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Adversarial conventional arms control in Europe: the quest for peace

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ADVERSARIAL CONVENTIONAL ARMS CONTROL IN EUROPE

The Quest for Peace

William Egon Lippert



**Adversarial Conventional Arms Control in Europe
The Quest for Peace**

William Egon Lippert

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Adversarial Conventional Arms Control in Europe: The Quest for Peace

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The Quest for Peace

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List of Abbreviations and Acronyms

<u>Acronym</u>	<u>Meaning</u>
A/CFE	Adapted Conventional Armed Forces in Europe Treaty
ACA	Agency for the Control of Armaments
ACC	Allied Control Council/Commission
ADE	Armored Division Equivalent
ATTU	Atlantic to the Urals
CAC	Conventional Arms Control
CBA	Cost-Benefit Analysis
CBO	(US) Congressional Budget Office
CFE	Conventional Armed Forces in Europe (Treaty)
CINC	Capabilities/Composite Indicator of National Capabilities
CRS	(US) Congressional Research Office
CSBM	Confidence and Security Building Measures
CoW	Correlates of War
csQCA	crisp set Qualitative Comparative Analysis
CWC	Chemical Weapons Convention
EDA	European Defense Agency
EORTC	European Organisation for Research and Treatment of Cancer
EU	European Union
EUMM	European Union Monitoring Mission
FAS	Fatigue Assessment Scale
FOI	Totalförsvarets forskningsinstitut
fsQCA	fuzzy set Qualitative Comparative Analysis
GDP	Gross Domestic Product
IGO	Intergovernmental Organizatoin
IIGO	Informal Intergovernmental Organization
IISS	International Institute for Strategic Studies
IMCC	Inter-Allied Military Commission of Control
INF	Intermediate-Range Nuclear Forces
IO	International Organization
IR	International Relations
JCG	Joint Consultative Group
JIC	Joint Implementation Commission
KFOR	Kosovo Force
MAD	Mutually Assured Destruction
MBFR	Mutual and Balance Forced Reduction
MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, and Chemical
NPT	Nuclear Non-Proliferation Treaty
ODB	Offense-Defense Balance

OSCE	Organization for Security and Cooperation in Europe
OST	Open Skies Treaty
PACA	Permanent Advisory Commission on Armaments
QCA	Qualitative Comparative Analysis
RUSI	Royal United Services Institute
SIPRI	Stockholm International Peace Research Institute
SMM	Special Monitoring Mission
TLE	Treaty Limited Equipment
TMC	Temporary Mixed Commission
UN	United Nations
UNGA	United Nations General Assembly
UNFICYP	United Nations Peacekeeping Force in Cyprus
US	United States
USSR	Union of the Soviet Socialist Republic
WEU	Western European Union
WTO	Warsaw Treaty Organization
WW1	World War 1
WW2	World War 2

Part I: The Quest for Peace

Chapter 1: Introduction and Research Questions

As Europe's largest war since 1945 rages in its east without any clear indication of terminating, we must understand that adversarial conventional arms control (CAC)¹ is a path to peace – not just for this conflict, but for many inter-state conflicts. CAC agreements seek to either prevent the outbreak of war, or they bring wars to a close in the hope that they do not recommence. CAC is the quest for peace, whether that peace, as defined by the CAC agreement, is lopsided – favoring a victor after a conflict; more balanced, having been signed in peacetime in an environment potentially riven by mistrust and feelings of insecurity, but otherwise in the absence of recent or ongoing conflict; or a ceasefire, freezing battle lines in place to allow space for negotiations and a more permanent cessation of hostilities.² In brief, this dissertation defines CAC as quantitative and/or geographic restrictions, reductions, and/or limitations on conventional arms.

This dissertation begins with a detailed introduction in chapters 1-3 that covers the research questions, offers an overview of CAC issues, theory, and literature, and explains the methodologies applied to answer the research questions. It then presents four peer-reviewed articles published in/submitted to peer-reviewed academic journals in chapters 4-7, serving as the heart of the research and analysis. Lastly, the dissertation's chapter 8 concludes with final thoughts, implications, and areas for future research. The appendices provide additional information for each research chapter, particularly how scoring and calibrations were determined.

What explains the form that adversarial conventional arms control agreements assume and what determines their success? CAC agreements, with a minority of exceptions, lock in the status quo to all parties' benefit. States do not simply come to an agreement to substantially reduce their militaries while letting an adversary's military stay the same size – or grow – if they have any alternative. States negotiating an agreement are aware that the other side will also not do so if given a choice. Peacetime CAC agreements offer stronger states the

¹ This thesis is focused on “adversarial conventional arms control (CAC),” but for simplicity is often shortened to CAC. When other types of CAC are discussed, this is specified. “Adversarial” is specifically mentioned from time to time either to differentiate it from other types of CAC when they are discussed together, or as a reminder of the type of CAC being analyzed.

² Zellner is one of the relatively few writers who has defined CAC broadly by including ceasefires and peacetime agreements together, although he also includes “operational” arms control during conflict, which does not refer to quantitative limitations but on what weapons or tactics might be used. Wolfgang Zellner, “Conventional Arms Control during Wartime, in Ceasefire and Post-Conflict Situations” (Vienna: Friedrich-Ebert-Stiftung, February 2025).

opportunity to remain strong but with reduced needs to engage in a costly arms race to retain their superiority, while weaker ones receive some measure of guarantee that the stronger state will not compel the weaker state to further compete – and, ideally, the stronger state will not attack if it feels secure.³ When states are relatively equal in terms of military capability, peacetime CAC agreements can end expensive arms racing, keeping both sides comparable but at lower cost. In wars, a CAC agreement (often as part of a broader peace agreement) can lock in a defeated state's inferiority – but with the reward of ending a conflict in which their loss is apparent and in which they can no longer afford the costs, especially when there are no clear gains to be had by continuing the conflict. Lastly, CAC agreements that establish a cessation of hostilities – usually with the establishment of a buffer zone – end human and material costs especially when both parties do not envision the likelihood of either side obtaining a decisive victory.

Peacetime CAC agreements may seek to maintain peace by reducing areas of contention, especially through geographic demilitarization, reducing tensions and disputes arising from arms racing, and preventing either side from being able to launch a surprise attack. Preventing a surprise attack was one of the 1990 Conventional Armed Forces in Europe (CFE) and 1998 Adapted CFE (A/CFE) Treaties' specific goals.⁴ A conflict-related CAC agreement seeks to end the conflict, sometimes after a temporary cessation of hostilities such as an armistice, so that the losing side no longer faces attacks and the prospect of an even more destructive, annihilating defeat, and the victor no longer loses personnel and material in continuing the conflict. Thus, even a one-sided arms control agreement, such as the 1919 Paris Peace Treaties that followed World War One, having sought a “firm, just and durable Peace,”⁵ are mutual agreements wherein all sides formally signed the agreement. Similarly, narrower,

³ Christoph Bluth, “Arms Control as a Part of Strategy: The Warsaw Pact in MBFR Negotiations,” *Cold War History* 12, no. 2 (2012): 245–68, <https://doi.org/10.1080/14682745.2011.557364>; Richard Dean Burns and Donald Urquidí, *Disarmament in Perspective: Volume 1, An Analysis of Selected Arms Control and Disarmament Agreements Between the World Wars, 1919-1939*, vol. Disarmament and the Peace Conference, 1 (Los Angeles: California State College at Los Angeles Foundation, 1968); Virginia Page Fortna, *Peace Time: Cease-Fire Agreements and the Durability of Peace* (Princeton, N.J.: Princeton University Press, 2004); John D. Maurer, “The Purposes of Arms Control,” *Texas National Security Review* 2, no. 1 (November 2018): 8–27; Patrick M. Morgan, “Arms Control: A Theoretical Perspective,” *Policy Studies Journal* 8, no. 1 (Fall 1979): 106–14; Thomas C. Schelling and Morton H. Halperin, *Strategy and Arms Control* (New York: Twentieth Century Fund, 1961); Fred Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), eds., *From Versailles to Baghdad: Post-War Armament Control of Defeated States* (New York: United Nations, 1992).

⁴ The preamble reads in part: “Committed to the objectives of establishing a secure and stable balance of conventional armed forces in Europe at lower levels than heretofore, of eliminating disparities prejudicial to stability and security and of eliminating, as a matter of high priority, the capability for launching surprise attack and for initiating large-scale offensive action in Europe,” “Treaty On Conventional Armed Forces In Europe” (Paris, November 19, 1990).

⁵ “Treaty of Peace with Germany (Treaty of Versailles)” (Versailles, June 28, 1919).

geographic demilitarization CAC agreements specifically aim to maintain peace between states by removing at least a specific potential flashpoint, as, for example, the Åland Islands Convention which states “that these islands may never become a cause of danger from the military point of view.”⁶

The outbreak of a major conventional war in Ukraine, which followed the Russian annexation of Crimea and support for separatists in eastern Ukraine in 2014, radically and immediately transformed European CAC institutions, approaches, and considerations. The invasion, for the most part, paused consideration by scholars and practitioners of a continent-wide agreement to reduce tensions between NATO and Russia and prevent a surprise attack – or fear of one – by either side. Geographic demilitarization in and around the Baltic states, and to a lesser extent around the Russian exclave of Kaliningrad, as well as another CFE Treaty – the equivalent of a CFE 3 – that were being discussed by scholars,⁷ experts,⁸ and policymakers⁹ quickly gave way to substantial increases in military activity and a flood of NATO and other states’ military equipment pouring into Ukraine to fight and kill Russian forces. The pro-Ukraine coalition is, at the time of writing, more interested in what weapons to send Ukraine to help it stave off defeat, if not win, than what weapons to limit.

This does not seem to be a situation conducive to analyzing CAC, let alone planning for its future in Europe. Yet the topic could not be more relevant. As discussed in chapter 7, this dissertation proposes that one of the Russo-Ukraine war’s causes, beyond the inherent US/NATO-Russia rivalry, was CAC failure. It was not the only reason, but the dissertation argues that had the military balance between NATO and Russia been much more to Russia’s

⁶ “Convention Relating to the Non-Fortification and Neutralisation of the Åland Islands” (Geneva, January 19, 1922).

⁷ Ulrich Kühn, “Conventional Arms Control 2.0,” *The Journal of Slavic Military Studies* 26, no. 2 (April 2013): 189–202, <https://doi.org/10.1080/13518046.2013.779859>.

⁸ Samuel Charap et al., *Meeting Europe’s 21st Century Security Challenges: Reimagining Conventional Arms Control* (RAND Corporation, 2020), <https://doi.org/10.7249/RB10115>; Johan Engvall et al., *Conventional Arms Control - A Way Forward or Wishful Thinking?* (FOI, 2018); Łukasz Kulesa, “The Future of Conventional Arms Control in Europe,” *Survival* 60, no. 4 (2018): 75–90, <https://doi.org/10.1080/00396338.2018.1495430>; Wolfgang Richter, “Reviving Conventional Arms Control in Europe. A Contribution to Military Stability in Times of Crisis,” in *OSCE-Yearbook 2016*, ed. Institute for Peace Research and Security Policy at the University of Hamburg / IFSH (Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG, 2017), 51–61, <https://doi.org/10.5771/9783845282855-51>.

⁹ Lucien Kleinjan, “Conventional Arms Control in Europe: Decline, Disarray, and the Need for Reinvention,” *Arms Control Today*, June 2016, <https://www.armscontrol.org/act/2016-05/features/conventional-arms-control-europe-decline-disarray-need-reinvention>; Kingston A. Reif, “Europeans Seek Conventional Arms Talks,” *Arms Control Today* (blog), February 2017, <https://www.armscontrol.org/act/2017-01/news/europeans-seek-conventional-arms-talks>; Frank-Walter Steinmeier, “Reviving Arms Control in Europe,” *Project Syndicate*, August 26, 2016, <https://www.project-syndicate.org/commentary/reviving-arms-control-in-europe-by-frank-walter-steinmeier-2016-08>.

liking, they would have been much less motivated to invade Ukraine – either in 2014 or 2022.¹⁰ As Zellner observed, for example, the first round of NATO enlargement was linked to arms control but the second was not.¹¹

Understanding the role CAC failure played in compelling Russia to invade Ukraine in 2022 is essential. In order to prevent a future invasion or a broader European war, we must understand how issues of the military balance and CAC issues were causes of this war. Getting the causes right will help us find the correct, preventive solutions. For example, these solutions will differ substantially if the war was caused by Moscow's fear of a militarily powerful NATO capable of launching a surprise attack or supporting regime change in Moscow with military force compared to questions of Russian minority rights in Ukraine.

Kühn's authoritative book¹² on the decay of cooperative arms control, or what this dissertation refers to as adversarial arms control, was written and published prior to the 2022 invasion but was nonetheless prescient. Though he could not predict the war's outbreak, one can see some foreshadowing when he stated that:

almost three decades after the end of the Cold War, Europe has entered a new period of confrontation with Russia. The decay of cooperative arms control in Europe is deplorable. At the same time, it is even more a reason to re-engage on those issues that have led to its demise. Careful and non-biased analysis of the failures of the past might contribute to shaping a better future.¹³

Moreover, conflicts often end with agreements that have a substantial CAC component. The reasons for this are explained in greater detail in the following chapters, but the relevance to the Russo-Ukraine War is that there will likely be some sort of CAC agreement whether between just Russia and Ukraine, or from the Atlantic to the Urals (ATTU) (in the terms of the CFE Treaty). Thus, as this dissertation will argue, the Russo-Ukraine War has heightened rather

¹⁰ See also, for example, Amy J. Nelson and Adam Twardowski, "How the Demise of an Arms Control Treaty Foreshadowed Russia's Aggression against Ukraine," *Bulletin of the Atomic Scientists* (blog), February 1, 2022, <https://thebulletin.org/2022/02/how-the-demise-of-an-arms-control-treaty-foreshadowed-russias-aggression-against-ukraine/>.

¹¹ Wolfgang Zellner, "Conventional Arms Control in Europe: Is There a Last Chance?," Arms Control Association, March 2012, <https://www.armscontrol.org/act/2012-03/conventional-arms-control-europe-there-last-chance>.

¹² Ulrich Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 1st ed., vol. 224, Demokratie, Sicherheit, Frieden (Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG, 2020), <https://doi.org/10.5771/9783748903239>.

¹³ Kühn, 224:362.

than diminished CAC's importance in Europe. Although CAC may not be a priority for some international security scholars who may be grappling with the implications of the war's outbreak and who seek to understand the new European security – or insecurity – order, and although practitioners may be more focused on immediate battlefield crises, this dissertation attempts to contribute to the theory and practice of CAC agreements.

CAC is generally an underdeveloped or underexplored theoretical topic.¹⁴ In this light, this dissertation contributes to theories concerning military balancing, power balancing, rivalry stabilization, conflict prevention, and war causation. This dissertation does not suggest that CAC will always be a component of these issues, but this dissertation has attempted to increase the understanding of the impact of CAC's presence or absence on these theoretical areas. This dissertation is relevant to practitioners because the implications and lessons that this dissertation have identified are directly relevant to policymakers charged with crafting, negotiating, and implementing CAC agreements. This dissertation attempts to offer the framework that CAC agreements might assume based on existing conditions. Moreover, this dissertation has offered various suggestions for what might make CAC agreements succeed – such as delegation to agreement implementers.

While this dissertation maintains that CAC agreements are important and can be successful, this view is not universally held by scholars and other observers. Pessimists fall into two camps: those who believe that CAC agreements are either unachievable except in the narrowest of circumstances in which they merely cap warming relations or those who believe in their potential but who currently see the glass as much more empty than full.

Among the more pessimistic critics, Fatton argues that arms control agreements such as the CFE Treaty tend to disintegrate when tensions rise and relations deteriorate, putting into question the utility of arms control agreements if they do not act as a brake to stop declining relations when that is, according to Fatton, one of their core purposes.¹⁵ In a much earlier article from the start of the post-Cold War era, Gray argues that arms control is not only ineffective in contributing to or ensuring peace, but can be counter-productive when states – especially democratic ones – adopt defense policies such as non-acquisition of potential TLE when an

¹⁴ Lawrence Freedman, "Arms Control: Thirty Years On," *Daedalus* 120, no. 1 (Winter 1991): 78; Ulrich Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 1st ed., Demokratie, Sicherheit, Frieden (Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG, 2020), 28, <https://doi.org/10.5771/9783748903239>. Gray, for example, discusses and critiques theories of arms control without actually articulating a specific theory; Colin S. Gray, *House of Cards: Why Arms Control Must Fail* (Ithica and London: Cornell University Press, 1992).

