly depleting its stockpiles of PGMs.¹¹⁶ Similar to its currency trade restrictions, Russia has become increasingly reliant on the only major manufacturer of microchips that did not join the US-led economic block: China. Since the Russo-Ukraine War began, China has more than doubled its exports of microchips to Russia—microchips that can be used for

¹¹² Chris Miller, *Chip War: The Fight for the World’s Most Critical Technology* (London New York Sydney Toronto New Delhi: Simon & Schuster, 2022), 343; Larry Diamond, James O. Ellis Jr, and Orville Schell, “Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security” (Stanford, California: Hoover Institution, July 28, 2023), 167, https://www.hoover.org/sites/default/files/research/docs/SiliconTriangle_full_230828.pdf.

¹¹³ Diamond, Ellis Jr, and Schell, “Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security,” 281–82.

¹¹⁴ Diamond, Ellis Jr, and Schell, 66–67.

¹¹⁵ Miller, *Chip War*, 42–43.

¹¹⁶ Diamond, Ellis Jr, and Schell, “Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security,” 167.

civilian applications, or for advanced military equipment including PGMs.¹¹⁷ Russia's struggles with microchip supply has likely re-emphasized to China the importance of domestic control over semiconductor manufacture, as evidenced by Beijing's actions post Russia's invasion.

While Beijing's desire to develop its domestic semiconductor industry existed long before the Russo-Ukraine War, the conflict appears to have re-energized the importance of this goal to the Chinese government. As far back as 2014, China's State Council released its "Guidelines to Promote the National Integrated Circuit Industry Development" designed to indigenously produce 70% of China's domestic demand for semiconductors by 2025 and achieve the world's dominant semiconductor industry by 2030, and was backed with \$180 billion in Chinese government subsidies to its domestic semiconductor industry.¹¹⁸ Xi Jinping has personally advocated for this effort; during a visit to a Wuhan semiconductor plant in June 2022 Xi stated, "We must take the technology lifeline in our own hands."¹¹⁹ Yet in 2022, China was still far from achieving the State Council's goals—China imported about 90% of its chip industry requirements and only produced about 15% of the total global output of semiconductors; it remains highly dependent on foreign imports of chips from the U.S. and its partners.¹²⁰ To support efforts to overcome this dependency, the Chinese government announced in December 2022 that it would provide \$160 billion in subsidies and tax credits for its domestic semiconductor industry—more than three times the US' equivalent CHIPS and Science Act allotment of \$52 billion for its own domestic production.¹²¹ However, simultaneously to both the Russo-Ukraine War and China's domestic chip industry goals, control measures on Chinese access to foreign chip technology are expanding—the U.S., Japan, Netherlands, and Taiwan all imposed new

¹¹⁷ Stephen Blank, "Liberalism's Puzzle: The Russo–Chinese Alliance in the Light of Russian Aggression against Ukraine," *Korean Journal of Defense Analysis* 34, no. 4 (December 2022): 557.

¹¹⁸ Diamond, Ellis Jr, and Schell, "Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security," 4–5.

¹¹⁹ Diamond, Ellis Jr, and Schell, 4.

¹²⁰ Nir Kshetri, "The Economics of Chip War: China's Struggle to Develop the Semiconductor Industry," *Computer* 56, no. 6 (June 2023): 101, <https://doi.org/10.1109/MC.2023.3263267>.

¹²¹ Diamond, Ellis Jr, and Schell, "Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security," 281.

restrictions on exports of semiconductor manufacturing materials, techniques, and equipment to China in late 2022 through 2023.¹²² China retaliated to these restrictions in July 2023 by imposing its own export limits to the west of rare earth metals, gallium and germanium, which are critical raw materials in chip manufacturing.¹²³ Overall, the semiconductor industry will remain a critical strategic issue for China and the west for at least the next decade; the trade war for control of it appears to show no sign of slowing.

Beijing's efforts to improve its semiconductor independence will likely fall short of autarky over the next several years; the Hoover Institute estimates that China will remain dependent on imports for at least half of its semiconductor consumption until at least 2026.¹²⁴ How this trade war between the west and China will impact this prediction remains to be seen, and estimating its outcome goes beyond the scope of this thesis. However, like energy and food security, the Russo-Ukraine War has re-emphasized to Beijing the importance of decreasing China's vulnerabilities to its access to semiconductors. But unlike food and energy, to which China's efforts to mitigate vulnerabilities depends on developing alternative sources of imports, China's solution in the semiconductor sector is primarily to rely on increasing domestic production capacity.

F. DIPLOMATIC AND ECONOMIC: CONCLUSION

The diplomatic and economic aspects of the Russo-Ukraine War have proven very concerning for Chinese observers. While many of the Chinese vulnerabilities highlighted by the Russo-Ukraine War were known to Beijing prior to the war, the conflict has placed renewed urgency in addressing them. China recognizes it is vulnerable to many of the economic punishments the western coalition leveraged against Russia, and seeks two avenues to prepare itself for the U.S. to attempt a similar maneuver in a Taiwan contingency. First, it diplomatically seeks to discourage the formulation of a coalition in

¹²² Kshetri, "The Economics of Chip War," 102.

¹²³ Annabelle Liang and Nick Marsh, "Gallium and Germanium: What China's New Move in Microchip War Means for World," *BBC News*, August 2, 2023, sec. Business, <https://www.bbc.com/news/business-66118831>.

¹²⁴ Diamond, Ellis Jr, and Schell, "Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security," 5.

the first place by engaging nations to persuade them their best interests lie in staying neutral on security issues that do not directly involve them. Second, it seeks to harden its economy against economic sanctions and restrictions by strengthening its own financial institutions and systems as alternatives to western-controlled ones. Standing in China's way are several tangible challenges: China does not control reliable sources of food, energy, and semiconductors, nor the western international financial systems that fuel its economic growth. National economic security shall remain a critical goal of the CCP—it will aggressively endeavor to mitigate these freshly-demonstrated vulnerabilities to its economic prosperity in the next several years. That said, the repercussions of the Russo-Ukraine War provide an all-too-credible threat to Chinese economic security that may prove to be a stronger deterrent than any weapon system in defending Taiwan.

III. INFORMATIONAL

A. INFORMATIONAL: INTRODUCTION

Information has proven to be a crucial instrument of national power in the Russo-Ukraine War, both for the United States leveraging against Russia and for China's navigation of the delicate international political environment that followed. Both the US' and Russia's actions provide observable lessons for the PRC. This chapter will focus on how China has paid close attention to how information was used to build support for Ukraine and against Russia—something China hopes to avoid in a Taiwan contingency—with an emphasis on the importance of controlling the narrative to influence the decision-making of other nations. In pursuit of this control, China has demonstrated a potential template for its information operations surrounding a Taiwan contingency; China will likely use official and unofficial information campaigns to influence other nations' actions, promoting narratives that justify Chinese action to unify with Taiwan and discourage intervention. China's information campaign in response to the Russo-Ukraine War demonstrates this strategy—China is parroting Russia's explanation blaming NATO expansionism for the conflict to counter western narratives, and is actively discouraging comparisons of the Russo-Ukraine War to a Taiwan contingency—especially among comparisons that advocate for intervention.

In both Chinese and Western writing on information as a tool of national power, the goal is to influence the decision-making of others. In U.S. military doctrine, the informational instrument of national power is defined as “creating, exploiting, and disrupting knowledge” to create “information advantage over another party,” and often involves “using information to shape and control state activities.”¹²⁵ China views the information instrument similarly, though its security analysts often use the term “cognitive domain” instead; for example, the Chinese AMS Institute of War Studies' Yang Cunshe wrote in the PLA Daily that “cognitive domain warfare takes people's will, belief, thinking, psychology, etc., as the direct combat object, and affects their decision-making and actions

¹²⁵ Joint Chiefs of Staff, “Joint Doctrine Note 1–18: Strategy.”

by changing the opponent's cognition.”¹²⁶ Furthermore, Yang recognizes the cognitive domain “blurs the boundaries between wartime and peacetime, the front and the rear, crosses the battlefield and national boundaries,” and is key to “seize the cognitive dominance and the initiative of public opinion.”¹²⁷ In other words, actions in the information domain during peacetime can shape other international actors' perceptions in wartime. Following this logic, China's actions in the information domain responding to the Russo-Ukraine War can be viewed as the most directly tied to a Taiwan contingency.

Out of the DIME instruments of national power, information presents a unique opportunity for this thesis: instead of analyzing Russia's information operations and China's observations of them, China's actions in the information domain can be assessed directly. In addition to Yang's conceptualization of the cognitive domain, there are three other justifications for directly assessing China's information operations. First, China has publicly adopted Russia's justification for the Russo-Ukraine War. As there is significant overlap between Russia's information campaign and China's, and this thesis is more concerned with how China's information operations might foreshadow Chinese actions in a Taiwan contingency, it will primarily focus on China's response to the Russo-Ukraine War. Second, because Chinese sources echo Russia's narrative surrounding the Russo-Ukraine War, critiques of Russia's justification are notably absent from Chinese discussion. Instead, Chinese sources deflect comparisons of Ukraine to Taiwan, counter U.S. and western narratives surrounding the Russo-Ukraine War, and promote narratives of the U.S. and allies as the true causes of the conflict and as a destabilizing force in the rest of the world. And third, the information domain has the fewest barriers to operating freely for China; it cannot formally ally with Russia diplomatically, openly violate sanctions economically, nor deploy the PLA to Ukraine without significant international backlash,

¹²⁶ Cunshe Yang, “Keeping the Pulse of Quasi-Cognitive Domain Operations—PLA Daily—中国军网,” trans. Google Translate, PLA Daily, accessed April 30, 2023, http://www.81.cn/jfjbmap/content/2022-08/16/content_322064.htm.

¹²⁷ Yang.

This chapter will proceed in three parts. First, it will briefly discuss the general themes of the American and Chinese information campaigns in response to the Russo-Ukraine War. Second, it will discuss China's use of information to simultaneously support its partner, Russia, without undermining the Chinese core international values the invasion violates. Third, it will discuss Chinese perspectives on comparing Ukraine to Taiwan, and potential linkages to a Taiwan contingency. Finally, it will discuss PRC information operations leveraging the Russo-Ukraine War to influence neutral and US-aligned nations that a Taiwan is not their problem.

B. INFORMATIONAL: INITIAL RESPONSES TO THE RUSSO-UKRAINE WAR

Information was initially the most demonstrably impactful instrument of national power for the US' counter-intervention campaign against Russia; before the multinational diplomatic, economic, and military coalition against Russia was formed, the member nations needed to be convinced such a coalition was necessary. In late 2021, when the U.S. Intelligence Community became increasingly confident that Russia was preparing to invade, the U.S. government responded by starting a massive intelligence diplomacy campaign. As described by Jon Finer, the U.S. Deputy National Security Advisor, this campaign was to serve three purposes: "warn Ukraine, inform and rally our partners, and expose Russia's plans so as to deny it the ability to later fabricate some justification for pre-meditated aggression."¹²⁸ The US' campaign proved to be highly effective at encouraging U.S. allies to decide to join its coalition against Russia, as well as discouraging other nations, including China, from supporting Russia covertly with arms sales.¹²⁹ The direct effects of this coalition and China's lessons from those effects are discussed in greater detail in the diplomatic-economic chapter of this thesis; here, the coalition's formation stands as a premier example of how the information instrument of national power

¹²⁸ 2023 *Intelligence and National Security Summit, Plenary Five: Jon Finer* (National Harbor, MD, 2023), <https://www.insaonline.org/detail-pages/event/2023/07/13/default-calendar/2023-intelligence-national-security-summit>.

¹²⁹ 2023 *Intelligence and National Security Summit, Plenary Five: Jon Finer*.

can influence the decisions of other nations in response to a crisis—something China hopes to avoid in a Taiwan contingency.

The Russo-Ukraine War provides a case study of how Beijing is using information to strategically balance perceptions of China between several audiences to mitigate the potential future formation of a similar coalition against itself. Georgetown University’s Evan Medeiros describes China’s actions as attempting to maintain a “strategic straddle” in a trilemma between “alignment with Russia, adherence to core principles of Chinese foreign policy and need for stability with the United States and Europe.”¹³⁰ This trilemma provides a good framing device for China’s approach to information in international relations: while too much support to one effort risks undermining the other two, information can allow you to support multiple without a committing tangible resources. In alignment with Yang’s definition of cognitive warfare as efforts to influence others’ perceptions and behavior, China has issued contradictory messages to various nations.

C. INFORMATIONAL: BALANCING SUPPORT TO RUSSIA WITH CORE CHINESE PRINCIPLES

Information has been an integral part of China’s careful balancing between its relationships with multiple parties of conflicting interests. For example, China has reassured Russia of China’s commitment to their partnership multiple times since the war began, while reassuring the European Union that those same reassurances are simply rhetorical.¹³¹ In doing so, it is attempting to maintain its economic benefits from being close to Russia, without compromising its economic relationships with the European members of the US-led, anti-Russia coalition.

China most directly demonstrates its support to Russia by echoing Moscow’s *casus bellum* of the Ukraine War, but it does so with enough moderation to maintain political flexibility with other nations and avoid contradicting its core foreign policy values. Chinese leaders like Xi Jinping present China’s position as neutral, stating that there has been “all-

¹³⁰ Evan S. Medeiros, “China’s Strategic Straddle: Analyzing Beijing’s Diplomatic Response to the Russian Invasion of Ukraine,” *China Leadership Monitor* Summer 2022, no. 72 (June 1, 2022): 1.

¹³¹ Liana Fix and Michael Kimmage, “How China Could Save Putin’s War in Ukraine,” *Foreign Affairs*, April 26, 2023, <https://www.foreignaffairs.com/china/how-china-could-save-putins-war-ukraine>.

around escalation” in Ukraine and emphasizing the importance that all countries’ security concerns must be addressed.¹³² This official language reflects China’s balancing effort to express support for Russia’s grievances without appearing to support the invasion itself. China does not want to appear to support Russian’s invasion because it either does not approve of Russia’s actions, wants to avoid undermining its core national values, or both.¹³³

The CCP’s core values heavily emphasize universal respect for state sovereignty and territorial integrity; in its February 2023 statement on China’s official position on the Ukraine Crisis, China’s MOFA affirmed that “The sovereignty, independence and territorial integrity of all countries must be effectively upheld.”¹³⁴ Relatedly, perhaps in the clearest signal of disapproval toward Russia’s actions, or perhaps in an effort to avoid damaging its core foreign policy values, China has never recognized Russian claims in Ukraine over Crimea in 2014 nor the additional eastern territories in 2022.¹³⁵ Additionally, in a rare moment of directly contradicting Russia’s messaging to the West, Xi himself has publicly advocated against Russia escalating to the use of nuclear weapons in Ukraine.¹³⁶ These statements coincide with efforts to assure European Union (EU) partners China is not acting against Europe’s security interests or endorsing Russia’s behavior by continuing their relationship. For example, Fu Cong, China’s ambassador to the EU, stated in April 2023 that China’s “no limit” partnership with Russia was “nothing but rhetoric.”¹³⁷ As a result, if China’s official statements regarding its support for Russia are taken at face value, its intentions appear relatively innocuous—but this is entirely China’s intention.

¹³² Xi, “Forging Ahead to Open a New Chapter of China-Russia Friendship, Cooperation and Common Development.”

¹³³ Medeiros, “China’s Strategic Straddle: Analyzing Beijing’s Diplomatic Response to the Russian Invasion of Ukraine,” 2–3.

¹³⁴ Ministry of Foreign Affairs of the People’s Republic of China, “China’s Position on the Political Settlement of the Ukraine Crisis.”

¹³⁵ Matina Stevis-Gridneff and Steven Erlanger, “China’s Ambassador to the E.U. Tries to Distance Beijing from Moscow,” *The New York Times*, April 5, 2023, sec. World, <https://www.nytimes.com/2023/04/05/world/europe/eu-china-ambassador-russia-fu-cong.html>.

¹³⁶ Patricia M Kim, “The Limits of the No-Limits Partnership,” *Foreign Affairs*, February 28, 2023, 5, <https://www.foreignaffairs.com/china/limits-of-a-no-limits-partnership-china-russia>.

¹³⁷ Fix and Kimmage, “How China Could Save Putin’s War in Ukraine.”

On the contrary, China's refusal to criticize Russia is representative of its true endorsement and support, and Russia knows it. The Moscow-based Russian academic S. M. Trush wrote China's official moderate language is a symptom of China's diplomatic dilemma, not its true political leaning; in other words, China promoting Russia's interpretation of the Ukraine crisis demonstrates Beijing's *de facto* support for Moscow.¹³⁸ Stephen Blank of the Foreign Policy Research Institute echoed this sentiment, similarly postulating that China's adherence to the Russia narrative represents deeper support than initially appears on the surface.¹³⁹ Evoking this entrenched support for Russia, when U.S. Deputy Secretary of State Wendy Sherman stated in April 2022 that China's of Russia's narrative constituted spreading misinformation, Chinese MOFA spokesperson Zhao Lijian responded: "China believes that these remarks, especially the accusations against China, are entirely clichés and an old trick to smear and slander China."¹⁴⁰ While Chinese officials publicly deflect from its support for Russia, this deeper backing becomes more apparent when observing how the Ukraine War is discussed in the less formal channels of Chinese media—media which is still heavily controlled by the Chinese government, meaning ideas that are consistently published have a degree of CCP approval.¹⁴¹ Therefore, by looking at media reporting in China, the CCP's unofficial narrative surrounding conflict can be ascertained.

Chinese press messaging was immediately supportive of Russia and critical of the West following the invasion. On February 26, 2022, two days after Russia's invasion, the Chinese newspaper *Guangming Daily* published an article titled "NATO's Eastward Expansion Triggered the Ukraine Crisis" which clearly put the blame at the West's feet by stating "If NATO had made a commitment not to admit Ukraine, it would have prevented

¹³⁸ S. M. Trush, "Crisis between Russia and Ukraine: The China Factor," *Herald of the Russian Academy of Sciences* 92, no. S7 (December 2022): 596–97, <https://doi.org/10.1134/S1019331622130093>.

¹³⁹ Blank, "Liberalism's Puzzle: The Russo–Chinese Alliance in the Light of Russian Aggression against Ukraine," December 2022, 555.

¹⁴⁰ "Foreign Ministry Spokesperson Zhao Lijian's Regular Press Conference on April 22, 2022," Ministry of Foreign Affairs of the People's Republic of China, April 22, 2022, https://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/202204/t20220422_10672302.html.

¹⁴¹ Singer and Brooking, *Likewar*, 96.

a war, but the United States and Europe did not do.”¹⁴² The article went on to opportunistically criticize U.S. alliances in general by stating the events in Ukraine should “make those forces that were content to be the pawns and pieces of hegemonic powers think twice.”¹⁴³ Another article written in March 2022 by the Executive Director of the Center for Russian Studies at East China Normal University pointed to NATO’s courtship of Ukraine as the culmination of a U.S. campaign to undermine Russian security, forcing Russia to invade.¹⁴⁴ A third article from *China Daily* in late March 2022 re-iterated that “[NATO] coveted Ukraine... knowing this prospect would incense Moscow” and further maintained the conflict’s root cause as American meddling in other nations’ affairs.¹⁴⁵ And finally, a fourth article from a Chinese think tank written in May 2022 claimed bluntly that “the chief director behind [the Russia-Ukraine conflict] is the United States.”¹⁴⁶ While official statements feign Chinese neutrality, Chinese media reporting is much more condemning of the West and supportive of Russia in the conflict.