¹⁵ Lionel P. Fatton, "The Impotence of Conventional Arms Control: Why Do International Regimes Fail When They Are Most Needed?," *Contemporary Security Policy* 37, no. 2 (2016): 200–222, <https://doi.org/10.1080/13523260.2016.1187952>.

agreement is expected to be made, or worst when democracies obey the terms of an arms control agreement but the other side does not.¹⁶ That is, the military balance status quo established by agreement is altered despite the agreement. Coffey, writing in 1987, stated that “The ideology of arms control resembles that of gun control, except that arms control is more dangerous because it would as well deprive the cops of guns,” and he was especially critical of any involvement of the United Nations.¹⁷

Miller, for example, is somewhat more positive in noting that since the start of the twenty-first century, “arms control has foundered” after having relatively prospered in the previous forty years.¹⁸ Similarly, Graef acknowledges that there was a positive period of CAC but observed just before Russia’s 2022 invasion that CAC in Europe was “falling apart” and that the US and Russia in particular were returning to a zero-sum military competition where the risk of relative gains for the opposing side resulting from any CAC agreement were unacceptable.¹⁹ This resulted in the deterioration of existing agreements and the prevention of new ones.

Withdrawals from arms control agreements, which would not be possible if they did not exist in the first place, can contribute to deteriorating diplomatic relations. For example, the July 2021 *Strategy of national security of the Russian Federation* bemoaned “the continuing dismantling of the system of arms control treaties and agreements lead to increasing tension and aggravation of the military and political situation, including near the state border of the Russian Federation.”²⁰ This strategy also alluded to the 2019 US withdrawal from the Intermediate-Range Nuclear Forces (INF) Treaty (which was due to the US assessment that Russia was developing INF Treaty-prohibited conventional missiles).²¹

Yet some scholars are more positive about CAC. Freedman, for example, emphasizes the positive outcomes of the negotiating process as a diplomatic endeavor, specifically stating:

¹⁶ Colin S. Gray, “Arms Control Does Not Control Arms,” *Orbis* 37, no. 3 (Summer 1993): 333–48, [https://doi.org/10.1016/0030-4387\(93\)90149-7](https://doi.org/10.1016/0030-4387(93)90149-7).

¹⁷ John W. Coffey, “Arms-control Dialogue,” *Defense Analysis* 3, no. 3 (1987): 225–31, <https://doi.org/10.1080/07430178708405302>.

¹⁸ Steven E Miller, *Hard Times for Arms Control What Can Be Done?* (The Hague: The Hague Centre for Strategic Studies, 2022), 1.

¹⁹ Alexander Graef, “Beyond Stability: The Politics of Conventional Arms Control in Europe,” *Zeitschrift Für Friedens- Und Konfliktforschung* 10, no. 2 (2021): 219, <https://doi.org/10.1007/s42597-022-00070-y>.

²⁰ Vladimir Putin, “Strategy of national security of the Russian Federation” (Office of the President of Russia, July 2, 2021).

²¹ Michael R. Pompeo, “U.S. Withdrawal from the INF Treaty on August 2, 2019,” *United States Department of State* (blog), August 2, 2019, <https://2017-2021.state.gov/u-s-withdrawal-from-the-inf-treaty-on-august-2-2019/>.

arms control should be judged as a negotiating process as much as a negotiated outcome. It can be a means of maintaining an active diplomatic relationship at times of tension, providing a forum for dialogue on military issues, a means of signaling shifts on broader political questions, and so on.²²

Aside from the larger issues of fixing a military balance, transparency, and signaling benign intents – the goals of CAC agreements will be discussed in greater detail in the following sections and chapters – CAC agreements can develop human relationships that can promote peace and stability. This may be at the highest level between heads of state, for example between US President Reagan and Soviet Union General Secretary Gorbachev,²³ or at working levels between career civil servants and military personnel. In the context of chemical weapon convention negotiators and inspectors, Sur assessed that because “a great number of the inspectors have been intimately associated with the chemical weapon negotiations, and often know one other personally, has definitely contributed to the cohesion of these inspection teams.”²⁴ It is likely that CAC agreements develop similar relationships that contribute to peace because inspection teams’ reliability and perceptions by states of their honesty and completeness are crucial to perceptions of treaty compliance.²⁵ The Deep Cuts Commission emphasized that professional contacts through the formal arms control fora promote information exchange and military-to-military contacts are essential, especially in times of tension.²⁶

Overall, the articles constituting this dissertation are more positive than negative about CAC agreements for several reasons. First, this dissertation attempts to demonstrate and emphasize that the success record for CAC agreements is not one of unequivocal failure. Indeed, about half of the 37 CAC agreements since 1918 can be considered successful as defined and discussed in chapters 5 and 6, with one-third of the 37 agreements still in effect – which may not be a poor record given the changes that have swept Europe since the Great War

²² Freedman, “Arms Control: Thirty Years On.”

²³ Mark R. Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)* (Manhattan, Kansas: Kansas State University, 2020).

²⁴ Serge Sur and United Nations Institute for Disarmament Research, eds., *Verification of Disarmament or Limitation of Armaments: Instruments, Negotiations, Proposals* (New York: United Nations, 1992).

²⁵ Joseph P. Harahan and John C. III Kuhn, *On-Site Inspections Under the CFE Treaty, A History of the On-Site Inspection Agency and CFE Treaty Implementation, 1990-1996*, Treaty History Series (Washington, DC: The On-Site Inspection Agency, US Department of Defense, 1996), 46.

²⁶ The Deep Cuts Commission, *Second Report of the Deep Cuts Commission: Strengthening Stability in Turbulent Times* (Hamburg, Germany: Deep Cuts Commission and Institute for Peace Research and Security Policy at the University of Hamburg (IFSH), 2015).

ended. Moreover, many of the agreements were overcome by positive political changes rather than having collapsed due to rivalry or conflict, leaving just one-third as complete failures (see Table 1 and Figure 1 for an overview of agreements' outcomes). Today, twelve agreements are still in effect – again emphasizing that pessimistic views of CAC are misplaced. And, despite concerns about Russia's compliance with CAC agreements especially in light of their invasion of Ukraine in 2022, Russia is a party to at least seven of the agreements still in force.

Table 1: CAC Agreements and their outcomes

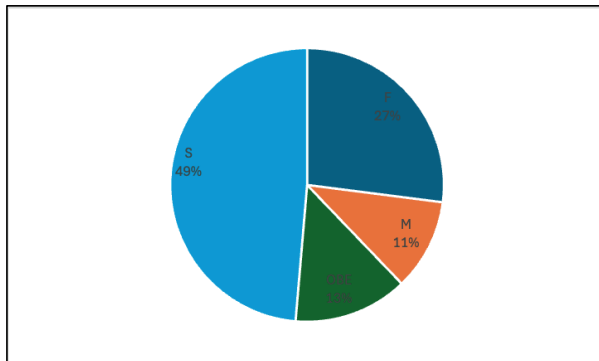
<u>Agreement</u>	<u>Year</u>	<u>Short Name</u>	<u>In effect*</u>	<u>Outcome**</u>
Germany Peace Treaty (Versailles)	1919	Germany1919	N	F
Austria Peace Treaty (St-Germain-en-Laye)	1919	Austria1919	N	OBE
Hungary Peace Treaty (Trianon)	1920	Hungary1920	N	F
Bulgaria Peace Treaty (Neuilly-sur-Seine)	1919	Bulgaria1919	N	F
The Svalbard (Spitsbergen) Treaty	1920	Spitsbergen	Y	S
Finnish-Russian Dorpat/Tartu Agreement	1920	Tartu	N	F
Åland Island Convention	1921	Åland	Y	S
Washington Naval Treaty	1922	WashNav	N	M
Russo-Finnish Helsinki Agreement	1922	Helsinki1922	N	F
Statute of the Tangiers Zone	1923/1928	Tangiers	N	M
East Aegean Agreements	1923, 1947 (and others)	Aegean	Y	S
Thrace Convention	1923	Thrace	N	S
Lausanne Agreements of 1923	1923	Lausanne	N	S
First London Naval Treaty	1930	LondonNav1930	N	F
Second London Naval Treaty	1936	LondonNav1936	N	F
Anglo-German Naval Treaty	1935	Anglo-German	N	F
Montreux Convention of the Straits	1936	Montreux	Y	S
The Moscow Treaty (Finland and Russia) of 1940	1940	Moscow1940	N	F
Germany	1945	Germany1945	N	S
Finland	1944/1947/1948	Finland1947	N	S
Romania	1947	Romania1947	N	OBE
Italy	1943, 1947	Italy1947	N	OBE
Bulgaria	1947	Bulgaria1947	N	OBE
Dodecanese	1947	Dodecanese1947	Y	S
Hungary	1947	Hungary1947	N	OBE
Austria	1955	Austria1955	Y	S
WEU agreements	1954	WEU	N	S
Cyprus (UN Security Zone Establishment)	1964/1974	Cyprus	Y	S
INF Treaty	1987	INF	N	M
Final Settlement for Germany	1990	Germany	Y	S
CFE Treaty	1990	CFE	N	M
Agreement on the principles for a peaceful settlement of the armed conflict in the Dniester region of the Republic of Moldova	1992	Transdnistria	Y	S
Subregional Arms Control (Balkans)	1996	Balkans	Y	S
Belfast Agreement	1998	Belfast	Y	S
Military Technical Agreement between the International Security Force ("KFOR") and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	1999	Kosovo	N	S
Adapted CFE Treaty	1999	A/CFE	N/A	N/A
Six-Point Peace Plan for Georgia	2008	Georgia	Y	S
Minsk Agreements	2015	Minsk	N	F

* Y=Yes; N=No; /A=Not Applicable

** S=Success; F=Failure; M=Moderate Success/failure; OBE=Overcome by events; N/A=Not Applicable

Source: Information on agreement status based on author's research

Figure 1: Proportional outcomes of CAC agreements



* S=Success; F=Failure; M=Moderate Success/failure; OBE=Overcome by events; N/A=Not Applicable

Source: Information on agreement outcome based on author's research

Second, the most pessimistic view that CAC agreements might somehow create the conditions for war is not borne out empirically. In fact, it may be the opposite; in the absence of a CAC agreement, one side or bloc may engage in self-limiting for economic, domestic, or diplomatic reasons while the other side does not because they have no legal commitment to do so. Even if a CAC agreement fails to prevent a conflict, it is unclear that attempting to prevent a conflict with a CAC agreement is not worth the effort given the high costs of war.

This brings us back to the Russo-Ukraine War. Could the war have been prevented with a new CAC agreement, replacing the CFE and A/CFE Treaties? Counterfactuals are difficult to prove and their detractors might call them nothing more than a “what-if” game of fiction.²⁷ Nonetheless, it is worth asking if a CAC agreement between NATO and Russia would have decreased the likelihood of the major conventional war in Ukraine now taking place and if the investment of time and energy in negotiations and implementation might have been worth the effort and risks that decreasing capability would decrease deterrence. Finding an agreement that would have been acceptable to both NATO and Russia might have been impossible, especially as many NATO members’ leaders generally discounted threats of a Russian invasion of Ukraine, even when presented evidence by the US shortly before the invasion occurred.²⁸ Most NATO members would have been unwilling to meet Russia’s CAC demands as they unlikely viewed that the failure to agree would have resulted in war. Nonetheless, it is difficult to argue that the failure to find an acceptable agreement and the resulting war is better than an imperfect agreement that might have preserved a shaky peace. This is why CAC agreement critics may be wrong. War should be the outcome only when all other efforts have failed.

This thesis’ topic is one which had greater prominence prior to the previous few decades. The reasons are clear. During the Cold War, the question of peace and security in Europe was paramount, with broad concerns that any conventional war in Europe would escalate into a nuclear war.²⁹ Thus, CAC was seen not just as a niche academic exercise or minor policy issue, but as one closely linked to the future of humanity’s existence. However, its importance declined with the dissolution of the Warsaw Pact and the Soviet Union as the threat of a major conventional war in Europe had, it then seemed, also disappeared.³⁰ CAC

²⁷ Jack S. Levy, “Counterfactuals and Case Studies,” in *The Oxford Handbook of Political Methodology*, ed. Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier, 1st ed. (Oxford University Press, 2009), 627–44, <https://doi.org/10.1093/oxfordhb/9780199286546.003.0027>.

²⁸ Shane Harris et al., “Road to War: U.S. Warnings Doubted,” *The Washington Post*, August 17, 2022, sec. A.

²⁹ Barry R. Posen, “Inadvertent Nuclear War?: Escalation and NATO’s Northern Flank,” *International Security* 7, no. 2 (1982): 28–54, <https://doi.org/10.2307/2538432>.

³⁰ Adam Daniel Rotfeld, “1: A Future Arms Control Agenda,” in *A Future Arms Control Agenda: Proceedings of Nobel Symposium 118*, ed. Ian Anthony (Stockholm: Stockholm International Peace Research Institute (SIPRI), 2001), 3–14.

between states that had warm relations may have seemed to be little more than a diplomatic refinement of the new world order. Then the international security order transformed on 11 September 2001, and interest in CAC substantially declined in comparison to issues related to international terrorism and homeland security.³¹ Again, it was no wonder that adversarial CAC in Europe was being closeted, with then-President Bush stating when he announced the US withdrawal from the Anti-Ballistic Missile (ABM) Treaty, that the US had “entered into a new strategic relationship with Russia that is cooperative rather than adversarial.”³² Then-NATO Secretary General Stoltenberg stated in 2023 that, “arms control agreements are not made between friends. They are made between adversaries.”³³ The statements about *adversarial* CAC agreements (the type which President Bush and Secretary General Stoltenberg were addressing) tackling rivalries first and foremost are accurate, although the dynamics of who enters CAC agreements and why is more complicated than the existence of an adversarial relationship. For example, the 1954 Western European Union Agency for the Control of Armaments protocol agreement saw controls imposed on Germany by fellow NATO members, Türkiye currently imposes strict restrictions on its NATO allies through the 1936 Montreux Convention, and several agreements referee NATO allies yet rivals Türkiye and Greece.

One of this dissertation’s central goals is to address, directly or indirectly, how to prevent another war in Europe if and when the Russo-Ukraine War ends through CAC. This means understanding the war’s causes and analyzing CAC agreements to determine what approaches might or might not work, and which may be most appropriate, for a post-war Europe. There is no need to reinvent the proverbial wheel in its entirety because a wide variety of CAC agreements in Europe have been created and implemented during the last 100 years. This dissertation’s research, which is primarily presented and discussed in four articles submitted to/published in peer-reviewed academic journals, offers insights relevant to conceiving, negotiating, and implementing any future agreements between Ukraine, Russia, NATO, and the EU. The EU’s role in future arms control agreements, including CAC, is likely to increase compared to the past several decades in which the EU was absent from CFE and A/CFE Treaty negotiations. It will be difficult for the EU Commission to abstain from future

³¹ For an example of how terrorism studies surged after the 11 September 2001 attacks, see: Edwin Bakker, *Terrorism and Counterterrorism Studies: Comparing Theory and Practice* (Leiden: Leiden University Press, 2015).

³² “U.S. Withdrawal From the ABM Treaty: President Bush’s Remarks and U.S. Diplomatic Notes,” Arms Control Association, accessed October 16, 2023, <https://www.armscontrol.org/act/2002-01/us-withdrawal-abm-treaty-president-bush%E2%80%99s-remarks-us-diplomatic-notes>.

³³ “Remarks by NATO Secretary General Jens Stoltenberg at the 18th Annual NATO Conference on Arms Control, Disarmament and Weapons of Mass Destruction Non-Proliferation,” NATO, April 18, 2023, https://www.nato.int/cps/en/natohq/opinions_213952.htm.

CAC agreements because of its important role in EU-wide defense policies, and several of its member states are non-NATO members but may be interested or impacted by future CAC agreements in Europe.³⁴

As the articles highlight, one challenge with establishing a post-war CAC regime from the ATTU is that there has not been a template for the situation in which the continent now finds itself. CAC agreements such as the Washington Naval Treaty or the CFE Treaty were signed when state parties were wholly at peace; or at least not in a state of war in Europe. In contrast, post-conflict treaties such as the post-World War peace treaties or the agreement ending the 1999 Kosovo conflict were signed between direct belligerents.