D. INFORMATIONAL: CHINESE DISCUSSION OF UKRAINE AND TAIWAN

This sampling of official and media narratives surrounding the Russo-Ukraine War potentially represents a blueprint for China’s information campaign in a Taiwan contingency; in such an event, China may officially promote other nations’ non-intervention as the logical, moderate choice while promising aggressive retribution against intervention in its media. Relatedly, China is currently denying any connection between Ukraine and Taiwan in official statements, while actively using the campaign to dissuade

¹⁴² Han Xianyang 韩显阳, “NATO’s Eastward Expansion Triggered the Ukraine Crisis,” trans. Center For Strategic and International Studies, Interpret: China, *Guangming Daily* 光明日报, 26 Feb 22, <https://interpret.csis.org/translations/natos-eastward-expansion-triggered-the-ukraine-crisis/>.

¹⁴³ Han.

¹⁴⁴ Liu Jun 刘军, “The Deep-Seated Causes Behind the Russia-Ukraine Conflict and Its Effects,” trans. Center For Strategic and International Studies, Interpret: China (China Social Sciences Network 中国社会科学网, March 1, 2022), <https://interpret.csis.org/translations/the-deep-seated-causes-behind-the-russia-ukraine-conflict-and-its-effects/>.

¹⁴⁵ Grenville Cross, “Reject the Provocateurs of War,” *China Daily*, March 26, 2023, [//global.chinadaily.com.cn/a/202303/26/WS641fa3f4a31057c47ebb6895.html](http://global.chinadaily.com.cn/a/202303/26/WS641fa3f4a31057c47ebb6895.html).

¹⁴⁶ Xu, “Ten Revelations from the Russia-Ukraine Conflict Concerning China’s Energy Security” 俄乌冲突给我国能源安全的十大启示.

Taiwanese independence in its media. For example, in a March 2022 press conference, Chinese MOFA spokesperson Wang Wenbin stated “Taiwan is an inalienable part of China’s territory and the Taiwan question is entirely China’s internal affairs while the Ukraine issue arose from contention between two countries, namely Russia and Ukraine.”¹⁴⁷ Similarly, in an April 2022 letter to the Washington Post, Zhu Haiquan, chief of the political section of the Chinese Embassy in Washington, D.C., wrote “The Taiwan question and the Ukraine crisis are totally different in nature. Ukraine is sovereign state, and the Ukraine crisis is a conflict between sovereign countries, while Taiwan is part of China’s territory, and the Taiwan question is a Chinese internal affair.”¹⁴⁸ And in May 2022, Vice Minister Le Yucheng simply stated that “Taiwan and Ukraine are not comparable at all.”¹⁴⁹ However, these hardline official stances are not reflected in Chinese media and academia—there, active information campaigns comparing Ukraine to Taiwan are ongoing.

While official statements refute comparison, non-government Chinese sources present numerous narratives comparing the Russo-Ukraine War to a Taiwan contingency with theses that explicitly discredit the U.S. and promote China. Tang Yonghong, Deputy Director of Xiamen University’s Taiwan Research Center, wrote in a June 2022 issue of the *China Review* that the sentiment of “today Ukraine, tomorrow Taiwan” was on the rise, blamed the United States’ support for Taiwanese independence for that growing sentiment.¹⁵⁰ Tang goes on to argue that the Russo-Ukraine War discourages Taiwanese secession as the lack of direct U.S. military intervention in Ukraine would be repeated with Taiwan, highlighting Taiwanese opinion polling data showing the percentage who believe the U.S. would intervene to defend Taiwan against China dropped from 65% in September

¹⁴⁷ “Foreign Ministry Spokesperson Wang Wenbin’s Regular Press Conference on March 23, 2022.”

¹⁴⁸ Xinhua, “Chinese Embassy in U.S. Protests against Washington Post’s Taiwan-Related Op-Ed,” *China Daily*, April 2, 2022, [//global.chinadaily.com.cn/a/202204/02/WS624786dea310fd2b29e54c21.html](https://global.chinadaily.com.cn/a/202204/02/WS624786dea310fd2b29e54c21.html).

¹⁴⁹ Le, “Acting on the Global Security Initiative To Safeguard World Peace and Tranquility.”

¹⁵⁰ Tang Yonghong, “What Can Taiwan Learn from the Evolution of the Russia-Ukraine Situation?,” trans. Center For Strategic and International Studies, Interpret: China, *China Review* 中国评论月刊, June 4, 2022, <https://interpret.csis.org/translations/what-can-taiwan-learn-from-the-evolution-of-the-russia-ukraine-situation/>.

2021 to 34% in March 2022.¹⁵¹ Additionally, to counter western narratives critical of China or Russia, Chinese authors consistently employ “whataboutism” to promote their own narratives surrounding the U.S. and Taiwan. For example, a March 2023 *China Daily* article reads: “The U.S. talks at length about respecting the sovereignty and territorial integrity of Ukraine, proclaiming to be the sole defender of the principle, all while disrespecting China’s sovereignty and territorial integrity when it comes to the Taiwan question.”¹⁵² A second *China Daily* article from February 2023 responds to U.S. intelligence diplomacy regarding prospective Chinese arms sales to Russia by claiming the U.S. is a hypocrite for supplying weapons to Ukraine while threatening China with sanctions if it does the same for Russia.¹⁵³ Despite the official CCP stance that Taiwan and Ukraine are incomparable, Chinese media reflects an ongoing information campaign to use Ukraine as an opportunity to promote existing Chinese narratives discouraging Taiwanese independence and undermine the US’ international standing.

China’s information strategy in response to the Russo-Ukraine War has generated some notable successes. Like how the U.S. used information to galvanize support against Russia, China is using information to discourage international involvement over Taiwan—even with nations that are actively sanctioning Russia. First, China has managed to avoid disruption to its core foreign policy values’ reputation with developing nations outside of Europe. This is potentially because of consistent Chinese messaging to blame the U.S. for the war’s inception and its negative global effects, such as when Deputy Minister of Foreign Affairs Le Yucheng stated in May 2022 that the US-led coalition’s sanction on Russia were “crippling an already languishing world economy and unleashing unbearable pain on developing countries.”¹⁵⁴ Subsequently, according to Brookings’ Patricia Kim,

¹⁵¹ Tang.

¹⁵² Xin Ping, “US Double Standards Show Its Desperate Desire to Prolong Hegemony,” *China Daily*, March 29, 2023, [//global.chinadaily.com.cn/a/202303/29/WS6423dbada31057c47ebb73a9.html](https://global.chinadaily.com.cn/a/202303/29/WS6423dbada31057c47ebb73a9.html).

¹⁵³ Meng Zhe and Xu-Pan Yiru, “How the U.S. Uses Russia-Ukraine Conflict to Smear China,” *China Daily*, February 27, 2023, <https://www.chinadaily.com.cn/a/202302/27/WS63fc64d5a31057c47ebb1150.html>.

¹⁵⁴ Medeiros, “China’s Strategic Straddle: Analyzing Beijing’s Diplomatic Response to the Russian Invasion of Ukraine,” 16–17.

views of China have remained highly favorable among developing nations in the aftermath of the Russo-Ukraine War.¹⁵⁵

Second, China's information strategy has also yielded positive results with non-neutral nations on both sides, as demonstrated by Xi's recent back-to-back executive engagements with Russia and France—two countries on opposite sides of the Russo-Ukraine War. Before Xi visited Moscow in March 2023, some scholars had posited that such a move would undermine Beijing's perceived neutrality on the Ukraine War.¹⁵⁶ This assessment appears to have underestimated China's ability to navigate and control the information environment surrounding these visits. Soon after Xi's visit to Moscow, French President Emmanuel Macron visited China in early April 2023, and told the Chinese President "I know I can count on you to bring Russia to its senses, and bring everyone back to the negotiating table."¹⁵⁷ The French President went on to declare that Europe must resist getting "caught up in crises that are not ours" in reference to Taiwan—a statement highly reminiscent with Chinese official messaging.¹⁵⁸ Macron may have best intentions for peace in Ukraine, but his public statement was unequivocally viewed as a win by the PRC—its Foreign Ministry has made multiple public comments praising Macron's statements.¹⁵⁹ Through a carefully manipulated narrative, Xi was able to visit Moscow one week and host a NATO member country's President in Beijing the next, with both parties consequently making positive statements about China in their wake. That is a commendable feat—one demonstrative of a China successfully leveraging the information domain to shape other nations' decisions to its advantage.

¹⁵⁵ Kim, "The Limits of the No-Limits Partnership," 6.

¹⁵⁶ Yu Bin, "Ending the War? Or the World?," *Pacific Forum Comparative Connections* 24, no. 3 (January 2023): 162.

¹⁵⁷ "Macron Counting on Xi to 'Bring Russia to Senses,'" *BBC News*, April 6, 2023, sec. China, <https://www.bbc.com/news/world-asia-china-65198757>.

¹⁵⁸ Jamil Anderlini and Clea Caulcutt, "Europe Must Resist Pressure to Become 'America's Followers,' Says Macron," *POLITICO* (blog), April 9, 2023, <https://www.politico.eu/article/emmanuel-macron-china-america-pressure-interview/>.

¹⁵⁹ "Macron on Taiwan: 'An Ally Not a Vassal', Says France Leader," *BBC News*, April 12, 2023, sec. Europe, <https://www.bbc.com/news/world-europe-65258129>.