CAC agreements necessitate approaches to how and what limits are imposed and how these limits are verified, with even the absence of specific limits and lack of verification procedures being conscious choices. Limits can come in generally two broad forms: geographic demilitarization which refers to limits set in a narrow geographic area such as an island, a sea, or an area along a common border; and national limitations, which means that states agree to limit a military capability on their entire national territory or within their entire inventory, no matter where that capability might exist. Each has different implications for states' security, military capabilities, and agreement implementation although some agreements combine or include elements of both.³⁵

With this comes the question of how to monitor compliance and conduct verification during agreement implementation. At the lowest level of activity is an approach in which no monitoring measures are introduced that do not already exist, such as the 1922 Washington Naval Treaty in which monitoring was up to each state to use its existing means, such as defense attachés, espionage, and what are now referred to as open sources.³⁶ At the opposite end of the spectrum would be a rigorous regime of on-site inspections and verifications coupled with delegation to an agreement executor that states have entrusted to conduct many activities of monitoring, verification, and compliance assessment.

³⁴ William Lippert, "The Role Of The European Union In Future Conventional Arms Control In Europe" (EUACADEMY Conference "European Security: Challenges And Policies," Dublin, Ireland, December 15, 2023); Clara Portela, *The EU's Arms Control Challenge: Bridging Nuclear Divides*, Chaillot Paper, 166 (April 2021) (Paris: European Union Institute for Security Studies (EUISS), 2021), <https://doi.org/10.2815/601066>.

³⁵ Some military balancing agreements include geographic demilitarization conditions – but the purpose is to fix a relative military balance rather than merely remove a source of potential dispute or establish a cease-fire line.

³⁶ The Russo-Ukrainian War suggests that public open-source research could greatly assist monitoring and verification efforts. For insights about open-source intelligence and the Russo-Ukrainian War see: Hannah van Beek and Sebastiaan Rietjens, "Chapter 4: Open-Source Intelligence in the Russia-Ukraine War," in *Reflections on the Russia-Ukraine War* (Leiden: Leiden University Press, 2024), 57–76.

Much of this thesis analyzes CAC agreements in Europe since 1918, attempting to first understand how agreements took the shape they did, then determine if CAC agreements have been successful, and finally assess the characteristics, or variables, that made these agreements successful or not. The dissertation's research and analysis are presented in a detailed introduction, followed by four research article-chapters, and then a conclusion.

Structure

This dissertation begins with Part 1, which opens with an introduction to the topic of CAC in Europe, research questions and objectives, CAC definitions and concepts, theories and theoretical foundation, a literature review, and a brief discussion of the methodologies used in the four articles that compose the thesis' core.

Part 2, chapter 4, entitled *Status Quo Constancy and Conventional Arms Control*, opens with an overview of CAC theory and then proceeds to explain how the geopolitical environment, military balance instability, and resource constraints might play a role in whether a CAC agreement will alter the military balance. The chapter's model offers a prediction of whether an agreement would alter the status quo, and then the hypothesis is tested by assessing the final agreement's requirements. Appendix A provides explanations on how the conditions were calibrated and outcome (change or retention of the status quo) was assessed.

In Part 2, chapters 5 and 6, entitled *Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation* and *Conventional Arms Control Agreements in Europe: Conditions of Success and Failure*, respectively, offer a quantitative analysis of CAC agreements in Europe from 1919 to 2015. Chapter 5 focuses on measuring delegation in CAC agreement implementation using a sum-score methodology, and analyzing the correlation between delegation as an independent variable and CAC agreement success as the dependent variable. Appendix B provides details about how each agreement was scored for delegation and its components; and how the level of success was calculated. Additionally, two case studies are provided as detailed examples of how the delegation component scores were determined. Chapter 6 focuses on analyzing the necessary and sufficient conditions of CAC agreement success applying a QCA methodology, based on four conditions. Appendix C provides explanations of how the three conditions were calibrated and scored, and how CAC agreement success or absence of success was determined.

Part 2, chapter 7, is based on the article *How Conventional Arms Control Failures Caused the Russo-Ukraine War*, a case study applying process tracing and counterfactual methodologies analyzing how CAC failures led Russia to invade Ukraine. These failures are the product of failure to adapt existing agreements, the collapse of agreements through suspension and withdrawal, and the failure to arrive at new agreements.

Lastly, Part 3, chapter 8, consists of the concluding chapter which includes a summary of the previous chapters, the thesis' key findings, various research and policy issues that this thesis raises, how this thesis may be of value to scholars and practitioners, the thesis' limitations, areas of future research, and finally an overall conclusion.

Research Questions and Objectives

What explains the form that adversarial conventional arms control agreements assume and what determines their success?

This is the over-arching question that percolates throughout the thesis. First, this thesis attempts to identify how states arrive at the controls that they do – at least in a general sense. CAC agreements in theory could be composed of any range of agreement conditions in terms of what and how specific areas are limited in geographic demilitarization or how – especially relatively – military capabilities are limited. As an extreme example, during the interwar years³⁷ Russia might have agreed to demilitarize the entire Kolan peninsula to reduce the extent to which Finland might have felt threatened by Russia or the Warsaw Pact could have agreed to reduce its forces to a quarter of those of NATO – but neither of these happened. This dissertation suggests that CAC agreements are bound by conceptions of the status quo and that there is a theoretical limit to agreements that can be made based on the notion that, in general, states retain the status quo. Only in some exceptions might they agree to a reduction to parity – but never an inversion of the military balance and standing.

Second, the question of success is omnipresent, because success can mean peace while failure can mean war, both of which are enormously consequential for the states involved, their people, and potentially the broader world. The failure of CAC in Europe and the resulting Russo-Ukraine War clearly had immediate implications and impact throughout the world,

³⁷ “Interwar” in this dissertation refers to the period between World Wars One and Two.

which continue to ripple and grow as the war continues. Indeed, there is no guarantee that the war will not descend into a broader world war.³⁸

The relevant conditions of a CAC agreement can be identified and assessed at various stages. In the first stage when states initially conceive an agreement, or the potential for one, they consider the status quo and, when necessary, current and future concerns of deterrence, the security dilemma, and the ODB. How they view these carries over into the negotiations as states bargain and communicate their views, preferences, and demands based on these three concepts. How states debate and what they conclude creates another set of conditions – for example, whether a narrow geographic demilitarization area is established or if states limit their military capabilities much more broadly across their national inventories. Another condition that is determined during the negotiation is how to implement the agreement. Then, during implementation, the conditions of interest shift to questions such as the presence of a great power rivalry and to what extent implementation is delegated to an international organization.

Research Questions

The question of conditions and success creates research sub-questions:

- Under what conditions do the more powerful states in an adversarial conventional arms control (CAC) agreement accept a reduction in their relative military power?
- How is adversarial CAC agreement success and failure defined?
- What are the necessary and sufficient conditions for adversarial CAC agreement success or failure?
- How is delegation to an agreement execution body defined and measured?

First, this thesis attempts to define what constitutes the status quo between states or blocs, and then determine how CAC agreements retained or altered this status quo and what conditions may have driven any variation. It then seeks to identify and define the conditions that contribute to CAC agreement outcome and then analyze their impact on success and failure, which itself needs to be defined. The question of delegation to an agreement executor primarily concerns implementation – though the approach must be determined and agreed to

³⁸ Bryan Frederick, Mark Cozad, and Alexandra Stark, *Escalation in the War in Ukraine: Lessons Learned and Risks for the Future* (Santa Monica, CA: RAND Corporation, 2023), <https://doi.org/10.7249/RR2807-1>.

between state parties during the negotiation stage and it is almost always written within the agreement text or subsequent annexes and protocols. That is agreement executors are created, or not, as part of the overall agreement. They are not afterthoughts or ad-hoc arrangements, although precisely how they function evolves over time based on conditions, preferences, and experience.

Research Objectives

As chapters 5 and 6 discuss in detail, defining CAC agreement success and failure is one of this thesis' key and necessary objectives, because without this definition it is not possible, for example, to analyze causal relationships, understand approaches to treaty implementation, or understand which limitations were selected and why. Our understanding of CAC agreements would be very different if success is defined, for example, by one side being unable to cheat so that they would have the capability to launch a surprise attack and obtain a military victory compared to if success is defined by the absence of conflict between rivals. The former is subjective; without a war, it is impossible to know if a cheater can successfully launch a surprise attack. The latter, however, is much easier to determine although establishing the causes of peace – particularly CAC's role – is more difficult. This thesis might assess different variables if success was defined as reducing defense expenditures, improving relations with allies, or if a state party succeeds in rupturing a rival's alliances – all of which are motivations of some CAC agreements. Chapter 7 is a case study that assesses in detail how a CAC regime collapsed and caused in part the current Russo-Ukraine War.

Another research objective is to understand where there are similarities and differences between CAC agreements, no small undertaking when there is such a variety of agreements spanning over 100 years and addressing different types of rivalries. These cross-case comparisons of CAC agreements are done in chapters 4-6.

Above all, this thesis attempts to add to the existing scholarship by assessing CAC from new perspectives with different methods based on a dataset of up to 36 agreements spanning 100 years and going beyond the "East-West" dyadic relationship.

Contribution of this Thesis

Compared to the existing scholarship, this thesis offers new and unique insights in several ways but foremost is its focus on adversarial conventional arms control agreements in Europe. This is not to say that other previous scholarly attempts to look at CAC, or arms control more broadly, are not without merits. Different scopes offer different insights and this thesis builds on a substantial body of original and relevant study. However, especially when considering post-Russo-Ukraine War Europe, understanding and concentrating on adversarial CAC agreements in Europe might be one of the most relevant bodies of knowledge to incorporate when it comes to trying to prevent another conflict.

This thesis' narrow focus contrasts with other scholarly works to date. For example, Risse analyzes states' voting patterns in the United Nations General Assembly (UNGA) on all different types of arms control resolutions.³⁹ Mantilla likewise assesses conventional arms control with a broader definition that concerns international cooperation and global arms proliferation targeted by the 1980 Convention on Certain Conventional Weapons.⁴⁰ Alberque focuses on inter-state trade arms control that seeks to reduce the proliferation of missile technologies⁴¹ while Turnbull's argument centers on the impact of middle powers on negotiating and ratifying humanitarian arms control agreements.⁴²

Vaynman's work comes closer to what this thesis analyzes by focusing on adversarial arms control agreements but her dataset is much larger, going back to 1816-2007, and includes agreements across the globe and analyzes all types of adversarial arms control agreements, not just conventional arms.⁴³ Brender, in contrast, seems to conflate and confuse different types of arms control agreements while attempting to address interstate rivalries and states' efforts to signal benign intent through arms control agreements.⁴⁴

³⁹ Tobias Risse, "External Threats and State Support for Arms Control," *Journal of Peace Research* 61, no. 2 (February 5, 2023): 1–14, <https://doi.org/10.1177/00223433221123359>.

⁴⁰ Giovanni Mantilla, "Deflective Cooperation: Social Pressure and Forum Management in Cold War Conventional Arms Control," *International Organization*, 2023, 1–35, <https://doi.org/10.1017/S0020818322000364>.

⁴¹ William Alberque, *Revitalising Arms Control: The Missile Technology Control Regime (MTCR) and the Hague Code of Conduct against Ballistic Missile Proliferation (HCoC)* (The International Institute for Strategic Studies (IISS), 2021).

⁴² Timothea Turnbull, "Prestige, Power, Principles and Pay-off: Middle Powers Negotiating International Conventional Weapons Treaties," *Australian Journal of International Affairs* 76, no. 1 (2022): 98–120, <https://doi.org/10.1080/10357718.2021.1956429>.

⁴³ Jane Eugenia Vaynman, *Enemies in Agreement: Domestic Politics, Uncertainty, and Cooperation between Adversaries*, PhD Dissertation (Ann Arbor, MI: Department of Government, Harvard University, 2014).

⁴⁴ Agnes Brender, "Determinants of International Arms Control Ratification," *ILE Working Paper Series*, University of Hamburg, Institute of Law and Economics (ILE), no. 17 (2018).

The extent to which conventional arms control is often subsumed by, if not outright ignored by, nuclear arms control is demonstrated by Kreps whose article *Institutional Design of Arms Control Agreements* is focused on nuclear arms agreements, with the CFE Treaty and other post-World War Two CAC agreements in Europe receiving only a brief or no mention.⁴⁵ This is typical of much of the adversarial arms control literature – that works focus on nuclear rather than conventional arms control. This minimizes the relevance and importance of the CFE Treaty and CAC agreements that were made between non-great powers. This thesis attempts to correct this omission.

Indeed, much of the focus on adversarial arms control even when it goes beyond nuclear weapons focuses on some version of the East-West rivalry. During the Cold War, this was between the US and Soviet Union, and NATO and the Warsaw Pact; and since the mid-1990's, NATO and Russia. Kühn somewhat escapes from this paradigm, including the Balkans in his study of cooperative clusters; but his study also includes confidence and security building measures (CSBMs), which this thesis does not.⁴⁶ Moreover, this dissertation includes more agreements beyond Kühn's focus. The inclusion of nuclear arms considerations in CAC agreements is also complicated by the uneven extent to which nuclear weapons states are represented in blocs. Russia is, largely, its own bloc and thus represents a single, large nuclear-weapon state. While NATO as a group of states has three nuclear-weapon state members, and the EU has one. From a practical perspective, policymakers and negotiators may struggle to include nuclear weapons issues in any Europe-wide CAC agreement.⁴⁷

This dissertation addresses a fundamental question that often seems to be overlooked in much of the CAC literature: why do CAC agreements take the forms that they take? Though scholars have identified reasons why states might generally enter into CAC agreements, articulating the advantages and disadvantages of agreements, they rarely go beyond very broad notions and models of cooperation. That is, scholarship may explain why a CAC agreement takes shape, but it has not delved into the forms that it might take and the balances they establish. For example, the CFE Treaty could have resulted in any combination of limitations – but it resulted in a very specific equal ratio of forces in five major military capability categories. This dissertation has attempted to begin to address this omission by quantitatively

⁴⁵ Sarah E. Kreps, "The Institutional Design of Arms Control Agreements," *Foreign Policy Analysis* 14, no. 1 (January 2018): 127–47, <https://doi.org/10.1093/fpa/orw045>.

⁴⁶ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁴⁷ Ursula Jasper and Clara Portela, "EU Defence Integration and Nuclear Weapons: A Common Deterrent for Europe?," *Security Dialogue* 41, no. 2 (April 2010): 145–68, <https://doi.org/10.1177/0967010610361889>. This article discusses in detail the then-challenges of two nuclear-weapon states within the EU and differing arms control perspectives and policies.

identifying the status quo prior to an agreement being signed, and assessing if and why the status quo was changed by the agreement.

As previously stated, one of this thesis' over-arching research questions and objectives is to understand adversarial CAC agreements from the perspectives of their success and failure. This is an effort that surprisingly few scholars have attempted despite its importance to theory and practice. Tanner only assesses post-conflict arms control, which excludes peacetime agreements.⁴⁸ Moreover, he includes only a small number of agreements in his study. Vaynman observed that the "important challenge for thinking about [agreement] effectiveness is determining the period that an adversarial agreement should be in place for it to be considered effective."⁴⁹

Kreps provides an insightful analysis in *The Institutional Design of Arms Control Agreements*, assessing three variables of arms control agreements and their relationship to agreement success, although his focus is on nuclear weapons-related agreements.⁵⁰ Schofield defines arms control failure as the "failure to formulate or maintain compliance with an agreement...; more importantly, it means the failure to achieve the stated objective of reducing the likelihood of war."⁵¹ This definition, however, suffers from several limitations.⁵² First, compliance is a complicated question and even states with substantial collection and analysis resources might disagree about compliance and violations, and how significant a violation is. Even violations may not be a sign of agreement failure when those violations are with the permission, and even encouragement, of (former) rivals. The best example of this was how the victorious World War Two Allies pushed the defeated Axis states to rearm in the context of the Cold War – without the CAC agreements being modified or denounced.⁵³

Second, assessing if an agreement has "reduced the likelihood" of war is largely impossible. Even states that had an active CAC agreement went to war with one another though they might have done so later than they would have otherwise done had no agreement existed. Using this definition and applying it to the Russo-Ukraine War, one might say that the 1994

⁴⁸ Fred Tanner, "Postwar Arms Control," *Journal of Peace Research* 30, no. 1 (February 1993): 29–43, <https://doi.org/10.1177/0022343393030001004>. Additionally, as this study dates from 1993, it understandably excludes many agreements that were made since then.