E. INFORMATIONAL: CONCLUSION

This thesis believes that of all the instruments of national power, China's use of information in response to the Russo-Ukraine War will be the most directly analogous to its response to a Taiwan contingency. China's response to the Russian invasion of Ukraine has observably influenced beneficial with both potential allies and adversaries in a Taiwan contingency. China will use official and unofficial messaging to leverage the information instrument of national power—like it has done in response to Russo-Ukraine War—to shape other nations' decision-making of a crisis to its advantage in the diplomatic, economic, and military domains. First, China will provide an anti-US narrative to counter probable U.S. intelligence diplomacy—demonstrated by Chinese media adopting Russia's narrative justifying its invasion of Ukraine and blaming the U.S. for the conflict. Second, China will simultaneously seek to maintain an official political stance that appears non-aggressive to encourage non-intervention from undecided states, as evidenced by President Macron's visit and subsequent messaging regarding Taiwan as an issue irrelevant to Europe. Subsequently, As China's dual-track information strategy in response to the Russo-Ukraine War has provided observable benefits to Beijing, this thesis believes that of all the instruments of national power, China's informational response to the Russo-Ukraine War may be the most directly predictive of its actions in a Taiwan crisis.

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IV. MILITARY

A. MILITARY: INTRODUCTION

The Russo-Ukraine War has provided an incredibly robust case study for the PRC to assess modern Western-sponsored conventional & information warfare with a backdrop of the de-escalatory power of credible nuclear threat. The utility of the case study has two principal limitations in the differences of geography between Ukraine and Taiwan and the PLA's superior modernity over the AFRF. But even recognizing these differences, the Russo-Ukraine War remains a premium sample for Chinese examination as the PLA lacks novel combat experience, much of the PLA's military technology and doctrine is adapted from the AFRF's, and much of the UAF's technology and tactics are derived from the west.¹⁶⁰ Thus, Chinese (and western) defense thinkers are publishing numerous observations that demonstrate how closely the conflict is being studied to refine planning and assumptions regarding a Taiwan contingency. In my research, I have found most arguments in favor of the Russo-Ukraine War serving as a dissuasive example for China originate from western sources, such as RAND Corporation's Paul K. Davis who wrote "One consequence of the Ukrainian war is that China is probably less confident that it could quickly and easily defeat Taiwan."¹⁶¹ Other sources, including most originating in China, tend to be more dismissive of the notion that Russia's invasion serves as a cautionary tale (likely echoing official Chinese narratives denouncing and linkage between Taiwan and Ukraine, discussed further in the Information chapter), such as a June 2022 Chinese defense journal article that read "China's Taiwan region is definitely not Ukraine, and the PLA is definitely not the Russian army. There is no comparison between the two."¹⁶² Nevertheless, observers in both the west and China are deriving tangible lessons from the conflict to

¹⁶⁰ Lyle Goldstein and Nathan Waechter, "As Russia's Military Stumbles in Ukraine, Chinese Strategists Are Taking Notes," February 24, 2023, <https://thediplomat.com/2023/02/as-russias-military-stumbles-in-ukraine-chinese-strategists-are-taking-notes/>.

¹⁶¹ Paul K. Davis, "Potential Implications of the Russia-Ukraine War for Northeast Asia," *Journal for Peace and Nuclear Disarmament*, February 16, 2023, 3, <https://doi.org/10.1080/25751654.2023.2178205>.

¹⁶² Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 11.

promote policy, acquisition, and tactical recommendations regarding a Taiwan contingency to their respective governments.

During this research, I have been unable to find discussion of, or proposed solutions for, some tangible problems experienced by the AFRF among Chinese sources—potentially, this is due to censorship in the PRC limiting Chinese defense analysts’ ability to discuss shortcomings or vulnerabilities of the PLA, and these gaps are therefore revealing of their greatest lingering concerns derived from the Russo-Ukraine War. Moving forward, I will endeavor to highlight these gaps between western and Chinese sources. This chapter will proceed in three sections, organized by major categories of lessons identified by Chinese defense thinkers and echoed by western military analysts: first, conventional warfare, emphasizing technology, tactics, and logistics; second, information warfare’s multiplicative effect on conventional warfare, subdivided into Chinese conceptual principles of clear battlefield overview, strong joint connectivity, and precision strikes; and third, a brief discussion of the role of Russia’s nuclear arsenal in dissuading direct Western intervention, and its implications for Taiwan.

B. MILITARY: CONVENTIONAL WARFARE

China has recognized the effectiveness of conventional warfare utilized by the UAF against the AFRF and identified ways to mitigate or integrate some of the tactics and technologies employed, but also remains notably quiet on some of the challenges Russia has faced. For quick clarification, this essay uses the U.S. Department of Defense (DOD) joint definition for conventional forces: “1. Those forces capable of conducting operations using nonnuclear weapons. 2. Those forces other than designated special operations forces.”¹⁶³ The definition is inherently broad; it could encompass nearly all functions of a modern military, which would exceed the scope of this thesis. As such, this chapter will focus on a select few aspects of the conflict that Chinese scholars have paid particular attention to, as well as few lessons notably exempt from Chinese discussions. First, Chinese defense scholars recognize that NATO-derived man-portable guided anti-aircraft and anti-

¹⁶³ “DOD Dictionary of Military and Associated Terms” (US Joint Chiefs of Staff, May 2023), https://jdeis.js.mil/jdeis/new_pubs/dictionary.pdf.

tank weapons have been highly effective against Russia. Second, these scholars also express interest in the successes the UAF has enjoyed with commercial unmanned aerial systems (UAS) to conduct intelligence, surveillance, and reconnaissance (ISR) as well as deliver small strike packages. And third, PRC defense analysts recognize many of the problems Russia faced regarding the scale of its invasion, but tend to rationalize them away for a Taiwan contingency because they view the PLA as superior to the AFRF, and able to overcome those challenges through a combinations of long-range precision strikes, unmanned vehicles, electronic warfare, and information warfare (to be discussed in the next section).

1. Shoot-and-Scoot: Defeating Evasive Guided Weapons

China has recognized the effectiveness U.S. and NATO-manufactured conventional, man-portable weapons have demonstrated against Russia military vehicles in Ukraine. For example, PLA Senior Colonel Zhao Xiaozhuo, the deputy director of the center on China-US Defense Relations at China's Academy of Military Science (AMS), wrote an article that specifically credits the US-made Javelin Advanced Anti-Tank Weapon System-Medium (AAWS-M) as easy-to-use and successful in destroying Russian armor, and the Stinger Man-Portable Air Defense System (MANPADS) as demonstrably effective shooting down Russian Su-25, Su-34, and Su-35 fighters thereby preventing Russia from achieving air superiority.¹⁶⁴ An article in *Aerospace Electronic Warfare*, a Chinese military aerospace technology magazine, similarly credits the Stinger and other western MANPADS as major problems for the Russian aircraft.¹⁶⁵ These opinions have been echoed by western defense think tanks, such as the Heritage Foundation's Brent Sadler and RAND Corporation's Paul K. Davis, who each attribute man-portable missile systems as instrumental in Ukraine's defense.¹⁶⁶ These weapons' successes in Ukraine are likely

¹⁶⁴ Zhao Xiaozhuo 赵小桌, "Evolving Forms of War: A Perspective from the Ukraine Crisis," trans. Center For Strategic and International Studies, Interpret: China, *China Security Studies* 国家安全研究, February 28, 2023, <https://interpret.csis.org/translations/evolving-forms-of-war-a-perspective-from-the-ukraine-crisis/>.

¹⁶⁵ Wu et al., "The Intervention of NATO Electromagnetic Spectrum Operation in the Russia-Ukraine Conflict and the Lessons Learned by the Russian Army."

¹⁶⁶ Sadler, "Applying Lessons of the Naval War in Ukraine for a Potential War with China," 3; Davis, "Potential Implications of the Russia-Ukraine War for Northeast Asia," 3.

especially poignant to Chinese defense analysts, as much of China's modern military hardware is copied or otherwise derived from the Russian equipment being destroyed.¹⁶⁷ In response, Chinese defense industry leaders such as Huang Bin, former Deputy General Manager of China Aviation Technology International Holdings Co., have advocated in Chinese defense journals for development of new capabilities to protect Chinese military vehicles from "the fixed-point attack tactics of asymmetric weapons such as man-portable guided missiles" like the Stinger and Javelin.¹⁶⁸ Other Chinese scholars are more focused on the near-term, identifying tactics that utilize existing PLA advantages to mitigate the threat from those systems today.

Chinese scholars have also identified some limitations of western man-portable aerial defense systems, and proposed methods to take advantage of them. Zhao points out that Stinger missiles have only been effective because the Russian military lacks a large inventory of Precision-Guided Missiles (see the Economic chapter of this thesis for further discussion of this limitation's connection to semiconductors) that enable aircraft to conduct strikes outside of MANPADS range.¹⁶⁹ In the Chinese defense-focused magazine *Shipborne Weapons—Defense Review*, author Long Damao (likely a pseudonym to disguise the author's affiliation with the PLA) echoes the importance of using standoff strike to defeat MANPADS, further highlighting that even relatively simple laser-guided bombs with a range of 10 km can defeat most MANPADS.¹⁷⁰ Similar arguments are made in an August 2022 issue of the Chinese *Ordnance Industry Science Technology* magazine, advocating for increased PLA inventories of PGMs and utilizing tactics to strike from

¹⁶⁷ Sarah Kirchberger, "Russian-Chinese Military-Technological Cooperation and the Ukrainian Factor," in *Russia-China Relations: Emerging Alliance or Eternal Rivals?*, ed. Sarah Kirchberger, Svenja Sinjen, and Nils Wörmer, Global Power Shift (Cham: Springer International Publishing, 2022), 80–82, <https://doi.org/10.1007/978-3-030-97012-3>.