⁴⁹ Vaynman, *Enemies in Agreement: Domestic Politics, Uncertainty, and Cooperation between Adversaries*, 314.

⁵⁰ Kreps, "The Institutional Design of Arms Control Agreements."

⁵¹ Julian Schofield, "Arms Control Failure and the Balance of Power," *Canadian Journal of Political Science / Revue Canadienne de Science Politique* 33, no. 4 (December 2000): 747.

⁵² The article also is not a quantitative analysis of arms control agreements.

⁵³ Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), *From Versailles to Baghdad*.

Budapest Agreement which promised respect for Ukraine's sovereignty in exchange for it giving up nuclear weapons, and then the 2014 Minsk Agreements were successful because they may have reduced the *likelihood* of a Russian invasion. Thus, it is both hard to be certain when the likelihood is reduced; and it strains credibility to conceive that the reduction of the likelihood of war is a form of success, even if war broke out.

This thesis offers a much clearer definition of success which is explained in chapters 5 and 6, and chapter 7 serves as a case study of CAC failure; yet at the same time, some cases still fall into gray areas of success or failure.

This thesis also offers new insights into war causation by defining clear, independent, and dependent variables, a task that is not easy given the interconnectedness of potential war causes.⁵⁴ Lastly, this thesis offers quantitative methods to measure delegation in CAC agreements and analyze the causal conditions of CAC agreement success and failure.

Chapter 2: Definitions of Core Concepts, Theoretical Frameworks, and Methodology

This thesis' topic of *Adversarial Conventional Arms Control in Europe* warrants some clarification in terms of the meaning of the core concepts contained in it. The topic is composed of four distinct elements that require clear definitions: adversarial relationships between states, conventional arms, arms control, and Europe. Adversarial arms control agreements are, as the term indicates, signed between adversaries. In brief, the goal is to end a conflict or reduce the likelihood of one by fixing a certain military balance and/or demilitarizing a certain geographic area to reduce areas of potential, military competition. CAC agreements stabilize an adversarial relationship through mutual agreement. Allies and partners would not make such an agreement as, in general, states are likely to prefer allies and partners to have stronger than weaker military capabilities.⁵⁵ The following sub-section unpacks and defines the concept in more detail with reference to the scholarly literature.

⁵⁴ Jack S Levy, "The Causes of War and the Conditions of Peace," *Annual Review of Political Science* 1:1 (1998): 28. War causation is complicated as causes exist at many levels, and analyzing different levels offer different insights. This dissertation focuses on organized group and systemic levels of war causation; see: Niels van Willigen and Benjamin Pohl, "2: The Causes of War," in *Global Challenges: Peace and War* (Leiden and Boston: Brill | Nijhoff, 2013), 29–41, https://doi.org/10.1163/9789004246935_004.

⁵⁵ For example, the US has often demanded that other NATO members spend more on defense, see Jordan Becker et al., "Transatlantic Shakedown: Presidential Shaming and NATO Burden Sharing," *Journal of Conflict Resolution*, April 21, 2023, 002200272311678, <https://doi.org/10.1177/00220027231167840>.

Adversarial

An adversarial relationship between states in the context of CAC refers to a relationship in which states are rivals across a range of areas, but especially security. This contrasts with states that may compete economically, perhaps fiercely so, but otherwise have a cooperative security relationship. An example of this may be the United States and Japan during the 1990's.⁵⁶ Similarly, states may have other disagreements, sometimes sharp, concerning migration, culture, crime, or minority issues but otherwise pose no perceived threat to one another militarily even if they are not partners or allies. An example of this relationship might be the US and Mexico. Both examples offer insights into the purpose and function of CAC. In the case of Japan and the US, Japan has always sought a robust US military capability and presence in the Pacific – which is the opposite of seeking a CAC agreement with the US. In the case of Mexico, while it is not a close US military ally, it is also not a military rival and it makes no substantive objection to increasing US military capabilities.⁵⁷

In the context of CAC, rivalry refers to states that are in conflict, recently had a conflict, or fear conflict. Only one state in any given relationship, whether it is bilateral or multilateral, needs to have a perception of rivalry in order for an adversarial CAC agreement to become relevant. Thompson discusses rivalries in the context of militarized disputes but emphasizes that some relationships may be complicated or ambiguous enough that quantitatively determining their level of rivalry is difficult.⁵⁸ This can be especially true when partnerships and alliances are in flux, such as during the interwar period between the world wars.⁵⁹

One of the key differences between adversarial arms control and universal or humanitarian-motivated arms control (discussed below) is that adversarial arms control is more

⁵⁶ Kristi Govella, "Economic Rivals, Security Allies: The US-Japan Trade War," in *Research Handbook on Trade Wars*, ed. Ka Zeng and Wei Liang (Edward Elgar Publishing, 2022), 209–29, <https://doi.org/10.4337/9781839105708.00020>.

⁵⁷ Up through the interwar period, the US and Mexico were military rivals to varying degrees. See, for example, Chris D. Dishman, *A Perfect Gibraltar: The Battle for Monterrey, Mexico, 1846*, Campaigns and Commanders (Norman OK: University of Oklahoma Press, 2010); Jeff Guinn, *War on the Border: Villa, Pershing, the Texas Rangers, and an American Invasion* (New York: Simon & Schuster, 2021).

⁵⁸ William R. Thompson, "Identifying Rivals and Rivalries in World Politics," *International Studies Quarterly* 45, no. 4 (December 2001): 557–86, <https://doi.org/10.1111/0020-8833.00214>.

⁵⁹ Richard Dean Burns and Donald Urquidi, *Disarmament in Perspective: Volume 4: Conclusions*, vol. 4 (Los Angeles: California State College at Los Angeles Foundation, 1968); Ian Ona Johnson, "How an International Order Died: Lessons from the Interwar Era," War on the Rocks, August 5, 2021, <https://warontherocks.com/2021/08/how-an-international-order-died-lessons-from-the-interwar-era-2/>; Andrew Webster, "Piecing Together the Interwar Disarmament Puzzle: Trends and Possibilities," *International Journal: Canada's Journal of Global Policy Analysis* 59, no. 1 (2004): 187–98, <https://doi.org/10.1177/002070200405900109>.

of a contractual arrangement between states, compared to other types of arms control which seek to establish global norms of behavior.⁶⁰ It is both rational and reasonable that states in an adversarial arms control agreement would withdraw from them if its adversary is in substantial violation of the agreement. Such an action, however, would in many cases be counterproductive in a universal arms control agreement. For example, states would not necessarily benefit by withdrawing from the Nuclear Non-Proliferation Treaty (NPT) or the Chemical Weapons Convention (CWC) to respond to violations.

Thus, there is no norm-building for CAC agreements as possession of conventional weapons in and of themselves – in most cases – is not viewed as contrary to global norms. Almost all conventional weapons and arms that were limited by a CAC treaty were otherwise widely acquired and fielded by armies around the world at that time.

Conventional

Conventional arms are generally easy to define although it is subject to some evolution or subjective definitions as technologies progress. Gillis defines conventional arms in a United Nations disarmament book as:

a diverse range of weapons, perhaps more easily defined by what they are not (nuclear, chemical and biological weapons—the “weapons of mass destruction”) than what they are. In practice, conventional weapons are commonly understood to include devices capable of killing, incapacitating or injuring mainly (though not exclusively) through explosives, kinetic energy or incendiaries. Conventional weapons include, but are not limited to, armoured combat vehicles (personnel carriers and tanks, for example), combat helicopters, combat aircraft, warships, small arms and light weapons, landmines, cluster munitions, ammunition and artillery.⁶¹

Omitted, likely unintentionally as the report focuses on the illicit trade of conventional weapons,⁶² is that conventional weapons systems may also include supporting or enabling

⁶⁰ Richard L Williamson, Jr., “Hard Law, Soft Law, and Non-Law in Multilateral Arms Control: Some Compliance Hypotheses,” *Chicago Journal of International Law* 4, no. 1 (Spring 2003): 59–82.

⁶¹ Melissa Gillis, “Conventional Arms and the Arms Trade,” in *Disarmament: A Basic Guide*, Fourth Edition (United Nations, 2017), 71, <https://www.un-ilibrary.org/content/books/9789213628027c017>.

⁶² Another UN definition makes similar omissions. “Conventional Arms,” UNODA, accessed August 26, 2023, <https://disarmament.unoda.org/conventional-arms/>.

systems such as radar, logistics systems, intelligence collection and distribution assets, and other pieces of equipment that enable conventional weapons and capabilities. Lastly, the UN definition does not include personnel – which should be included in any definition as they were included in the post-World War One peace treaties and a later component of the CFE Treaty.⁶³

One simple way to define conventional weapons is that they are any weapon or weapon system and their personnel that is not specifically designed and primarily used for the delivery and employment of chemical, biological, or nuclear weapons.⁶⁴

One area in which there may be ambiguity is dual-use weapons or weapon systems. For example, a nuclear ballistic missile submarine is also capable of launching conventional missiles, and some ballistic missile designs can be configured for both conventional and non-conventional warheads. Many aircraft can deliver conventional and non-conventional weapons. Arms control and other agreements usually carefully define what systems do and do not fall under nuclear, biological, and chemical (NBC) restricted categories.

Other areas that may see the creation of their own military capabilities category for arms control purposes might include cyber warfare,⁶⁵ space-based systems,⁶⁶ and artificial intelligence.⁶⁷ One reason why these might fall outside of existing notions of conventional arms is because they do not necessarily exist in a single, geographic point in the manner of a radar, tank, ship, or aircraft.

Conventional arms are widespread, possessed by every state. Even if a country lacks a military, law enforcement agencies possess small arms. For most of human history, there was no differentiation between conventional and non-conventional weapons. Limitations on armed forces and capabilities stretches back to at least antiquity⁶⁸ wherein even ancient city-states, civilizations, and empires sought to establish agreements to stabilize rivalries and reduce the

⁶³ “Concluding Act Of The Negotiation On Personnel Strength Of Conventional Armed Forces In Europe” (Helsinki, July 10, 1992).

⁶⁴ For a discussion of these, see Sico van der Meer et al., “CBRN Weapons: Where Are We in Averting Armageddon?,” Clingendael Institute: Strategic Monitor 2019-2020, accessed October 17, 2023, <https://www.clingendael.org/pub/2019/strategic-monitor-2019-2020/cbrn-weapons/>.

⁶⁵ Thomas Reinhold, Helene Pleil, and Christian Reuter, “Challenges for Cyber Arms Control: A Qualitative Expert Interview Study,” *Zeitschrift Für Außen- Und Sicherheitspolitik* 16, no. 3 (September 2023): 289–310, <https://doi.org/10.1007/s12399-023-00960-w>.

⁶⁶ Paul B Larsen, “Outer Space Arms Control: Can the USA, Russia and China Make This Happen,” *Journal of Conflict and Security Law* 23, no. 1 (April 1, 2018): 137–59, <https://doi.org/10.1093/jcsl/krw026>.

⁶⁷ Matthijs M. Maas, “How Viable Is International Arms Control for Military Artificial Intelligence? Three Lessons from Nuclear Weapons,” *Contemporary Security Policy* 40, no. 3 (2019): 285–311, <https://doi.org/10.1080/13523260.2019.1576464>; Forrest E Morgan et al., *Military Applications of Artificial Intelligence: Ethical Concerns in an Uncertain World*, 2020.

⁶⁸ Jeffrey Arthur Larsen, ed., *Arms Control: Cooperative Security in a Changing Environment* (Boulder, Colorado: Lynne Rienner Publishers, 2002), chap. 2.

threat of armed conflict.⁶⁹ There does not seem to be a specific term for pre-20th century efforts to control military capabilities through mutual agreement, but after World War 1 disarmament was the preferred term, then largely supplanted by arms control during the Cold War.

Arms Control

Larsen defines arms control “as any agreement among states to regulate some aspect of their military capability or potential.”⁷⁰ Bull’s definition, in contrast, focuses on the adversarial aspect of arms control, stating that “Arms control in its broadest sense comprises all those acts of military policy in which antagonistic states co-operate in the pursuit of common purposes even while they are struggling in the pursuit of conflicting one.”⁷¹

Other scholars and experts have offered similar definitions and terminology. Kühn refers to arms control agreements between rivals as “cooperative” arms control.⁷² Schofield, when defining adversarial arms control without using the term adversarial, states that “An arms control agreement is defined somewhat broadly as a bilateral or multilateral policy which attempts to regulate, limit or eliminate existing arsenals and prevent new ones, through either tacit or formal agreement, in order to reduce the incidence of inter-state violence.”⁷³ The last phrase which refers to reducing “the incidence of inter-state violence” implies adversarial relationships.

Several types of arms control agreements serve different purposes, and it is common for scholars to bundle them together or not refer to the specific type of arms control issue when writing about it.

Universal arms control usually seeks to decrease the injury and suffering caused by armed conflict without regard to the balance of military power, the motivations behind a conflict, or a belligerent’s goals. These agreements often prohibit certain weapons capabilities, with examples including the 1997 Ottawa Treaty which bans the use of anti-personnel land mines, or the 1992 Chemical Weapons Convention which outlaws the development, production, stockpiling, and use of chemical weapons. Other arms control agreements seek to generally reduce the likelihood of conflict between states, such as the Missile Technology

⁶⁹ Philip Towle, *Enforced Disarmament: From the Napoleonic Campaigns to the Gulf War* (Oxford: Oxford University Press, 1997).

⁷⁰ Larsen, *Arms Control: Cooperative Security in a Changing Environment*, 1.

⁷¹ Hedley Bull, “Arms Control and World Order,” *International Security* 1, no. 1 (Summer 1976): 3.

⁷² Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁷³ Schofield, “Arms Control Failure and the Balance of Power,” 748.

Control Regime (MTCR) which seeks to curb the proliferation of certain types of weapons such as ballistic missiles in the belief that if more countries have them, they can threaten global peace and stability. Notably, international arms export control regimes do not *prohibit* possession of the targeted weapon systems, but they are intended to make acquiring them more difficult. Both of these types of agreements can be made between allies and partners – in some cases even setting restrictions on one another.⁷⁴

This dissertation's conception of adversarial CAC is closely intertwined with the European historical experience. Adversarial CAC agreements are concrete, specific agreements that often focus on specific military capabilities relevant to the adversarial, inter-state relationship in question. These agreements focus on weapons that are perceived to be most relevant – whether because of their use or potential use. CAC agreements between rivals outside of Europe would, in many cases, not be similar because other rivals might lack the military capabilities in question with no realistic need/likelihood of them being acquired. These might include capital ships or heavy, long-range bombers. CAC in Europe is particular to Europe from many perspectives.

Europe

Defining Europe poses many challenges because it might incorporate different states depending on history, geology, geography, languages, religion, or international organization membership. Kühn defined Europe in *The Rise and Fall of Cooperative Arms Control in Europe* as all OSCE members. For this dissertation, however, this definition is too broad as it includes, as the OSCE itself states, states from North America, Europe, and Asia.⁷⁵ This dissertation excludes most states from Central Asia, but includes the southern Caucasus, United States and Canada (when the agreements are relevant to Europe).

The states included in this thesis' scope are determined by three considerations: the history of CAC in Europe over the last 100 years – that is which states have predominantly been involved in CAC agreements that affect continental Europe; membership in current Europe-focused institutions such as NATO and the European Union (EU); and what states are

⁷⁴ For example, pro-Ukraine coalition signatories of the Convention on Cluster Munitions, which prohibits use of these weapons, cannot legally provide them to Ukraine. Luke Harding and Michael Savage, "UK Will Not Supply Cluster Munitions to Ukraine, Says Sunak," *The Observer*, July 8, 2023, sec. World news, <https://www.theguardian.com/world/2023/jul/08/ukraine-cluster-munitions-rishi-sunak-aid>.

⁷⁵ "OSCE Participating States," OSC, OSCE, accessed October 22, 2023, <https://www.osce.org/participating-states>.

likely to have a substantial role and be considered state parties for a future CAC agreement in Europe.

There are several reasons why this thesis focuses on Europe and does not include other global regions. First, states in the same global region share common cultural, political, diplomatic, and institutional experiences; and that these do not transmit well even when institutions in different regions have similar purposes and face similar challenges.⁷⁶ Van Ham, for example, lays out the overlapping institutions in Europe that deal with arms control.⁷⁷

Another reason to focus on CAC in Europe is that CAC in other global regions face different issues and histories – and they do not necessarily have as deep a history of CAC as Europe. For example, the Pacific region is much more concerned with naval balances of power than Europe. The Middle East faces a much more complicated quilt of geopolitics with less clear and less permanent partnerships and alliances. Europe, in contrast, has been dominated by a primarily dyadic rivalry since the end of World War Two. South America has a limited need for CAC agreements as the past 100 years suggest a low threat of large-scale interstate conflict.

Lastly, one of this thesis' goals is to address the current and severe NATO-Russia rivalry by understanding past CAC agreements that might be relevant to any future agreements.

Single Definition

The overall definition that this dissertation adopts for adversarial conventional arms control in Europe is:

The control of conventional military systems and capabilities through formally agreed, measurable, and quantitative and/or geographic restrictions, reductions, and limitations made between states who have a relationship characterized, or recently characterized, by a militarized rivalry. Europe is broadly defined as the states that have deep cultural, historical, military, and security interests, relationships, and institutional ties to Europe defined by the

⁷⁶ Thomas Sommerer and Jonas Tallberg, "Diffusion Across International Organizations: Connectivity and Convergence," *International Organization* 73, no. 02 (Spring 2019): 399–433, <https://doi.org/10.1017/S0020818318000450>.

⁷⁷ Peter van Ham, *Modernizing Conventional Arms Control in the Euro-Atlantic Region* (The Hague: Netherlands Institute of International Relations 'Clingendael', 2018).

land mass which runs from approximately Iceland to the Urals, and from the Arctic Ocean to Türkiye.

Theories and Conceptual Frameworks

This thesis creates a theoretical and conceptual framework that encompasses an adversarial CAC agreement's lifecycle from conception to implementation based on the notion that the balance of military capabilities between adversaries underlies CAC agreements. From inception through implementation, states are mindful of the military balance and continuously assess it through various means and attempt to discern if the agreement fixes and keeps the desired balance.

Recent works on CAC have been policy-driven, aiming to offer specific options for future CAC measures or assessing the current state of NATO/US-Russian CAC relations.⁷⁸ However, a theoretical framework is necessary to understand the essence of CAC agreements, especially when attempting to compare and analyze over 30 agreements over the course of 100 years and agreements that go beyond some version of the NATO/US-Russia/USSR relationship.

Because this thesis' central chapters, chapters 4-7, delve into greater theoretical detail, this chapter will only provide a broad overview of how the chapters fit together theoretically and offer a summary of the relevant International Relations and international organization theories.

CAC Agreement Stages

This thesis categorizes CAC agreements into three distinct phases, or stages: the baseline, negotiation, and implementation stages (see Figure 2). The baseline stage is composed of the phenomenon that compels a state to consider and pursue a CAC agreement. States' CAC considerations are often driven by considerations of the status quo, including the military balance and how deterrence, the security dilemma, and the offense-defense balance define the existing security relationship. More specifically, states will determine what their upper and lower limits might be in terms of equipment limitations and geographic restrictions based on

⁷⁸ Samuel Charap et al., *A New Approach to Conventional Arms Control in Europe: Addressing the Security Challenges of the 21st Century* (RAND Corporation, 2020), <https://doi.org/10.7249/RR4346>; van Ham, *Modernizing Conventional Arms Control in the Euro-Atlantic Region*.

their assessment of the existing status quo. For example, they may determine the minimum number of battle tanks they need to retain in order to ensure deterrence, the maximum number of battle tanks they would permit a rival to retain while not feeling threatened, or the removal from consideration of ballistic missile defenses due to a belief that these are more defensive than offensive. States might seek to reduce any relative differences in military capabilities within a CAC, but no agreement will be made that seeks to invert the military power balance or the operational situation.

The negotiation stage covers the elements that drive the discussions, compromises, and considerations between states during which they communicate their goals and preferences, often formulated around deterrence, the security dilemma, and the offense-defense balance. During the negotiation stage states grapple with different perceptions of these three phenomena, sometimes struggling to find the balance between maintaining a deterrence without threatening the other side and identifying military capabilities that offer more offensive rather than defensive capabilities. Though negotiations are an essential component of CAC agreements, this dissertation's main focus on the negotiation stage is how states perceive the military status quo prior to and during CAC agreement negotiation, and then the final CAC agreement's details retain or alter the status quo.

This dissertation only offers limited coverage of the negotiation stage due to a combination of source material availability, complexity, and diversity of each case's negotiations, and focuses on the motivations of states entering into a CAC agreement (the baseline stage) and whether agreements succeed (the implementation stage).

The implementation stage covers the agreement's life after entry into force until its demise or expiration (as applicable) and is driven by monitoring, verification, and enforcement considerations as well as geopolitical developments. The issue of the military balance remains as states are concerned that cheating might shift the military balance away from what was agreed, or that other non-prohibited activities might shift the balance such as changes in alliances or military technology.

This dissertation focuses on the structural analysis of international relations and how CAC agreements fit within this. Concrete comparisons of force ratios and the military balance reflect structural differences in national strength and power, which, quantitatively, are fixed numbers and ratios regardless of who is in power. That is, ten battleships, 500 combat aircraft, or 5000 tanks are the same no matter who a state's leader is. But, this is not to say that CAC is not somewhat dependent on individual leaders' decisions. The leaders may be the drivers of threat perceptions. They may be the loudest voice in a country articulating threat perceptions

posed by other states and rivals, or they may be the loudest voices threatening other states and rivals. Morgenthau discusses the role of statesmen and leaders in the context of interstate competition and international relations.⁷⁹

Schafer and Walker emphasize the role of individuals and their belief systems in international relations.⁸⁰ For CAC, leaders' belief in their efficacy or skepticism in their effectiveness may serve as a gateway between stages 1 and 2. If a leader is generally skeptical of CAC, they might be unwilling to engage in negotiations – at least for certain peacetime agreements which lack an immediate and pressing need for consideration and passage (compared to ones linked to conflict termination). In contrast, a leader might have a strong belief and preference for CAC and actively seek such agreements even when the need is uncertain or in the face of domestic political obstacles.

One of this dissertation's goals is to attempt to explore how CAC agreements are made from a structural perspective. It attempts to identify and assess various aspects of interstate relations and to quantify these as much as possible. However, decisions are ultimately made by people, agreements are negotiated by people, and people implement the agreements. Allison emphasizes the role at three levels of decision making, for example.⁸¹ These three levels apply to any CAC agreement, though there would likely be considerable variation in the decisions that resulted in finalizing each agreement.

For several agreements – especially those made during peacetime, during which an agreement was optional – leaders' personal relationships may be critical, although both a detailed case study and counterfactual assessment would be necessary to increase confidence in such a conclusion. Two relationships that might have been key to CAC are the Reagan-Gorbachev (the INF Treaty, which included conventional land-based missiles) and the Bush-Gorbachev (the CFE Treaty) relationships.⁸² Interpersonal relationships likely affect the willingness to consider arms control agreements, then the tone of negotiations, and then the willingness to sign agreements and ensure their entry into force. It is unclear to what extent

⁷⁹ Hans J. Morgenthau, *Politics among Nations : The Struggle for Power and Peace*, [1st ed.] (New York: A.A. Knopf, 1948).

⁸⁰ Mark Schafer and Stephen G. Walker, *Beliefs and Leadership in World Politics : Methods and Applications of Operational Code Analysis*, 1st ed, 1 online resource (xiv, 288 pages) : illustrations vols., *Advances in Foreign Policy Analysis* (New York: Palgrave Macmillan, 2006), <https://doi.org/10.1057/9781403983497>.

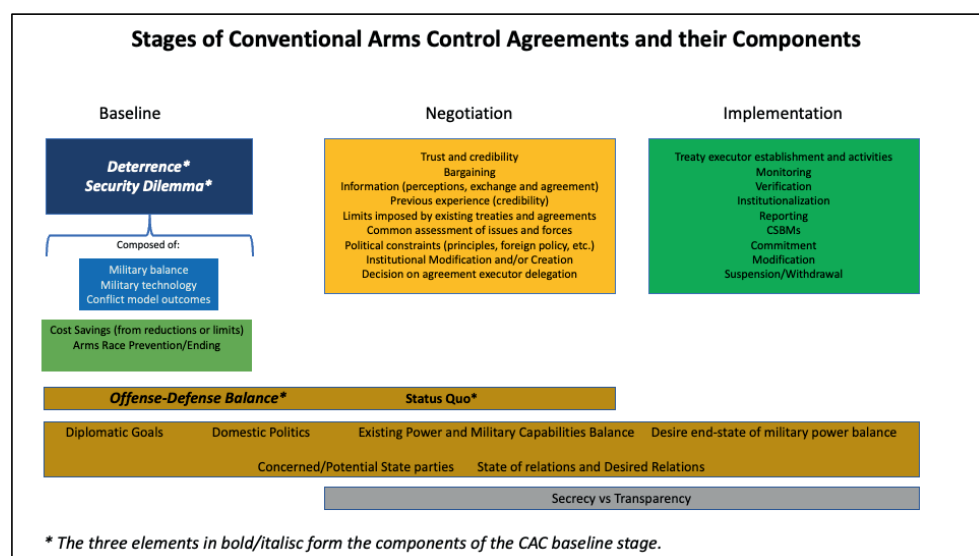
⁸¹ Graham T. Allison, *Essence of Decision : Explaining the Cuban Missile Crisis* (Boston: Little, Brown and Company, 1971).

⁸² Thomas S Blanton and Svetlana Savranskaya, *The Last Superpower Summits. Gorbachev, Reagan, and Bush. Conversations That Ended the Cold War* (Hungary: Central European University Press, 2016); Matlock Jr., *Reagan and Gorbachev: How the Cold War Ended* (New York: Random House, 2004); Svetlana Savranskaya and Thomas S. Blanton, eds., *Reagan, Gorbachev and Bush. Conversations That Ended the Cold War*. (Budapest, Hungary: Amsterdam University Press, 2016), <https://doi.org/doi:10.1515/9789633861714>.

personal relationships impact implementation. Decisions to comply or violate agreements might be closely intertwined with personal relationships. Poor relations might motivate a leader to engage in violations, while positive relations might encourage compliance. At the same time, violations or compliance might create poor or positive relations, respectively.

Personal relationships might impact implementation, for example, willingness to alter and adapt agreements to changing circumstances or how to respond to violations. A positive relationship might create a greater willingness to collaborate to alter agreements, and it might make a leader both more reluctant to declare that a rival state violated an agreement and impact sanctions' speed and severity.

Figure 2: Stages of conventional arms control agreements and their components

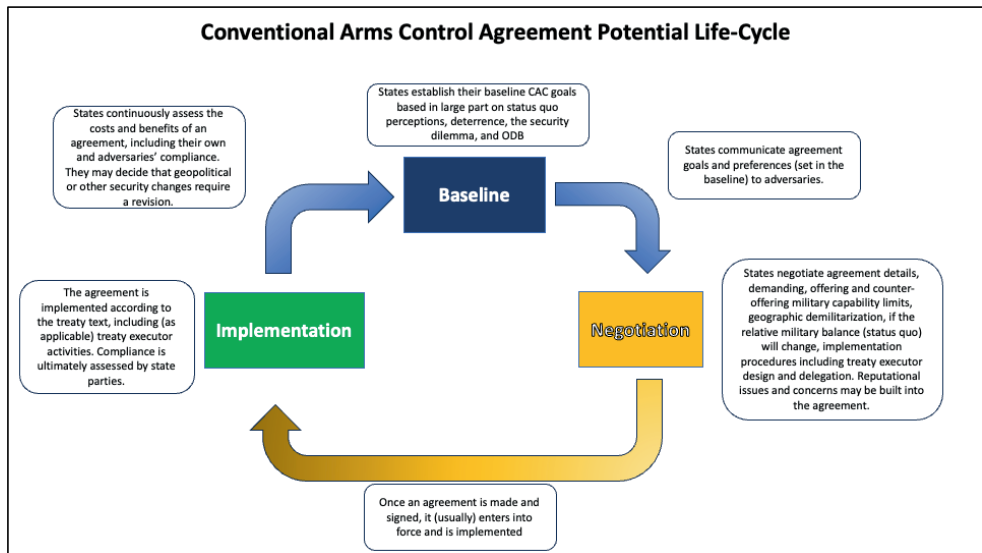


Source: Author's elaboration

CAC agreements can follow a circular process – even if it spans several decades – in which new information, experiences, military advances, and geopolitical changes compel states in a CAC agreement to revisit that agreement (see Figure 3). The stages are composed of sometimes overlapping and interrelated areas of theory and policy consideration, and the stages themselves are interrelated. For example, a state seeking a CAC agreement will first determine which other states may pose a threat, and then seek to include these state parties in negotiations.

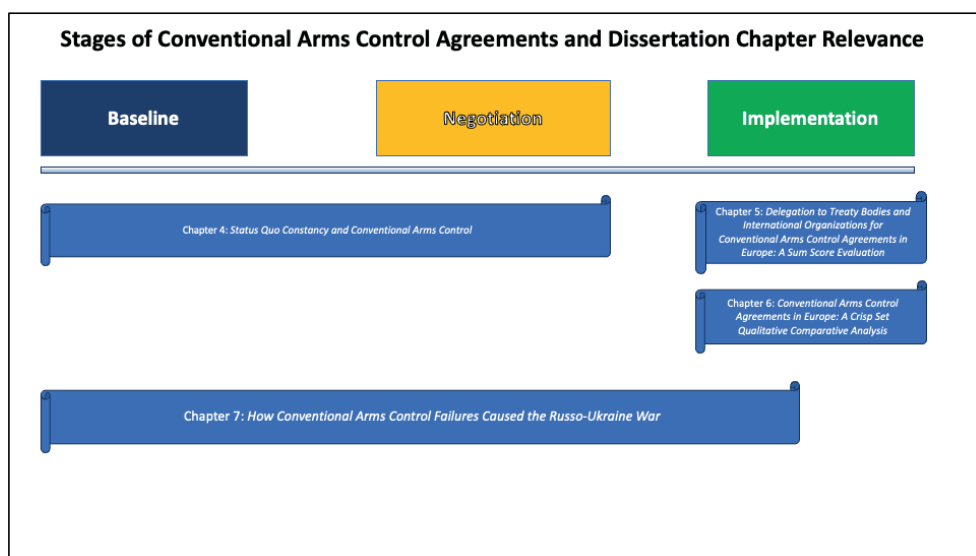
Negotiations will partly be driven by what is believed to be verifiable. Figure 4 shows how each of this dissertation’s chapters fall into the different CAC stages.

Figure 3: Conventional arms control agreement potential life-cycle



Source: Author’s analysis

Figure 4: Stages of conventional arms control agreements and dissertation chapter relevance



Source: Author's elaboration

Theoretical disciplines and CAC

This dissertation study of CAC focuses on two International Relations sub-theoretical areas: international security and international organization (IO, also referred to as Intergovernmental Organization (IGO)) theories). These are summarized in tables 1 and 2.

International Relations and security theories are deemed relevant to CAC agreements when they substantially apply to how an agreement is conceived, negotiated, or implemented. The theories below (Table 2 below) are presented in alphabetical order, though their applicability can differ depending on the agreement or agreement stage. This table identifies the relevant IR theory to CAC, explains how it is relevant to CAC, and offers several references from which the relevance is ascertained. The references below do not necessarily directly reference CAC, but they articulate the theory that is relevant to CAC.