¹⁶⁸ Huang Bin, "Lessons from the Russia-Ukraine Conflict for China's National Security: A Discussion of the Historic Mission of China's National Defense Science and Technology Industries," trans. China Maritime Studies Institute, U.S. Naval War College, *Defence Science & Technology*, no. 10 (October 2022).

¹⁶⁹ Zhao, "Evolving Forms of War."

¹⁷⁰ Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 11.

outside MANPADS range.¹⁷¹ British open source military intelligence company Jane's defines the range of a Stinger MANPADS as 0.2 to 5 km and altitudes of up to 4.5 km, which at first glance supports propositions that operating above or beyond MANPADS range is achievable solution so long as PGMs are available.¹⁷² Long goes on to express the PLA could also utilize unmanned aerial and ground vehicles as another means to minimize risk to an invasion force against MANPADS.¹⁷³ However, Long's solution is not without its own limitations.

There are two problems with Long's proposed solution to Ukraine's air defenses: why the Russians had to fly low in the first place, and the limitations of finding and fixing air defense targets to engage with weapons. According to a Center for Naval Analysis study on the Russian Air Force's performance in Ukraine "the most influential failure of the [Russian] fixed-wing forces over Ukraine: the failure to find, fix, and destroy the bulk of Ukraine's [ground-based air defense] assets."¹⁷⁴ Despite Russia targeting Ukrainian air defense sights with hundreds of land, sea, and air-launched missiles in its opening salvo, the UAF (aided by western intelligence warnings) was successfully able to relocate most of its mobile air defense systems prior to the strikes.¹⁷⁵ This evasion included Ukraine's larger, long-range and high-altitude Surface-to-Air Missile (SAM) systems like the SA-10, SA-11, and SA-12; their survival forced Russian aircraft to operate at low altitudes, which in turn contributed to MANPADS success.¹⁷⁶ Applying Russia's experience to Taiwan—Long's assertion that the PLA's larger (relative to the AFRF) PGM and unmanned system inventory will defeat MANPADS does not consider the difficulties of targeting and

¹⁷¹ Ma Lihua, "Brief Discussion of the Inspiration of the Ukrainian War's Individual Soldiers and Heavy Weapons for Our Military," trans. Open Source Enterprise, *Ordnance Industry Science Technology*, August 19, 2022.

¹⁷² "Stinger Family of MANPADS," accessed July 19, 2023, <https://customer.janes.com/Janes/Display/JLAD0030-JAAD>.

¹⁷³ Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 7.

¹⁷⁴ Justin Bronk, "Russian Combat Air Strengths and Limitations: Lessons from Ukraine" (Center for Naval Analysis, April 2023), 2, <https://www.cna.org/reports/2023/04/Russian-Combat-Air-Strengths-and-Limitations.pdf>.

¹⁷⁵ Bronk, 4.

¹⁷⁶ Bronk, 3.

executing a strike mission against air defense forces actively practicing evasive tactics (as experienced by Russia). In other words, a larger number of PGM strikes will not solve the air defense problem alone—just in more misses.

To be clear, Chinese scholars do not ignore the challenges of the find & fix process—in fact, they speak on the need for faster and more accurate battlespace awareness frequently. Battlespace awareness is a critical enabler of conventional warfare, but for sake of organization, Chinese conversations surrounding battlespace awareness will be covered in the information warfare section of this chapter. Acknowledging this (albeit narrow) division, this chapter will remain focused on Chinese observations of the conventional tactics and technologies used in the Russo-Ukraine War.

Many similar themes are prevalent in Chinese discussion of western high-mobility artillery rocket system (HIMARS) widely employed in Ukraine; however, given the system's ability to threaten the PRC mainland, I was surprised to not find more apparent urgency or emphasis on defeating HIMARS than other weapons. With HIMARS scheduled to be delivered to Taiwan over the next few years, Taiwan will soon possess a credible artillery strike capability that can range mainland China.¹⁷⁷ Research by Brown University's Lyle Goldstein and RAND's Nathan Waechter found Chinese defense analysts are aware of this very point—their sources state “HIMARS will mainly be used to attack the landing forces and strike rear command and control sites and damage logistics. The furthest range of HIMARS can cover up to 300 kilometers inland of China.”¹⁷⁸ Yet, the solutions offered by Chinese observers seem no more creative than those for MANPADS or other mobile weapons: better ISR to enable long-range precision strikes on the system before it can shoot. Reuters' research into Chinese observations of Ukraine found that Chinese observations surrounding HIMARS stress China's long-range rockets and ISR capabilities will enable it to destroy Taiwanese HIMARS more easily than Russia against Ukraine, and that most of Ukraine's success with the system is derived from

¹⁷⁷ “Taiwan to Receive Early Delivery of 18 Extra HIMARS Systems in 2026 | Taiwan News | 2023-05-05 15:46:00,” accessed October 20, 2023, <https://www.taiwannews.com.tw/en/news/4883328>.

¹⁷⁸ Lyle Goldstein and Nathan Waechter, “China Considers Counter-measures to U.S. HIMARS Missile System,” *The Diplomat*, June 22, 2023, <https://thediplomat.com/2023/06/china-considers-countermeasures-to-us-himars-missile-system/>.

Western intelligence cueing strikes.¹⁷⁹ Western intelligence support will be discussed further in the information warfare section of this chapter, while the next subsection will focus on Chinese discussion on drones' envisioned role in enabling / denying precision strikes.

2. Unmanned Aerial Systems

As many Chinese analysts emphasize the offensive and defensive importance of ISR to cue precision strikes, the use of military and commercial unmanned aerial systems (UAS) in the Russo-Ukraine War has been of consistent interest. The Chinese AMS' Zhao Xiaozhuo claims that the Russo-Ukraine War “can be considered the war that involves the most [UAS] in history,” and sees UAS as both a problem the PLA will need to address, and an asset that can be used to bolster PLA capabilities. For example, UAS present a potential solution to problems associated with finding and fixing in a contested environment—they can flood the zone with expendable sensors to search for and even engage evasive targets. Writing on this topic, Zhang Gaoyuan, a lecturer and fellow at Peking University School of International Relations, identifies the small, fast, and difficult to detect nature of commercial UAS as perfect for reconnaissance, and notes the UAF equipping them with grenades or other small explosives to be employed against Russian positions has resulted in successful targeted strikes while boosting morale (via videos on social media).¹⁸⁰ Specifically, Zhao sees great potential in using low-cost UAS to efficiently engage \$100,000 Stinger missiles and other high-value targets, highlighting the May 2022 UAF use of a Turkish-developed TB2 UAV to destroy a Russian Mi-8 helicopter on Snake Island—the first time a manned aerial system has been shot down by an unmanned one.¹⁸¹ Ukraine also used UAVs to strike naval targets; on October 29, 2022 UAVs were used to strike naval targets in Sevastopol by Ukraine, demonstrating versatility

¹⁷⁹ Eduardo Baptista and Greg Torode, “Studying Ukraine War, China’s Military Minds Fret over U.S. Missiles, Starlink,” *Reuters*, March 7, 2023, <https://www.reuters.com/world/studying-ukraine-war-chinas-military-minds-fret-over-us-missiles-starlink-2023-03-08/>.

¹⁸⁰ Zhang Gaoyuan 张高原, “U.S. and Western Intelligence Assurance Practices in the Russia-Ukraine Conflict and Their Lessons,” trans. Center For Strategic and International Studies, Interpret: China, *Journal of Intelligence 情报杂志*, March 27, 2023, <https://interpret.csis.org/translations/u-s-and-western-intelligence-assurance-practices-in-the-russia-ukraine-conflict-and-their-lessons/>.

¹⁸¹ Zhao, “Evolving Forms of War.”

in applicable targets.¹⁸² However, this technology cuts both ways—while some Chinese observers seem excited by the capability UAS will provide to the PLA, others are more concerned about the threat they pose.

In an article written for the Chinese Ministry of Defense’s Air Force Engineering University, Cui Yongping, an air defense researcher, identifies the smaller man-portable American Switchblade UAV as a major nuisance for Russian forces, and recommend China must develop anti-UAV equipment to defeat it and similar platforms.¹⁸³ But Cui also recognizes anti-UAV solutions will be very challenging to develop and employ due to the difficulties in detecting UAV and resulting small windows to effectively defeat them.¹⁸⁴ Zhang shares similar concerns—noting further targeting complications from the simplicity of modern commercial UAVs enabling almost any civilian to become an intelligence-gathering operator, as demonstrated by several instances of Ukrainian civilians helping the UAF target the AFRF.¹⁸⁵ Huang Bin, representing the Chinese defense industry, similarly advocates for PLA investment in “drone swarm offense and defense” in the wake of Ukraine.¹⁸⁶ Cui, Zhang, and Huang recognize UAS will be a significant challenge for PLA forces to overcome. To do so, many recommend the vague panacea of electronic warfare (EW)—but that is not as simple as it may sound.

3. Notable Gaps in Conventional Warfare

Under the broad category of conventional warfare, this research has uncovered a few shallow topics of discussion among Chinese scholars that are worth highlighting. First, while there is some discussion among Chinese scholars regarding electronic warfare as a potential solution to both air defense and UAS problem sets, they tend not to offer solutions beyond the PLA will simply perform the function better than the AFRF did. For example,

¹⁸² Sadler, “Applying Lessons of the Naval War in Ukraine for a Potential War with China,” 7.

¹⁸³ Cui, “The Challenge and Inspiration of UAVs to Field Air Defense from the Russia-Ukraine War.”

¹⁸⁴ Cui.