Table 2: CAC and international security theories

Theory	Relevance to CAC	References
Arms Racing	CAC is often conceived to halt or prevent arms racing. By setting limits, states can avoid obtaining military capabilities that, after considerable expense, do not offer increased, relative military strength compared to an adversary if they have likewise obtained similar capabilities.	• Brito and Intriligator, "The Economics of Disarmament, Arms Races and Arms Control."⁸³ • Downs, Rocke, and Siverson, "Arms Races and Cooperation."⁸⁴ • Glaser, "When Are Arms Races Dangerous? Rational versus Suboptimal Arming."⁸⁵ • Kydd, "Arms Races and Arms Control."⁸⁶ • Trachtenberg, "The Past and Future of Arms Control."⁸⁷
Bargaining	States engage in bargaining across a range of issues. Formal negotiations to close a CAC agreement involve a range of matters including bargaining positions, negotiating strength, compromises, past experiences, reputation, and the Prisoner's dilemma. CAC adversaries are likely to seek concessions from an adversary while retaining as much capability as their adversary will permit. Information exchange and converging assessments on a range of issues, including deterrence, the security dilemma, and the ODB are often essential in CAC negotiations.	• Fearon, "Bargaining, Enforcement, and International Cooperation."⁸⁸ • Levy, "Loss Aversion, Framing, and Bargaining: The Implications of Prospect Theory for International Conflict."⁸⁹ • Miller, "Hard Times for Arms Control What Can Be Done?"⁹⁰
Cooperation and Trust	States cooperate based on combinations of trust and mutual interest to realize mutual gains. CAC requires that states cooperate first to arrive at an agreement, and then implement the agreement successfully. Trust comes into play as states need to trust one another that negotiations are in good faith, that all relevant information is revealed during negotiations, and that states will faithfully implement agreements. Despite even vigorous verification and monitoring measures, states may still cheat or they may otherwise engage in non-cooperative, non-trusting behavior to undermine the agreement.	• Abbott, "Trust But Verify: The Production of Information in Arms Control Treaties and Other International Agreements."⁹¹ • Claeys and Williams, "War and Arms Control."⁹² • Evangelista, "Cooperation Theory and Disarmament Negotiations in the 1950s."⁹³ • Hinde, "Trust, Co-Operation, Commitment and International Relationships."⁹⁴ • Jervis, "Cooperation Under the Security Dilemma."⁹⁵ • Oye, Cooperation under Anarchy.⁹⁶

⁸³ Dagobert L. Brito and Michael David Intriligator, "The Economics of Disarmament, Arms Races and Arms Control," *Économie Appliquée*, 1993, 59–76.

⁸⁴ George W. Downs, David M. Rocke, and Randolph M. Siverson, "Arms Races and Cooperation," *World Politics* 38, no. 1 (October 1985): 118–46.

⁸⁵ Charles L. Glaser, "When Are Arms Races Dangerous? Rational versus Suboptimal Arming," *International Security* 28, no. 4 (2004): 44–84.

⁸⁶ Andrew Kydd, "Arms Races and Arms Control: Modeling the Hawk Perspective," *American Journal of Political Science* 44, no. 2 (April 2000): 228–44, <https://doi.org/10.2307/2669307>.

⁸⁷ Marc Trachtenberg, "The Past and Future of Arms Control," *Daedalus* 120, no. 1 (Winter 1991): 203–16.

⁸⁸ James D. Fearon, "Bargaining, Enforcement, and International Cooperation," *International Organization* 52, no. 2 (1998): 269–305, <https://doi.org/10.1162/002081898753162820>.

⁸⁹ Jack S. Levy, "Loss Aversion, Framing, and Bargaining: The Implications of Prospect Theory for International Conflict," *International Political Science Review / Revue Internationale de Science Politique, Crisis, Conflict and War*, 17, no. 2 (April 1996): 179–95.

⁹⁰ Miller, *Hard Times for Arms Control What Can Be Done?*

⁹¹ Kenneth W. Abbott, "Trust But Verify: The Production of Information in Arms Control Treaties and Other International Agreements," *Cornell International Law Journal* 26, no. 2 (Winter 1993): 1–58.

⁹² Suzanne Claeys and Heather W. Williams, "War and Arms Control: When to Pursue Cooperation," *Survival* 64, no. 6 (November 2, 2022): 137–52, <https://doi.org/10.1080/00396338.2022.2150432>.

⁹³ Matthew Evangelista, "Cooperation Theory and Disarmament Negotiations in the 1950s," *World Politics* 42, no. 4 (July 1990): 502–28.

⁹⁴ Robert A. Hinde, "Trust, Co-Operation, Commitment and International Relationships," *Current Research on Peace and Violence* 10, no. 2/3 (1987): 83–90.

⁹⁵ Robert Jervis, "Cooperation Under the Security Dilemma," *World Politics* 30, no. 2 (January 1978): 167–214.

⁹⁶ Kenneth A. Oye, ed., *Cooperation under Anarchy* (Princeton, N.J.: Princeton University Press, 1986).

Theory	Relevance to CAC	References
Conventional Warfare	Existing theories, trends, and current experiences with conventional warfare are essential to CAC. Knowledge of conventional warfare can provide important information about a state's military capabilities, weapon performance, tactics, and potential changes in technology that might affect CAC.	• Stiles, Trust and Hedging in International Relations.⁹⁷ • Dupuy et al., "Handbook on Ground Forces Attrition in Modern Warfare."⁹⁸ • Mearsheimer, "Assessing the Conventional Balance."⁹⁹ • Posen, "Measuring the European Conventional Balance."¹⁰⁰ • Shlapak, Johnson, and Rand Corporation, "Reinforcing Deterrence on NATO's Eastern Flank."¹⁰¹
Deterrence	States considering or entering into CAC often seek to establish deterrence by limiting the other side's military capabilities, or retain deterrence despite reductions and limitations. The need to maintain deterrence can make arriving at a peacetime CAC agreement difficult.	• Driver, "Deterrence in Eastern Europe in Theory and Practice."¹⁰² • Haffa, "The Future of Conventional Deterrence."¹⁰³ • Hastedt and Eksterowicz, "Conventional Arms Control."¹⁰⁴ • Mazarr et al., "What Deters and Why: Exploring Requirements for Effective Deterrence of Interstate Aggression."¹⁰⁵ • Mearsheimer, <i>Conventional Deterrence</i>.¹⁰⁶
Diplomacy	CAC is often part of a larger diplomatic effort to improve relations. Diplomacy related to CAC incorporates a wide range of state activities, including relationships with neutral states and international organizations. Diplomacy is important throughout the CAC life-cycle, including in how to initially agree to negotiate an agreement, the treaty negotiations themselves including formal and informal linkage to other issues, and then issues of compliance during implementation.	• Crawford and Vu, "Arms Control as Wedge Strategy."¹⁰⁷ • Goldblat, "Arms Control: The New Guide to Negotiations and Agreements."¹⁰⁸ • Jervis, "From Balance to Concert: A Study of International Security Cooperation."¹⁰⁹ • Jervis, "Perception and Misperception in International Politics."¹¹⁰

⁹⁷ Kendall Stiles, *Trust and Hedging in International Relations* (Ann Arbor, MI: University of Michigan Press, 2018), <https://doi.org/10.3998/mpub.9750852>.

⁹⁸ Trevor N. Dupuy et al., *Handbook on Ground Forces Attrition in Modern Warfare* (Fairfax, VA: The Historical Evaluation and Research Organization, 1986).

⁹⁹ John J. Mearsheimer, "Assessing the Conventional Balance: The 3:1 Rule and Its Critics," *International Security* 13, no. 4 (Spring 1989): 54, <https://doi.org/10.2307/2538780>.

¹⁰⁰ Barry R. Posen, "Measuring the European Conventional Balance: Coping with Complexity in Threat Assessment," *International Security* 9, no. 3 (Winter -1985 1984): 47–88, <https://doi.org/10.2307/2538587>.

¹⁰¹ David A. Shlapak, Michael W. Johnson, and Rand Corporation, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, 2016, <http://www.jstor.org/stable/10.7249/j.ctt19w71fs>.

¹⁰² Darrell Driver, "Deterrence in Eastern Europe in Theory and Practice," *Connections, Partnership for Peace Consortium of Defense Academies and Security Studies*, Deterrence in International Security: Theory and Current Practice, 18, no. 1 (Winter-Spring 2019): 15.

¹⁰³ Robert P. Haffa Jr., "The Future of Conventional Deterrence," *Strategic Studies Quarterly* 12, no. 4 (Winter 2018): 23.

¹⁰⁴ Glenn Hastedt and Anthony Eksterowicz, "Conventional Arms Control: Clearing Away the Underbrush," *Defense Analysis* 4, no. 2 (1988): 181–84, <https://doi.org/10.1080/07430178808405346>.

¹⁰⁵ Michael Mazarr, Joe Cheravitch, et al., *What Deters and Why: Applying a Framework to Assess Deterrence of Gray Zone Aggression* (RAND Corporation, 2021), <https://doi.org/10.7249/RR3142>.

¹⁰⁶ John J. Mearsheimer, *Conventional Deterrence* (Ithaca and London: Cornell University Press, 1983).

¹⁰⁷ Timothy W. Crawford and Khang X. Vu, "Arms Control as Wedge Strategy: How Arms Limitation Deals Divide Alliances," *International Security* 46, no. 2 (Fall 2021): 91–129, https://doi.org/10.1162/isec_a_00420.

¹⁰⁸ Jozef Goldblat, *Arms Control: The New Guide to Negotiations and Agreements* (Los Angeles, CA; London: SAGE, 2002).

¹⁰⁹ Robert Jervis, "From Balance to Concert: A Study of International Security Cooperation," *Daedalus*, 50 Years, 134, no. 4 (Fall 2005): 101–17.

¹¹⁰ Robert Jervis, *Perception and Misperception in International Politics*, New edition (Princeton, New Jersey: Princeton University Press, 2017).

Theory	Relevance to CAC	References
Offense-Defense Balance	The ODB informs states which weapons they are more likely to want to limit because of their perceived offensive advantages, or have exempted from limitations because of their primarily defensive capabilities.	• Biddle, "Rebuilding the Foundations of Offense-Defense Theory."¹¹¹ • Levy, "The Offensive/Defensive Balance of Military Technology."¹¹² • Goldfischer, "The Meaning of Offense and Defense."¹¹³ • Lynn-Jones, "Offense-Defense Theory and Its Critics."¹¹⁴
Security Dilemma	States entering into a CAC agreement, especially during peace time, may seek to resolve the security dilemma through mutual limitations so that neither feels threatened by the other.	• Glaser, "The Security Dilemma Revisited."¹¹⁵ • Jervis, "Cooperation Under the Security Dilemma."¹¹⁶ • Montgomery, "Breaking Out of the Security Dilemma: Realism, Reassurance, and the Problem of Uncertainty."¹¹⁷
War Causation	CAC and war causation may be related in some cases, with CAC decreasing the likelihood of conflict between states – which is in many cases its intention. The breakdown of CAC agreements can signal impending conflict, with CAC deterioration potentially being a cause of conflict.	• Jervis, "Arms Control, Stability, and Causes of War."¹¹⁸ • Mathews III, "Current Gains and Future Outcomes: When Cumulative Relative Gains Matter."¹¹⁹ • Trachtenberg, "The Past and Future of Arms Control."¹²⁰ • Van Evera, "Causes of War".¹²¹

Source: Author's literature review and research

The scholarship on IO theory concerning CAC agreements is limited for several reasons. First, many CAC agreement executors may not comfortably fall in the category of an IO because they lack any independence or agency, being composed of a meeting body of national representatives rather than international civil servants and an independent head. This is concretely manifested in the lack of a permanent secretariat in stark contrast to IOs which maintain a permanent office, staff, and head. However, agreement executors such as the CFE Treaty's Joint Consultative Group (JCG) are not ad-hoc or informal – they are permanent bodies created by international treaties. For this reason, they fall between a full IO and an

¹¹¹ Stephen Biddle, "Rebuilding the Foundations of Offense-Defense Theory," *The Journal of Politics* 63, no. 3 (August 2001): 741–74, <https://doi.org/10.1111/0022-3816.00086>.

¹¹² Jack S. Levy, "The Offensive/Defensive Balance of Military Technology: A Theoretical and Historical Analysis," *International Studies Quarterly* 28, no. 2 (June 1984): 219–38, <https://doi.org/10.2307/2600696>.

¹¹³ David Goldfischer, "1. The Meaning of Offense and Defense," in *The Best Defense* (Cornell University Press, 2020), 13–37, <https://doi.org/10.7591/9781501736681-004>.

¹¹⁴ Sean Lynn-Jones, "Offense-Defense Theory and Its Critics," *Security Studies* 4, no. 4 (Summer 1995): 660–91.

¹¹⁵ Charles L. Glaser, "The Security Dilemma Revisited," *World Politics* 50, no. 1 (October 1997): 171–201, <https://doi.org/10.1017/S0043887100014763>.

¹¹⁶ Jervis, "Cooperation Under the Security Dilemma."

¹¹⁷ Evan Braden Montgomery, "Breaking Out of the Security Dilemma: Realism, Reassurance, and the Problem of Uncertainty," *International Security* 31, no. 2 (Fall 2006): 151–85.

¹¹⁸ Robert Jervis, "Arms Control, Stability, and Causes of War," *Daedalus* 120, no. 1 (Winter 1991): 167–81.

¹¹⁹ John C. Mathews III, "Current Gains and Future Outcomes: When Cumulative Relative Gains Matter," *International Security* 21, no. 1 (Summer 1996): 112–46.

¹²⁰ Trachtenberg, "The Past and Future of Arms Control."

¹²¹ Stephen Van Evera, *Causes of War* (Ithaca and London: Cornell University Press, 1999), <http://www.jstor.org/stable/10.7591/j.ctt24hg70>.

informal intergovernmental organization (IIGO).¹²² Arribas discusses different categories and types of IOs, with a focus on their legal standing, but does not delve into detail about the types of treaty bodies formed from arms control treaties.¹²³

Second, many CAC agreement executors' work is narrow and focused, keeping them outside of public engagement and services. There is scholarship, for example, on IOs and their relationship with citizens¹²⁴ or their efforts to establish legitimacy;¹²⁵ but neither is applicable to CAC agreements because of their focus on government-to-government relationships and military forces.

Treaty agreement executors with narrow mandates and minimal agency or independence are unlikely to be the subject of state or populist criticism.¹²⁶ A caveat, here, however, must be made. Some IOs such as the OSCE may be engaged in CAC issues (inspections and monitoring) alongside other tasks. In Ukraine, the OSCE's SMM was charged with implementing the Minsk agreements, but the OSCE *writ large* also conducted other activities and ran other projects. In such a situation, IOs are more likely to confront performance, legitimacy, and authority challenges in matters outside of CAC agreement tasks. However, states may compete with one other to obtain IOs' support if the IOs themselves have agency.¹²⁷ While this does not apply to small, limited treaty executors with no or little agency (such as the CFE's JCG), this may apply to larger executors especially when they are part of a multi-purpose organization, such as the EU or OSCE.

The extent to which treaty executors are independent or autonomous is discussed in chapter 5. Brown offers substantial insight into the notion of how much states delegate

¹²² Felicity Vabulas and Duncan Snidal, "Organization without Delegation: Informal Intergovernmental Organizations (IIGOs) and the Spectrum of Intergovernmental Arrangements," *The Review of International Organizations* 8 (June 2013): 193–220, <https://doi.org/10.1007/s11558-012-9161-x>; Oliver Westerwinter, Kenneth W. Abbott, and Thomas Biersteker, "Informal Governance in World Politics," *The Review of International Organizations* 16, no. 1 (2021): 1–27, <https://doi.org/10.1007/s11558-020-09382-1>.

¹²³ Gloria Fernández Arribas, "Rethinking International Institutionalisation through Treaty Organs," *International Organizations Law Review* 17, no. 2 (2020): 457–83, <https://doi.org/10.1163/15723747-2019012>.

¹²⁴ Thomas Bernauer, Steffen Mohrenberg, and Vally Koubi, "Do Citizens Evaluate International Cooperation Based on Information about Procedural and Outcome Quality?," *The Review of International Organizations* 15, no. 2 (April 2020): 505–29, <https://doi.org/10.1007/s11558-019-09354-0>.

¹²⁵ Jonas Tallberg and Michael Zürn, "The Legitimacy and Legitimation of International Organizations: Introduction and Framework," *The Review of International Organizations* 14, no. 4 (December 2019): 581–606, <https://doi.org/10.1007/s11558-018-9330-7>.

¹²⁶ For a brief history of IOs and how states have viewed them as instruments of state power (principle-agent theory) or how they have obtained their own independence, see Dennis Dijkzeul and Dirk Salomons, eds., *International Organizations Revisited: Agency and Pathology in a Multipolar World* (New York: Berghahn Books, 2021).

¹²⁷ Hylke Dijkstra, "Collusion in International Organizations: How States Benefit from the Authority of Secretariats," *Global Governance: A Review of Multilateralism and International Organizations* 23, no. 4 (2017): 601–19, <https://doi.org/10.1163/19426720-02304006>.

authority to IOs, and he develops a methodology to measure this.¹²⁸ Hooghe elaborates on the notion of delegation by comparing it with pooling, which refers to formal decision-making processes within an IO.¹²⁹ Sommerer and Tallberg discuss how information and knowledge are diffused between IOs, mentioning security-related organizations such as the OSCE and NATO, though they do not address arms control directly.¹³⁰ The notion, however, that information and knowledge diffuses across IOs through formal connections, through common work, and through staff changes is important for how CAC experience in Europe might be retained and carried over into future agreements.

Lake takes a broader view of IOs, focusing on security institutions (with institutions in his terminology being comparable to IOs) as mechanisms to grapple with the inherent nature of the anarchic international system.¹³¹ He states that security institutions are formed (and these can include CAC agreements and their executors) because “Institutions do matter, and they are likely to matter in security affairs precisely because important national goals are at risk.”¹³²

IO theory is of utmost relevance and importance to CAC agreements, and vice versa. Negotiating state parties need to make choices in how they seek and agree to implement a CAC agreement, and involvement or creation of an IO is one of those choices. This is a comparatively major decision, as the involvement of an IO can significantly impact monitoring, verification, and confidence in state parties’ compliance. Table 3 identifies the relevant IO theory to CAC, explains how it is relevant to CAC, and offers several references from which the relevance is ascertained. The references below do not necessarily directly reference CAC, but they articulate the theory that is relevant to CAC.

¹²⁸ Robert L. Brown, “Measuring Delegation,” *The Review of International Organizations* 5, no. 2 (November 19, 2009): 141–75, <https://doi.org/10.1007/s11558-009-9076-3>.

¹²⁹ Liesbet Hooghe and Gary Marks, “Delegation and Pooling in International Organizations,” *The Review of International Organizations* 10, no. 3 (2015): 305–28, <https://doi.org/10.1007/s11558-014-9194-4>.

¹³⁰ Sommerer and Tallberg, “Diffusion Across International Organizations.”

¹³¹ David A. Lake, “Beyond Anarchy: The Importance of Security Institutions,” *International Security* 26, no. 1 (Summer 2001): 129–60.

¹³² Lake, 158.

Table 3: CAC and international organization theory

Theory	Relevance to CAC	References
Delegation	Delegation is a key question in negotiating and implementing a CAC agreement. Negotiating parties can discuss and decide what role a third-party state or IO might have in implementing the agreement, including its tasks, mandate, authority, composition, and resources. During the implementation stage, states may delegate functions to an agreement executor, which may be created or tasked with some or many implementation tasks. Delegation itself is composed of several elements, as discussed in Chapter 5.	• Abbott and Snidal, "Hard and Soft Law in International Governance." • Brown, "Measuring Delegation." • Hafel and Thompson, "The Independence of International Organizations." • Hooghe and Marks, "Delegation and Pooling in International Organizations."
Institutional and IO Design	CAC treaties may implemented by more than a singular treaty executor, but through a set of overlapping agreements, tacit agreements, institutions, and processes. These may be formally or informally incorporated in a CAC agreement, or evolve over the agreement's lifetime.	• Duffield, "What Are International Institutions?" • Hafel and Thompson, "The Independence of International Organizations." • Hafel and Thompson, "The Independence of International Organizations." • Reddie, <i>Governing Insecurity: Institutional Design, Compliance, and Arms Control</i>.
Institutional and IO Adaptation	Following the formal agreement of a CAC, usually defined as the date of signature (rather than entry into force), military and geopolitical changes can occur which might substantially affect an agreement's relevance or state parties' cost-benefit calculations even if all states are fully compliant. The extent to which the treaty, its institutions, and the agreement executor can adapt to these changes can impact the treaty's survivability.	• Kühn, "Institutional Resilience, Deterrence and the Transition to Zero Nuclear Weapons." • Kühn, <i>The Rise and Fall of Cooperative Arms Control in Europe</i>. • Smith, "Understanding Dynamic Obligations: Arms Control Agreements." • Tallberg et al., <i>The Opening Up of International Organizations</i>.

Source: Author's literature review and research

Overarching CAC Drivers

There is no set of overarching theories that have been developed to explain adversarial CAC arms control in all their variety in contrast, for example, to the extensive body of scholarship that has attempted to explain war (with many theories) or more generally the literature which attempts to explain relationships between states. As discussed in greater detail in Chapter 3, Cold War CAC literature focused on NATO-Warsaw Pact relations and CAC theory explained that the two blocs viewed CAC as preventing surprise attacks and/or reducing the likelihood of either side waging a successful conventional war for fear that any such war would escalate into a full-scale nuclear war.¹³³

Nuclear war and nuclear weapons arms control could be explained by two broad theories: first-strike stability and mutually assured destruction (MAD). These intertwined theories stated that the purpose of arms control was to reduce the number of warheads while

¹³³ "Trends and Developments in Warsaw Pact Theater Forces and Doctrine Through the 1990s," National Intelligence Estimate (Virginia: Director Central Intelligence, February 1989).

ensuring that no side could launch a devastating first strike that would incapacitate the other side's ability to respond with a devastating retaliation. If both sides were able to counter-attack, especially against population centers, then neither side would initiate a nuclear war.¹³⁴

There may be several reasons why scholars have not attempted to offer theories to explain CAC. First, it is unclear what aspect of CAC can or should be theorized. While nuclear arms control theories carry through well across all three stages of arms control, this may not be the case for CAC. What might explain why states enter into a CAC agreement does not necessarily explain what is negotiated nor how it is implemented. Moreover, nuclear arms control agreements are, in essence, limited to the number of warheads and, to a much lesser extent, defenses against warheads.

In contrast, CAC agreements (at least in this dissertation's datasets) are much broader than NATO-Warsaw Pact or US-Soviet Union/Russia arms control agreements. This dissertation's datasets include agreements that are in some ways comparable to nuclear arms control agreements, such as the CFE Treaty or Anglo-German Naval Agreement, but demilitarization agreements for islands, ceasefires, peace agreements, and straits agreements all differ substantially from those meant to address superpower rivalries.

This dissertation offers several theories or theory sets to explain some aspects of CAC. First, chapter 4 discusses the notion that states – especially the more powerful one that has the most leverage in an agreement's details – seek to retain the status quo in a CAC agreement except in certain conditions. This theory is then tested empirically by assessing whether the predicted outcome of retaining or altering the status quo was borne out by the agreements.

However, three concepts in international security also apply – to varying extents – to CAC agreements despite their variety. These are deterrence, the security dilemma, and the offense-defense balance.¹³⁵

Deterrence can figure in how states conceive of CAC agreements because states that possess deterrence are unlikely to surrender it in any CAC agreement. In certain situations – for example a peace agreement following a major victory – only the winning side concerns itself with preserving deterrence as the losing side has presumably lost it, at least in the near term. But in other agreements, including ceasefires, geographic demilitarization, and peacetime balancing agreements, states may seek to retain their deterrence and even seek to permit an

¹³⁴ John H. Maurer, "Arms Control and the Anglo-German Naval Race before World War I: Lessons for Today?," *Political Science Quarterly* 112, no. 2 (1997): 285, <https://doi.org/10.2307/2657942>.

¹³⁵ Some of the following text is based on material written for an unpublished article co-authored with Joachim Koops and Jordan Becker.

increase in their adversary's deterrence. In this case, the security dilemma is mitigated. Lastly, and emerging from the security dilemma, the offense-defense balance (ODB) is a critical element in both international relations (IR) theory and CAC – identifying which weapons to control and how depends on mutually agreed understandings of their purpose, which are notoriously elusive. Table 4 notes to which agreements the three concepts apply.

Table 4: Applicability of deterrence, the security dilemma, and offense-defense balance to each agreement

<u>Short Name</u>	<u>Deterrence</u>	<u>Security Dilemma</u>	<u>ODB</u>
Germany1919	Y	N	Y
Austria1919	Y	N	Y
Hungary1920	Y	N	Y
Bulgaria1919	Y	N	Y
Spitsbergen	Y	Y	N
Tartu	Y	N	Y
Åland	Y	Y	N
WashNav	Y	Y	Y
Helsinki1922	Y	Y	N
Tangiers	Y	Y	N
Aegean	Y	Y	N
Thrace	Y	Y	N
Lausanne	Y	Y	Y
LondonNav1930	Y	Y	Y
LondonNav1936	Y	Y	Y
Anglo-German	Y	Y	N
Montreux	Y	Y	Y
Moscow1940	Y	N	Y
Germany1945	Y	N	Y
Finland1947	Y	N	Y
Romania1947	Y	N	Y
Italy1947	Y	N	Y
Bulgaria1947	Y	N	Y
Dodecanese1947	Y	Y	N
Hungary1947	Y	N	Y
Austria1955	Y	N	Y
WEU	N	N	N

<u>Short Name</u>	<u>Deterrence</u>	<u>Security Dilemma</u>	<u>ODB</u>
Cyprus	Y	Y	N
INF	Y	Y	Y
Germany	Y	Y	Y
CFE	Y	Y	Y
Transdnistria	Y	Y	N
Balkans	Y	Y	Y
Belfast	N	Y	N
Kosovo	Y	N	N
Georgia	Y	Y	N
Minsk	Y	Y	Y

Source: Author's research and analysis

Deterrence

Modern deterrence theory builds on classical theories of deterrence¹³⁶ wherein “punishment is severe, certain and swift, a rational individual will weigh potential gains and losses before engaging in illegal activity and will be discouraged from breaking the law if the loss is greater than the gain.”¹³⁷

Modern deterrence theory emerged during the Cold War, which applied classical theories of deterrence of illegal activity to conflict between nuclear-armed powers.¹³⁸ While efforts at deterrence can create a security dilemma, they may also mitigate security dilemmas.¹³⁹ Glaser, for example, argues that the “deterrence model... applies to secure greedy states and therefore rejects the security dilemma.”¹⁴⁰ A state's deterrence strategy may attempt to escape

¹³⁶ Thomas Hobbes, “4. Leviathan,” in *Democracy* (Columbia University Press, 2016), 37–42; Jeremy Bentham, “An Introduction to the Principles of Morals and Legislation,” *History of Economic Thought Books*, 1781.

¹³⁷ Juste Abramovaite et al., “Classical Deterrence Theory Revisited: An Empirical Analysis of Police Force Areas in England and Wales,” *European Journal of Criminology*, January 10, 2022, 2, <https://doi.org/10.1177/14773708211072415>.

¹³⁸ Thomas C. Schelling, *Arms and Influence* (Yale University Press, 1966), <https://www.jstor.org/stable/j.ctt5vm52s>.

¹³⁹ Jervis, “Cooperation Under the Security Dilemma”; Dan Reiter, “Exploring the Bargaining Model of War,” *Perspectives on Politics* 1, no. 1 (March 2003): 27–43, <https://doi.org/10.1017/S1537592703000033>.

¹⁴⁰ Charles L. Glaser, “The Security Dilemma Revisited,” *World Politics* 50, no. 1 (October 1997): 174, <https://doi.org/10.1017/S0043887100014763>.

the security dilemma through a defensive orientation at the lowest force level possible, or it may deter through superior strength.¹⁴¹

Deterrence can also incorporate diplomatic, economic, political, and other elements. Mazarr et al. identify two types of deterrence: *denial* (denying an attacker's capability to seize their military objectives); and *punishment* (the ability to sufficiently punish an attacker so that the costs of attacking are much higher than the benefits).¹⁴² Haffa complements these with deterrence depending on capability, credibility, and communication, which again have some overlap with the security dilemma but where decision-making has a greater role.¹⁴³ Danilovic¹⁴⁴ and Driver¹⁴⁵ distinguish between direct and extended deterrence, with direct referring to the deterrence from a directly threatened state and extended referring to deterring on behalf of other states. Extended deterrence is important because NATO's foundation of collective defense is based on deterrence extended from the US to its European allies.¹⁴⁶ The crucial policy challenge for extended deterrence is credibly communicating a state offering extended deterrence is willing and able to respond in the same way to an attack on its allies in the same way it would to an attack on its own territory.¹⁴⁷

One way in which deterrence differs from the security dilemma is that "deterrence by punishment' may hinge on national or alliance willpower. An adversary will only be deterred if they believe that the target of an attack has the will to impose high, punishing costs that may require significant losses of lives, expenditures, and destruction on the part of the target."¹⁴⁸

CAC and deterrence are closely related because adversaries are generally unwilling to reduce or even sacrifice deterrence for CAC (except in cases of a punitive peace agreement where the losing side has no choice). They would only do so if they see (or would like to see) that the relationship is moving from adversarial to cooperative, such as in the last years of the

¹⁴¹ NATO, "NATO's Role in Conventional Arms Control," NATO, April 11, 2023,

https://www.nato.int/cps/en/natohq/topics_48896.htm; NATO, "Arms Control, Disarmament and Non-Proliferation in NATO," NATO, February 27, 2023, https://www.nato.int/cps/en/natohq/topics_48895.htm.

¹⁴² Michael Mazarr, Arthur Chan, et al., *What Deters and Why: Exploring Requirements for Effective Deterrence of Interstate Aggression* (RAND Corporation, 2018), <https://doi.org/10.7249/RR2451>. At the same time, it is unclear whether, from the USSR's perspective, the unilateral reductions reduced deterrence.

¹⁴³ Haffa, "The Future of Conventional Deterrence."

¹⁴⁴ Vesna Danilovic, "The Sources of Threat Credibility in Extended Deterrence," *Journal of Conflict Resolution* 45, no. 3 (June 1, 2001): 341–69, <https://doi.org/10.1177/0022002701045003005>.

¹⁴⁵ Driver, "Deterrence in Eastern Europe in Theory and Practice."

¹⁴⁶ A simple example is that the US deters attacks against its territory by its ability to overwhelmingly respond with conventional or nuclear forces, and a willingness to use them. NATO members in Europe enjoy protection against an attack through the US's extended deterrence. That is, even if the US or its forces are not the subject of an attack, it has committed to protecting its allies.

¹⁴⁷ Paul K. Huth, "Extended Deterrence and the Outbreak of War," *American Political Science Review* 82, no. 2 (June 1988): 423–43, <https://doi.org/10.2307/1957394>.

¹⁴⁸ Justin Magula, Michael Rouland, and Peter Zwack, "NATO and Russia: Defense and Deterrence in a Time of Conflict," *Defence Studies* 22, no. 3 (July 3, 2022): 502–9, <https://doi.org/10.1080/14702436.2022.2082957>.

Cold War when Gorbachev initiated unilateral troop reductions in Eastern Europe and then when the CFE Treaty was signed.¹⁴⁹ Thus, states negotiating a balanced CAC need to determine their own deterrence needs while reassuring counterparts that they also appreciate their deterrence needs.¹⁵⁰

This situation poses two challenges – first, identifying when deterrence is maintained or not; and second, for signatories to agree on one another’s force structure required for deterrence, especially as states are more likely to view their own needs as greater than what adversaries believe an opposing state or bloc should have, because they tend to view their own intentions as benign while viewing adversaries as aggressive.¹⁵¹ Thus, even when states agree in principle on the need for mutual deterrence, they may not agree on the specific force structure that each side needs for deterrence.¹⁵² This was an issue during the 15 years of the NATO-Warsaw Treaty Organization (WTO, or Warsaw Pact) MBFR negotiations which transitioned into the CFE negotiations.¹⁵³ Ultimately, the CFE Treaty resulted in substantial conventional force reductions and limits while still, both sides believed for a time, retaining mutual deterrence. Moreover, while assessment of the net military balance is important to deterrence perceptions and arms control negotiations and agreements (as was the case with NATO’s goal of pursuing equal force levels with the WTO during the MBFR negotiations), deterrence also incorporates other considerations such as alliances, diplomacy, and domestic politics and support.¹⁵⁴

Buffer zones which may accompany cease-fire agreements increase mutual deterrence because states may be less able to conduct a successful attack as buffer zones offer increased warning and response times, and the presence of international peacekeeping forces can slow down attacks. The cost of conducting an attack also increases (contributing to deterrence)

¹⁴⁹ Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*. Another example of deterrence losing relevance can be when adversaries become allies, as discussed in Kupchan *How Enemies Become Friends: The Sources of Stable Peace*, Princeton Studies in International History and Politics (Princeton: Princeton University Press, 2010).

¹⁵⁰ Robert Jervis, “Arms Control, Stability, and Causes of War,” *Political Science Quarterly* 108, no. 2 (1993): 239–53, <https://doi.org/10.2307/2152010>.