¹⁸⁵ Zhang, “U.S. and Western Intelligence Assurance Practices in the Russia-Ukraine Conflict and Their Lessons.”

¹⁸⁶ Huang, “Lessons from the Russia-Ukraine Conflict for China’s National Security: A Discussion of the Historic Mission of China’s National Defense Science and Technology Industries.”

reflecting on the AFRF's challenges conducting Electronic Warfare (EW) in Ukraine, Long Damao claims "the PLA's electronic warfare capabilities are incomparably better than that of the Russian army," justifying his claim with the PLA's inventory of J-16D and Y-8 EW aircraft. Long's assertion is debatable; the AFRF possessed significant EW advantages against Ukraine that the PLA will not share against Taiwan. Notably, the AFRF electronic suppression of enemy air defense (SEAD) campaign against the UAF was primarily against systems the Russian military is presumed to have intimate knowledge of, especially the UAF's Soviet-made long-range strategic SAMs, yet the AFRF failed to substantially turn SEAD into destruction of enemy air defenses (DEAD).¹⁸⁷ While EW is intrinsically less tangible than other forms of conventional warfare, this research has found a notable lack of tangible solutions in that domain among Chinese sources.

Next, in assessing the AFRF's logistical performance—PRC sources recognize several challenges the Russian military experienced in the initial phases of the war that prevented it from achieving quick, decisive victory, resulting in the quagmire it is now entrapped within, but do not offer solutions for the PLA to avoid similar challenges. Some PRC scholars assess the AFRF erred by not invading with a sufficient mass of forces to defeat the UAF. Long discusses this mismatch of force to mission in detail, stating that Russia only amassed 200,000 troops for its invasion force against 169,000 Ukrainian troops, citing conventional wisdom that a three-to-one advantage is needed for an attacker to overcome a defending force.¹⁸⁸ Long does not explain how China may achieve a three-to-one force advantage against the Taiwanese military—a significantly more challenging task, given Taiwan is an island and Russia was able to invade over land. Additionally, China recognizes that the AFRF struggled to adequately sustain their advancing troops, resulting in stalls that gave the UAF more time to prepare defenses and counterattack.¹⁸⁹ Offering a little more in the way of solutions, Huang Bin states that the "Russia-Ukraine conflict has exposed deficiencies in the logistics and supply of the Russian army that

¹⁸⁷ Bronk, "Russian Combat Air Strengths and Limitations: Lessons from Ukraine," 5.

¹⁸⁸ Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 9.

¹⁸⁹ David Finkelstein, "Beijing's Ukrainian Battle Lab," War on the Rocks, May 2, 2022, <https://warontherocks.com/2022/05/beijings-ukrainian-battle-lab/>.

deserve our close attention,” but only vaguely advocates for the defense industry must “meet the demand for special equipment” for operations such as “island seizures, airdrops, infiltration and penetration.”¹⁹⁰ Together, these writings demonstrate Chinese observers are putting renewed thought into the series of challenges that any invading force must overcome when attempting to take territory that is resisting capture—many of which are made drastically more difficult when the invader is projecting and sustaining forces across water visé land. However, these conventional military challenges are made severely more difficult when amplified by modern information warfare—something the Chinese have demonstrated they are well-aware of.

C. MILITARY: INFORMATION WARFARE

The Russian invasion of Ukraine has demonstrated the importance of information warfare in modern military campaigns to augment conventional warfare; several Chinese observers have pointed to Ukraine’s superior information warfighting as the primary reason it has punched above its weight. Zhao Xiaozhuo of the Chinese AMS describes the difference between the ways the Russian and Ukrainian militaries fight as the difference between mechanized warfare (focused on heavy machine platforms fighting independently) and information warfare (defined as “systematic warfare (体系化作战), which integrates various units and platforms into a whole”).¹⁹¹ Expanding on this idea, Zhao states that excelling in information warfare requires a military to “provid[e] a clear battlefield overview, strong joint connectivity, and precision strikes.”¹⁹² In the United State Navy equivalent concept, information warfare is also defined by three core capabilities: assured command and control (C2), battlespace awareness, and integrated fires.¹⁹³

¹⁹⁰ Huang, “Lessons from the Russia-Ukraine Conflict for China’s National Security: A Discussion of the Historic Mission of China’s National Defense Science and Technology Industries.”

¹⁹¹ Zhao, “Evolving Forms of War.”

¹⁹² Zhao.

¹⁹³ Deputy Chief of Naval Operations for Information Dominance (OPNAV N2/N6), “U.S. Navy Information Dominance Roadmap 2013–2028,” *CHIPS: The Department of the Navy’s Information Technology Magazine*, accessed July 9, 2023, <https://www.doncio.navy.mil/chips/ArticleDetails.aspx?ID=4676>.

Common across both definitions, information warfare enhances conventional warfare by (1) ensuring reliable communications up, down, and across the force to effectively coordinate military efforts; then, (2) detecting and communicating a changing operating environment and adversary force disposition across the battlespace to enable accurate and timely command decisions; and finally, (3) using that awareness to utilize the full range of available kinetic and non-kinetic options to precisely strike targets with greatest efficiency and efficacy.¹⁹⁴ As this chapter progresses it will use Zhao's terminology to keep the discussion more focused on Chinese lessons, but it is worth noting that similar ideas co-exist in western military doctrine. The UAF, with support from NATO, has executed information warfare concepts far better than the AFRF, which has in turn greatly enhanced the effectiveness of its conventional warfare tactics. China is closely observing the specific ways Ukraine has secured information warfare advantages against Russia in preparation for utilizing its own information warfare concepts in a Taiwan contingency while denying similar tactics from being employed by Taiwan.

1. Strong Joint Connectivity

The UAF has maintained C2 despite persistent Russian efforts to disrupt it. Chinese scholars attribute this to the inability of the AFRF to effectively sever the UAF's communication capabilities primarily due to assistance from the United States and NATO. Ukraine's survivable C2 is likely of particular interest to Chinese authors due to the transitive nature of the technology; the tools and tactics applied in Ukraine could also be used in a Taiwan contingency. As such, Chinese scholars have identified some potential policies and investments the PRC government could employ to mitigate the same assured C2 practices that have thwarted Russia being employed against China.

Russia has been unable to effectively sever Ukrainian communications capabilities, enabling Ukrainian leadership to continue to execute effective command and control of their military forces throughout the conflict. This has not been due to lack of trying; Russia

¹⁹⁴ Deputy Chief of Naval Operations for Information Dominance (OPNAV N2/N6); Zhao, "Evolving Forms of War."

prioritized Ukrainian government data centers with cruise missile strikes early in the conflict to disrupt its central leadership.¹⁹⁵ Similar attacks targeting C2 assets have been widespread and continuous throughout the conflict; a UN report published in January 2023 estimated that Russia had caused over \$1.79 billion in damages to Ukrainian telecommunications infrastructure within the first six months of the war.¹⁹⁶ Logically, an invading force would want to disrupt an adversary's ability to communicate to de-coordinate their defensive efforts. Chinese observers recognize Russia failed to achieve this goal; for example, Long recognizes that despite extensive damage against Ukraine's telecommunications infrastructure, Russia has not effectively disrupted the UAF's C2 capabilities for the duration of the conflict.¹⁹⁷ Ukraine's C2 has survived in large part because its critical communications infrastructure was relocated where Russia could not physically strike it: outer space and cyberspace. However, Ukraine only achieved this with a large amount of western public and private sector technological support, which has been of great interest to China.

Ukraine was able to preserve its digital infrastructure with a combination of pre-emptive action by the Ukrainian government and widespread assistance from both Western governments and private companies. For example, prior to Russian commencing its invasion en masse, Ukraine's government anticipated that much of their critical data centers and government server facilities would be high priority targets for conventional Russian military strikes and cyber-attacks; to ensure its C2 capabilities would survive this opening salvo, Ukraine distributed its critical digital infrastructure to data centers all over Europe and has maintained access via cloud computing.¹⁹⁸ Achieving this massive migration was only possible with strong private sector support, and that support has not been limited to just cloud storage. Private western companies are also playing a major role

¹⁹⁵ Microsoft Corporation and Brad Smith, "Defending Ukraine: Early Lessons from the Cyber War," June 22, 2022, 2, <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE50KOK>.

¹⁹⁶ Emma Farge, "UN Releases Report on Ukraine Telecoms Damage by Russia," *Reuters*, January 6, 2023, sec. Europe, <https://www.reuters.com/world/europe/un-releases-report-ukraine-telecoms-damage-by-russia-2023-01-06/>.

¹⁹⁷ Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 9.

¹⁹⁸ Microsoft Corporation and Smith, "Defending Ukraine: Early Lessons from the Cyber War," 2.

in protecting Ukrainian digital infrastructure against Russian attack. As a paramount example, prior to the AFRF crossing the Ukrainian border en masse on 24 February, 2022, Russia's first attack on Ukraine came in cyberspace via their "Foxblade" cyberweapon launched against Ukrainian computer systems one day prior on the 23rd—yet the first to observe this attack was the Microsoft Corporation, providing digital support from thousands of miles away in Redmond, Washington.¹⁹⁹ They are but one of many western institutions, both public and private, that are working collectively in an ad hoc effort to defend Ukrainian cyberspace with moderate success.²⁰⁰ Notably, while many Chinese observers have commented on the involvement of the western private sector in Ukraine, and the importance of cyber operations in modern warfare in general, this researcher was unable to find any Chinese commentary specifically on the cyber support Ukraine is receiving from the private sector. Regardless, it stands to reason that China is observing the outpouring of private sector help from various nations Ukraine is receiving in cyberspace, and anticipating if it may face similar wide-ranging resistance in a Taiwan scenario. However, there is a very large amount of Chinese commentary on one company and capability, indicating robust interest: SpaceX's Starlink.

Briefly, Starlink has provided an invaluable, inseverable communications path for Ukraine to use in its ongoing fight with Russia. Starlink is a large constellation of low-earth orbit satellites operated by the private American company SpaceX that can provide high-speed internet access almost anywhere in the world.²⁰¹ In a critical example of the value of private sector support for Ukraine, SpaceX provided Starlink terminals to Ukraine within four days of Russia's invasion.²⁰² Russia cannot target Starlink as it has Ukraine's other communications pathways, as the satellite constellation is located in space (i.e., outside of active combat zones), made up of thousands of satellites (i.e., too many to shoot

¹⁹⁹ Microsoft Corporation and Smith, 1.

²⁰⁰ Greg Rattray, Geoff Brown, and Robert Taj Moore, "The Cyber Defense Assistance Imperative—Lessons from Ukraine" (The Aspen Institute, February 2023), 3; Microsoft Corporation and Smith, "Defending Ukraine: Early Lessons from the Cyber War," 9.

²⁰¹ "Starlink Technology," Starlink, accessed July 9, 2023, <https://www.starlink.com>.

²⁰² Amanda Macias Sheetz Michael, "Pentagon Awards SpaceX with Ukraine Contract for Starlink Satellite Internet," CNBC, June 1, 2023, <https://www.cnbc.com/2023/06/01/pentagon-awards-spacex-with-ukraine-contract-for-starlink-satellite-internet.html>.

down), and an American asset (i.e., likely to be considered a direct attack on the US). . As a result, Ukraine has been able to utilize Starlink since the beginning of the conflict for survivable C2, which has been of great interest to Chinese observers.

Several Chinese military academics and defense journals have commented on the importance of Starlink to Ukraine’s military success, and some have offered tentative policy recommendations for its use in future conflicts. Zhang Gaoyuan identifies Starlink’s importance to the UAF’s C2 by writing it “greatly improved the intelligence assurance capabilities of the Ukrainian military during the conflict,” and that it prevented Russia from severing Ukraine’s connection to the outside world.²⁰³ Another article in China’s Aerospace Electronic Warfare defense journal identified Starlink as a provider of survivable internet services critical for intelligence sharing among the Ukrainian military.²⁰⁴ Zhao Xiaozhuo of the AMS credits Starlink as the most well-known civilian system used by Ukraine in the war, and he suggests it is the reason Russia could not destroy Ukraine’s C2 in the early stages of the conflict.²⁰⁵ Especially interestingly, Zhao goes on to speculate about an attack on the Starlink network, expressing concerns over the likelihood of successfully destroying all of the thousands of satellites, the fact that an attack on an American Starlink satellite would constitute an attack on the United States, and that committing an attack in space would be viewed as a drastic escalation by the international community.²⁰⁶ Likely because of these issues identified by Zhao, Zhang concludes his article with recommendations to create laws that clarify “the wartime status of military-civilian dual-use communications and intelligence infrastructure such as Starlink,” with an emphasis on its restrictions.²⁰⁷ Further casting uncertainty over the capability’s availability in a Taiwan contingency on both sides of the Strait, Elon Musk, Chief Executive Officer

²⁰³ Zhang, “U.S. and Western Intelligence Assurance Practices in the Russia-Ukraine Conflict and Their Lessons.”

²⁰⁴ Wu et al., “The Intervention of NATO Electromagnetic Spectrum Operation in the Russia-Ukraine Conflict and the Lessons Learned by the Russian Army.”

²⁰⁵ Zhao, “Evolving Forms of War.”

²⁰⁶ Zhao.

²⁰⁷ Zhang, “U.S. and Western Intelligence Assurance Practices in the Russia-Ukraine Conflict and Their Lessons.”

of Starlink’s parent company SpaceX, has personally restricted Ukraine’s access to Starlink during the war, and visited China in June 2023 to assure business partners of their continued relationship.²⁰⁸ Still, Starlink has proven to be one of the most commented-on aspects of Ukraine, likely because China foresees itself facing down a similar dilemma that Russia is facing right now with the persistent C2 that Starlink provides, and the inability to do anything to remove it short of risking massive escalation and expansion of the conflict.

2. Clear Battlefield Overview and Precision Strikes

For the purpose of organization, clear battlefield overview and precision strikes will be grouped together, as the two principles are closely linked in information warfare. Enabled by C2, understanding adversary positions and the operating environment culminates in conducting precision strikes against enemy forces. Long Damao and Zhang Gaoyuan both identify the importance of battlespace awareness to identify and destroy mobile, man-portable threats before they can engage their weapons.²⁰⁹ Furthermore, battlespace awareness is critical for a weaker military to fight a stronger adversary; it must selectively engage the adversary to inflict as much damage as possible with its limited resources. Knowing where the adversary’s forces are, especially high value targets, can enable a smaller military to damage critical components of a larger one to slow their overall effort and deny them their strategic objective. Ukraine has demonstrated this throughout its conflict with Russia—something Chinese observers have observed with interest.

An event of particular interest to PRC observers was the sinking of the Russian ship MOSKVA on April 22, 2022. Western scholars have often highlighted the MOSKVA as a case study on the modern importance of damage control training on warships, but Chinese

²⁰⁸ Arjun Kharpal, “Elon Musk Wrapped up His First Visit to China in Years. Here’s What the Tesla CEO Was up To,” CNBC, June 1, 2023, <https://www.cnbc.com/2023/06/01/elon-musk-china-visit-heres-what-the-tesla-ceo-was-up-to.html>; “With Starlink, Elon Musk’s Satellite Dominance Is Raising Global Alarms—The New York Times,” accessed August 9, 2023, <https://www.nytimes.com/interactive/2023/07/28/business/starlink.html>.

²⁰⁹ Zhang, “U.S. and Western Intelligence Assurance Practices in the Russia-Ukraine Conflict and Their Lessons”; Long, “Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War,” 14.

scholars appear to gravitate more to the information warfare implications of the strike.²¹⁰ Zhao utilizes this event as a textbook example of his concept of precision strikes—in his account, the UAF utilized 2x NEPTUNE anti-ship cruise missiles to deliberately strike the MOSKVA precisely in two critical sections: first, the engine, causing it to lose power, and second, the magazine, causing secondary explosions.²¹¹ Other Chinese authors such as Huang Bin echo Zhao in that these compartments were precisely targeted, which likely involved support from NATO.²¹² Zhang Gaoyuan also expresses interest in how this coordination was achieved, speculating that Starlink may have been the critical node that enabled the strike’s success.²¹³ While the accounts of what enabled the strike vary, the attention paid to MOSKVA by Chinese scholars indicate they are very interested in understanding how the strike was achieved, as similar action could pose significant threat to People’s Liberation Army Navy (PLAN) ships in a Taiwan contingency—but there are some notable omissions worth briefly highlighting.

There are areas where Chinese observers miss the mark on information warfare regarding the MOSKVA—notable on the defensive front. Relatedly, The Heritage Foundation’s Brent Sadler highlights the Ukrainian’s ability to coordinate a diversion operation of several TB2 drones operating to the Northeast of MOSKVA, likely to draw the attention of its air defense systems, while the missiles were launched from its northwest.²¹⁴ It is equally possible that the drone operators were attempting to get the MOSKVA to reveal its location by emitting its air defense radars, which then cued the missile operators on where to strike. I have not seen Chinese scholars acknowledge this possibility, which should be of great concern to a PLAN attempting to defend itself against Taiwanese anti-ship threats: the prioritization dilemma of emitting radars to defend against

²¹⁰ Erickson and Collins, “Eight New Points on the Porcupine,” 119; Sadler, “Applying Lessons of the Naval War in Ukraine for a Potential War with China,” 4.

²¹¹ Zhao, “Evolving Forms of War.”

²¹² Huang, “Lessons from the Russia-Ukraine Conflict for China’s National Security: A Discussion of the Historic Mission of China’s National Defense Science and Technology Industries.”

²¹³ Zhang, “U.S. and Western Intelligence Assurance Practices in the Russia-Ukraine Conflict and Their Lessons.”

²¹⁴ Sadler, “Applying Lessons of the Naval War in Ukraine for a Potential War with China,” 3–4.

one potential threat, though it may expose a ship to others. Clear battlefield overview—knowing where potential threats may be and how they may target friendly assets—can substantially ease this dilemma; though most Chinese writing on this topic focuses on the offensive, not defensive, side of this aspect of information warfare.

As another example of using clear battlefield overview to enable precision strikes, Ukraine has also used opportunistic targeting derived from poor Russian communications security to identify and target Russian units. For example, in Zhao’s article he analyzes a UAF artillery barrage on Russian troops on January 1, 2023, that resulted in between 89 fatalities (Russia’s reported number) to 400 fatalities and 300 injuries (Ukraine’s number).²¹⁵ Zhao attributes this strike to poor communications security—Ukraine was able to decipher the large concentration of Russian troops in the area from a surge of cell phone calls to home on New Year’s Day by Russian troops, and strike it quickly. This use of cell phone communications has been identified by several other Chinese scholars as well in enabling strikes against Russian generals—in part due to poor battlefield overview in the AFRF drawing Russian commanders closer to the front lines, and in part because they are using insecure cell phone communications visé secure networks to relay orders.²¹⁶ Overall, on both land and at sea, Chinese scholars have admired the ability of the UAF to use information warfare to enhance its conventional warfighting capabilities—however, they do not accredit these successes solely to the Ukrainians.

China attributes much of Ukraine’s information warfare success to support from NATO. Zhao believes that NATO intelligence, equipment, and training support can enable any weak force to fight a stronger one; as evidence, he highlights NATO ISR aircraft flying in Poland, Romania, and the Black Sea every day, western satellite and human intelligence, and western economic isolation of Russia as key enablers of Ukraine’s success.²¹⁷ The state-affiliated CICIR released a report in February also attributing Ukraine’s success to

²¹⁵ Zhao, “Evolving Forms of War.”

²¹⁶ Wu et al., “The Intervention of NATO Electromagnetic Spectrum Operation in the Russia-Ukraine Conflict and the Lessons Learned by the Russian Army”; Long, “Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War,” 10.

²¹⁷ Zhao, “Evolving Forms of War.”

NATO support, putting additional emphasis on support in cyberspace (echoing Microsoft's account).²¹⁸ Huang Bin, the Chinese defense industry writer, suspiciously eyes an encroaching NATO broadening ties to the Asia-Pacific, highlighting Japan, South Korea, Australia, and New Zealand participating in a NATO summit for the first time at Madrid in July 2022.²¹⁹ Overall, Chinese scholars have reflected on NATO's involvement in the Ukraine conflict with great concern; even without directly deploying troops into the conflict, NATO has enabled the smaller, weaker UAF to fight the AFRF to a stalemate. Resultingly, it views NATO and the American allegiance network in Asia with increased apprehension—likely anticipating similar support could prove greatly detrimental to China's chances of success in a Taiwan contingency. However, Long offers a viewpoint to dissuade these concerns—highlighting the geographic differences between Ukraine and Taiwan, he expresses optimism that the island of Taiwan will be far easier for China to isolate from outside assistance than Russia's experience with the NATO-bordering Ukraine.²²⁰ Overall, China appears to admire Ukraine Information Warfare capabilities as a major force-multiplier for the UAF's conventional capabilities—though it accredits much of this success to help from the west; as a result, China likely has renewed interest in preventing Taiwan from receiving similar outside assistance in a contingency

D. MILITARY: NUCLEAR WARFARE

The role of nuclear weapons in Ukraine has been of great interest to Chinese and Western defense scholars. Russia's nuclear saber-rattling has likely mitigated Western intervention and support for Ukraine, or at the very least slowed it down. Andrew Erickson and Gabriel Collins of the U.S. Naval War College observe that Russia's nuclear brinksmanship likely encourages China to ensure its own stockpile of nuclear weapons is available to employ similar messaging tactics in a Taiwan contingency.²²¹ The Center of

²¹⁸ Institute of American Studies, China Institutes of Contemporary International Relations 中国现代国际关系研究院美国所, "The Impact and Implications of the Ukraine Crisis."

²¹⁹ Huang, "Lessons from the Russia-Ukraine Conflict for China's National Security: A Discussion of the Historic Mission of China's National Defense Science and Technology Industries."

²²⁰ Long, "Great Countries at War: Looking at the Taiwan Issue from the Perspective of the Russia-Ukraine War," 11–12.

²²¹ Erickson and Collins, "Eight New Points on the Porcupine," 118.

Naval Analysis’ Dave Finkelstein similarly argues that Russia’s nuclear capabilities influenced the West’s decision to limit intervention to indirect means only—and reassured the PRC regarding its pre-conflict decision to expand its own nuclear arsenal. Sharing this view, RAND’s Paul K. Davis takes a more accusing tone, stating “the Ukrainian war has demonstrated U.S. fear of nuclear war and suggested limits on what the United States will do for friends and allies.”²²² In summary, Western observers mostly view Russia’s nuclear brinksmanship as successful in deterring the West—and expect China to employ similar methods in a Taiwan contingency.

Chinese observations are less direct, but still recognize the influence nuclear weapons have had on the conflict. For example, Zhao Xiaozhao of the AMS cites the Ukraine conflict’s status as a proxy war with nuclear powers as benefactors as a primary validator of its credibility as a case study.²²³ While China’s public-facing official policy is against the use of nuclear weapons in Ukraine, it is likely drawing similar conclusions to the assortment of Western observers listed above.²²⁴ Still, this is more reassurance of a pre-conflict PRC decision to expand its nuclear arsenal, based on Pentagon reporting that China’s stockpile of nuclear weapons began observably expanding in 2021, and may double its current warheads from 500 to 1,000 by 2030.²²⁵ A PLA Daily article commenting on Russia’s nuclear arsenal stated that Russia’s demonstrations of nuclear power “deter NATO from direct military intervention”—a likely reflection on how China sees its own nuclear arsenal as a means to deter intervention in the western Pacific.²²⁶ Overall, the role of nuclear weapons in Ukraine is likely to convince China to stay the course on its nuclear

²²² Davis, “Potential Implications of the Russia–Ukraine War for Northeast Asia,” 5.

²²³ Zhao, “Evolving Forms of War.”

²²⁴ Kim, “The Limits of the No-Limits Partnership,” 5.

²²⁵ Shannon Bugos and Michael Klare, “Pentagon: Chinese Nuclear Arsenal Exceeds 400 Warheads,” *Arms Control Today*, accessed July 13, 2023, <https://www.armscontrol.org/act/2023-01/news/pentagon-chinese-nuclear-arsenal-exceeds-400-warheads>; Matt Murphy, “China Has Sharply Expanded Nuclear Arsenal, U.S. Says,” *BBC News*, October 19, 2023, sec. U.S. & Canada, <https://www.bbc.com/news/world-us-canada-67163903>.

²²⁶ Google Translate, trans., “Russia Proposes New Plan for Military Reform,” *PLA Daily*, January 12, 2023, <http://military.people.com.cn/n1/2023/0112/c1011-32605114.html>.

buildup; without reliable nuclear deterrence, Russia could have faced much stronger Western response, a fate China also hopes to deter in a Taiwan contingency.

E. MILITARY: CONCLUSION

The Russo-Ukraine War provides the next-best thing to real combat experience for PLA evaluation—a robust case study of two forces representing Soviet-derived technology versus western, backed by modern information warfare, with the shadow of nuclear brinksmanship looming overhead. The conflict has revealed some challenges China is likely to face in a Taiwan contingency, such as the effectiveness and evasiveness of man-portable guided weapons, the pervasiveness of UAS, and the traditional logistical challenges of projecting and sustaining an invading force. It has also emphasized to China the importance of denying Taiwan information warfare support from the west—Chinese sources attribute much of Ukraine’s success against Russia to the backing of the west, indicating it will attempt to deny Taiwan that same support. To that end, perhaps most concerning, Russia’s nuclear saber-rattling may teach China to employ similar or even more drastic brinksmanship to discourage intervention over Taiwan. Russia underestimated Ukraine; China will want to avoid that mistake. Conversely, ensuring Taiwan’s military remains well-equipped to fight mobile, connected, and evasive, like the UAF fighting the AFRF, may install some doubt.

V. CONCLUSION

This thesis has attempted to provide a broad overview of what China is learning from the Russo-Ukraine War applied to a potential Taiwan Contingency. It has done so using the DIME framework for instruments of national power to organize the lessons into four categories, two of which were combined into a single chapter due to significant linkages between the economic and diplomatic factors. Each of the individual elements of DIME could be expanded into a whole thesis—even some sub-elements, such as the international microchip supply in the economic section, have more than enough material to significantly expand the scope of this research. Thus, this thesis does not pretend to encapsulate all Chinese lessons from the Russo-Ukraine War—but it does assert that it has summarized some highly impactful elements of the conflict that China must account for in a Taiwan contingency.

Overall, this thesis has found that while the Russo-Ukraine War has revealed or reinvigorated Chinese concerns about significant vulnerabilities it possesses that could be leveraged against it in a Taiwan contingency, most Chinese discussion of these problems maintain a constructive outlook. In other words, even as Russia's experience represents several negative potential consequences for excessive aggression, China is not going to give up on Taiwan anytime soon—it instead seeks solutions to reduce its vulnerabilities and harden itself against potential international repercussions. There is, however, room to emphasize that those consequences will not be so easily mitigated, potentially deterring aggression and encouraging the continuation of the status quo surrounding Taiwan.

Across all elements of DIME, a common theme has been the importance of multilateral action in response to the Russo-Ukraine War as a deterring factor for China. In the Military domain, Ukraine's support from NATO and other partners has been of great interest to Chinese observers, some even discussing potential methods to deny such outside support in a future conflict—a thinly veiled allegory for a Taiwan contingency. In the diplomatic and economic realms, the coalition of states sanctioning Russia was almost certainly far greater than China expected, and with the coalition comprising states that account for more than half of all Chinese trade, it may be the greatest deterrent of all against

a government that derives much of its legitimacy from uninterrupted economic growth. Correspondingly, in the information domain, China has been actively promoting narratives that discourage a similar level of international unity surrounding Taiwan—attempting to sew the thought that Taiwan is irrevocably different from Ukraine and should not warrant a similar level of support. More so than any other factor, multinational support for Ukraine has bridged discussion across all elements of DIME in Chinese discourse.

The implications of multinationalism’s perceived efficacy against Russia in the Russo-Ukraine War among Chinese scholars presents an opportunity: convincing China that a strong multinational response should be expected in a Taiwan contingency has great potential for deterring aggressive behavior. How to establish the credibility of that response to China goes beyond what this thesis is prepared to discuss, but the buy-in of allies and partners to the power of that assurance is the first step. This thesis has attempted to establish the credibility of Chinese concerns awoken by or derived from the Russo-Ukraine War by using primarily Chinese sources from credible academic, government, and military institutions. The consensus between them appears clear: multinational interest in deterring a Taiwan contingency is of great concern to China. The more states that are unified in deterring cross-straits aggression, the less likely it is to manifest. Overall, this thesis asserts that the most prominent Chinese lesson from the Russo-Ukraine War is that a unified, multinational response must be deterred, and the groundwork for deterring such a response is ongoing.

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