¹⁵¹ Leonie Huddy, David O. Sears, and Jack S. Levy, “Introduction: Theoretical Foundations of Political Psychology,” in *The Oxford Handbook of Political Psychology*, ed. Leonie Huddy, David O. Sears, and Jack S. Levy (Oxford University Press, 2013), 0, <https://doi.org/10.1093/oxfordhb/9780199760107.013.0001>; Janice Gross Stein, “Threat Perception in International Relations,” in *The Oxford Handbook of Political Psychology*, ed. Leonie Huddy, David O. Sears, and Jack S. Levy (Oxford University Press, 2013), 0, <https://doi.org/10.1093/oxfordhb/9780199760107.013.0012>.

¹⁵² Thomas Müller and Mathias Albert, “Whose Balance? A Constructivist Approach to Balance of Power Politics,” *European Journal of International Security* 6, no. 1 (February 2021): 109–28, <https://doi.org/10.1017/eis.2020.19>.

¹⁵³ Müller and Albert.

¹⁵⁴ Mearsheimer, *Conventional Deterrence*.

because attackers risk diplomatic and military responses from cease-fire guarantors and peacekeeping forces (and their originating states) if they strike into and through the demilitarized buffer areas.

In short, for certain types of agreements CAC leans on a deterrence model of mitigating the security dilemma in the sense that when treaties limit, rather than eliminate adversaries' arsenals, they preserve deterrent capabilities by design. The art of effective CAC, in fact, is to reduce the total amount of armaments among its signatories while preserving each of their ability to secure their fundamental interests by deterring the others from taking actions that would undermine them¹⁵⁵ – what NATO consistently referred to as “the lowest possible level of armaments.”¹⁵⁶

Security Dilemma

States are conscious that, if their adversaries have a reasonable choice of entering into a CAC agreement (i.e. they are not a vanquished foe), they will seek to retain their deterrence. Thus, any non-discriminatory CAC agreement should mitigate the security dilemma. States adopt strategies like alliance building,¹⁵⁷ developing and maintaining positive relations with neighbors and potential adversaries,¹⁵⁸ and maintaining a military capable of deterring and resisting an attack.¹⁵⁹ However, such balancing behavior can create a security dilemma wherein a suitable defense can appear (or be) threatening to an adversary. The adversary may, in response to a state's military capabilities, build a counter-alliance, build up their own military, or even attack to disarm the opposing state or out of fear that the opposing state is going to attack first.¹⁶⁰ Taliaferro argues that the security dilemma is an “intractable feature of anarchy.”¹⁶¹ Uncertainty about other states' intentions compels states to err on the side of

¹⁵⁵ R. Rajaraman et al., *Global Nuclear Security: Moving beyond the NSS*, ed. Rajeswari P. Rajagopalan and Allard Wagemaker, GP-ORF Series (New Delhi: Observer Research Foundation, 2018).

¹⁵⁶ NATO, “Conventional Arms Control: The Way Ahead,” NATO, May 2, 1988, http://www.nato.int/cps/en/natohq/official_texts_23453.htm.

¹⁵⁷ Glenn H. Snyder, “The Security Dilemma in Alliance Politics,” *World Politics* 36, no. 4 (July 1984): 461–95, <https://doi.org/10.2307/2010183>.

¹⁵⁸ Thomas J. Christensen, “China, the U.S.-Japan Alliance, and the Security Dilemma in East Asia,” *International Security* 23, no. 4 (1999): 49–80.

¹⁵⁹ William C. Wohlforth et al., “Testing Balance-of-Power Theory in World History,” *European Journal of International Relations* 13, no. 2 (June 2007): 155–85, <https://doi.org/10.1177/1354066107076951>.

¹⁶⁰ Jervis, “Cooperation Under the Security Dilemma”; Wolfgang Zellner, “Addressing the Threat of Uncontrolled Escalation by Means of Conventional Arms Control in Europe,” *Security and Human Rights* 30 (2020): 100–107, <https://doi.org/10.1163/18750230-03001002>.

¹⁶¹ Jeffrey W. Taliaferro, “Security Seeking under Anarchy: Defensive Realism Revisited,” *International Security* 25, no. 3 (January 2001): 131, <https://doi.org/10.1162/016228800560543>.

aggression.¹⁶² Some analysts argued, for example, that the security dilemma may have contributed to the outbreak of the Russo-Ukraine War, as President Putin may have interpreted growing NATO capabilities in the Baltics as threatening.¹⁶³ Perceptions play a key role in creating and mitigating the security dilemma not the least because states tend to view themselves as defensive and others as potentially offensive.¹⁶⁴

CAC agreements that arise from a ceasefire and establish a buffer zone, often with an international peacekeeping force, mitigate the security dilemma because any side that engages in threatening behavior risks high diplomatic costs and even clashes with the international peacekeeping forces. Thus, each side is discouraged from engaging in threatening behavior and defensive behavior is more likely to be perceived as less threatening because each side believes that the other will not risk the costs of aggression against or clashes with the international peacekeeping force.

CAC is an established means to manage the security dilemma both by limiting military capabilities and by exchanging information and even CSBMs to create conditions for future cooperation.¹⁶⁵ Alternatively, a state may decide that a robust deterrence strategy is more important than maintaining a stable relationship or they may attempt to unilaterally resolve their potential adversaries' security dilemma by having a defense-oriented military posture lacking offensive capability, consistent with ODB theory. The security dilemma is a core building block for CAC theory because CAC agreements often aim to mitigate security dilemmas in conflict and peacetime.

¹⁶² Montgomery, "Breaking Out of the Security Dilemma: Realism, Reassurance, and the Problem of Uncertainty."

¹⁶³ Vladimir Isachenkov, "Putin Demands NATO Guarantees Not to Expand Eastward," *Military Times*, December 1, 2021, <https://www.militarytimes.com/flashpoints/2021/12/01/putin-demands-nato-guarantees-not-to-expand-eastward/>; John J. Mearsheimer, "Why the Ukraine Crisis Is the West's Fault: The Liberal Delusions That Provoked Putin," *Foreign Aff.* 93 (2014): 77; Michael McFaul, Stephen Sestanovich, and John J. Mearsheimer, "Faulty Powers: Who Started the Ukraine Crisis?," *Foreign Affairs* 93, no. 6 (2014): 167–78; Alberto Priego, "NATO Enlargement: A Security Dilemma for Russia?," in *Routledge Handbook of Russian Security* (Routledge, 2019); Joshua R. Itzkowitz Shiffrin, "Eastbound and down: The United States, NATO Enlargement, and Suppressing the Soviet and Western European Alternatives, 1990–1992," *Journal of Strategic Studies* 43, no. 6–7 (November 9, 2020): 816–46, <https://doi.org/10.1080/01402390.2020.1737931>.

¹⁶⁴ Wolfgang Zellner, Olga Oliker, and Steven Pifer, "A Little of the Old, a Little of the New: A Fresh Approach to Conventional Arms Control in Europe," Deep Cuts Issue Brief (Hamburg, Germany: Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg (IFSH), September 2020).

¹⁶⁵ Jervis, "Cooperation Under the Security Dilemma," 177. Jervis uses the prisoner's dilemma game to demonstrate how cooperation can bring mutually beneficial gains while ameliorating the security dilemma. The OSCE Final Act, which is the most extensive set of CSBMs in Europe, maintains that CSBMs can "contribute to reducing the dangers of armed conflict and of misunderstanding or miscalculation of military activities which could give rise to apprehension, particularly in a situation where the participating States lack clear and timely information about the nature of such activities" OSCE, "Conference On Security And Co-Operation In Europe Final Act (Helsinki Final Act)," August 1, 1975, 10.

The final theoretical element that sheds light on the emergence and persistence of CAC agreements is the offense-defense balance (ODB), which is discussed and explained by ODB theory. ODB theory suggests that CAC agreements will incorporate limits on specific weapon systems that are perceived as having more of an offensive than defensive capability, and that all agreements will take into account the ODB to preserve deterrence and, when applicable, mitigate the security dilemma. The ODB literature is extensive, with debate consisting of the definition(s), existence, importance, and application of ODB.¹⁶⁶ In some definitions, ODB can be determined by technology,¹⁶⁷ in others by types of equipment, and in yet others by force employment.¹⁶⁸ Jervis assesses the ODB on the cost for an attacker versus a defender to win a battle or war.¹⁶⁹ Alongside these theoretical considerations, arms controllers must also consider particulars like geography, force size, and force quality.

The CFE Treaty itself addressed state insecurities theorized by ODB work in attempting to limit weapons for each side that were considered “offensive” and enabling a successful surprise attack. At the same time, the CFE Treaty did not limit a wide range of weapons that might have been considered more defensive in nature, such as landmines, air defense weapons, and fortifications. CAC agreements demonstrate that not all military capabilities can be limited, and that to preserve deterrence and resolve the security dilemma, some military capabilities matter more than others – systems signatories consider more offensive than defensive often matter more for CAC.

ODB theory is central to a clear understanding of CAC because, as Zellner¹⁷⁰ and others emphasize, a perceived, mutual offensive advantage increases the risk of conflict because states may be confronted with the choice of either attacking and winning, or being attacked and losing. Moreover, shifts in ODB can lead to disruption in existing CAC arrangements or, potentially, to new CAC arrangements.

¹⁶⁶ Karen Adams, “Attack and Conquer? International Anarchy and the Offense-Defense-Deterrence Balance,” *International Security* 28, no. 3 (Winter /2004 2003): 45–83, <https://doi.org/10.1162/016228803773100075>; James W. Davis et al., “Taking Offense at Offense-Defense Theory,” *International Security* 23, no. 3 (Winter, - 1999 1998): 179, <https://doi.org/10.2307/2539342>; Charles L Glaser and Chaim Kaufmann, “What Is the Offense-Defense Balance and Can We Measure It?,” *International Security* 22, no. 4 (Spring 1998): 23; Lynn-Jones, “Offense-Defense Theory and Its Critics.”

¹⁶⁷ Levy, “The Offensive/Defensive Balance of Military Technology.”

¹⁶⁸ Biddle, “Rebuilding the Foundations of Offense-Defense Theory”; Goldfischer, “1. The Meaning of Offense and Defense.”

¹⁶⁹ Jervis, “Cooperation Under the Security Dilemma.”

¹⁷⁰ Zellner, Olikier, and Pifer, “A Little of the Old, a Little of the New: A Fresh Approach to Conventional Arms Control in Europe.”

The ODB may not apply to certain CAC agreements. Demilitarization agreements often create a broad restriction on any kind of military capability, thus whether the capability is offensive or defensive is not relevant.

Methodology

Sources

In addition to the sources of information that have been discussed in the previous chapters, this section provides details about how the sources used in this thesis fall into three general categories: legal treaty documents and agreements, primary sources from agreement executors, and secondary sources from government agencies, academia, news sources, databases, reference materials, and other sources.

Official treaty text for each agreement discussed in this thesis is, generally, easily available from government websites, international organization sites, reports from international organizations, or academic libraries. The official treaty texts can provide information about the legally agreed, official reasons for treaties, when applicable the specific quantitative limitations and any relevant geographic restrictions, conditions and methods of implementation, and (when agreed by the signatories) the creation of or assignment of implementation to agreement executors.

The agreements may be supplemented by additional protocols and amendments, defining or redefining weapon systems, laying out more specific procedures for implementation, or adding new members. The treaties rarely reflect disputes that occurred during negotiation, nor do they often specify precisely how a certain TLE quantity was arrived at. Moreover, they do not mention proposals that were not accepted.

When agreement executors are created, many of them make reports public, or their reports have become public over the course of time. For example, many of the post-World War One Allied military commissions' reports are available through the UN archives. These reports provided information including the commissions' functions, staff, organization, and challenges. The reports include compliance assessments and detailed inspection reports. Only a selection of reports are available from the UN archives.

Other examples of agreement executor reports that were consulted for this thesis include regular assessments issued by the commissions created in Northern Ireland to implement the 1998 Belfast Agreement, the EUMM in Georgia, and OSCE SMM in Ukraine

which issued publicly available newsletters and periodic reports. These three bodies also maintained web pages that provided additional information, either independently in the case of the commissions in Northern Ireland or part of the webspace hosted by their home organizations in the case of the EUMM and SMM.

Government agencies issued statements, transcripts of speeches, decisions, and other information relevant to this thesis. For example, the Russian government has issued various strategy and policy documents that explain the government's goals, priorities, and disputes with other states. These often provide Moscow's view of CAC at the time of publication. The US government has issued periodic reports about CFE Treaty compliance, which provides insights into how the US government views the treaty and also offers specific details about the extent to which states are compliant. The US government more than others also conducted and published CAC-related studies, including by the US Congress's Congressional Budget Office (CBO) and Congressional Research Service (CRS). These have assessed options, costs, and other issues relevant to CAC.

Think tanks and similar organizations, such as US-based RAND, UK-based RUSI, and Sweden's FOI publish extensive research reports on a range of arms control, military, and security issues and policies. These have varying connections to national governments through funding and partnerships, but the reports are not official findings or statements of the sponsoring governments. These reports are of great use in providing a level of detail and length, as well as tackling practical policy issues, that other sources are less able to cover.

Academic and professional journals were an important source of insights and information, especially in the areas of theory. Journal articles offer a focused argument or set of arguments on relevant topics, usually based on historical and secondary information. Some articles conducted quantitative studies, which were also useful to provide additional insights especially when going beyond a current issue or case study.

Several reference sources offered information about defense spending, the composition of national militaries, and other information. The Correlate of War project offers a database of national military capability for all countries going back to 1816.¹⁷¹ This database offers calculations of national defense budgets, the size of militaries in terms of personnel, and a generalized calculated military capability score. Their use of a universal methodology permits comparisons between countries and over time. The World Bank offers an online database of

¹⁷¹ J. Michael Greig and Andrew J. Enterline, "Correlates of War Database, National Material Capabilities (v6.0)" (Department of Political Science: University of North Texas, June 2021).

military expenditures and personnel quantity going back to 1992, with expenditure data available as a gross figure, gross domestic product (GDP) percentage, and percentage of government expenditure.¹⁷²

For more specific information about military capabilities and equipment inventories, two reference sources proved to be invaluable. The League of Nation's Disarmament Yearbook for the years 1924-1940 provided detailed information about states' militaries, including the number of ships and total tonnage possessed by each nation. The International Institute for Strategic Studies (IISS) Military Balance annual reference books provided more recent order of battle information.

Lastly, news articles, websites, blogs, and other current events-oriented material provided important information and analysis about a range of topics, including the Russo-Ukraine War, information about CAC agreement implementation, and military developments and trends.

Some of the academic articles and books, including dissertations, included lists of arms control agreements used in their studies. These lists were consulted for this thesis to ensure that all relevant agreements were included.

Reliability and Validity

This dissertation consulted a large and varied body of literature. Ideally, resources that were valid and reliable were used while those that were not were excluded. However, assessing validity and reliability is a necessary part of research, but how and when to do it is context dependent.

First, wholly primary sources such as government statements or legal texts are considered valid and reliable, at least from the perspective that the wording as quoted is what is quoted. For example, any given language in an agreement is undoubtedly that specific language. Similarly, a quote from a senior government official or a report is taken to be an authoritative quote in the sense that the statement is an official statement. This makes such resources valid. However, to the extent to which there are any subjective judgments within the language, further resources and corroboration were required to ascertain reliability and accuracy.

¹⁷² "World Bank Open Data," World Bank Open Data, accessed July 23, 2024, <https://data.worldbank.org>.

Many primary sources could not be easily verified. For example, reports by the inter-allied commissions of control made by the commissions themselves – which were important when assessing agreement success and delegation (chapter 5) – were assumed to be accurate, in the absence of contradictory information.

For any given secondary source, an assessment was made of the publication and, when applicable, the author. Certain reference sources are generally considered authoritative, such as the Correlates of War database. Insights from peer-reviewed journals and books from established and reputable publishers were generally considered valid and reliable, barring contradictory information in other sources.

When there was conflicting information or interpretations – such as whether or not Russia had violated the INF Treaty (relevant to chapters 5 and 6) – a careful assessment was made based on the available information and arguments. For some questions, information and interpretation provided by an expert in response to a direct inquiry were the only information source. The reliability was based on the individual's or institution's expertise in the topic area, and validity was generally assumed to be valid unless there was a clear bias or there was contradictory information (even if indirect).

This dissertation has attempted to hedge against questions of reliability and validity by generously citing all references, both within the main text and in the appendices.

Notable Information Gaps

Not all the information that might have been useful for this thesis was available, although sufficient information was available to both reach the general conclusions and provide, where necessary, information for quantitative coding for chapters 4-6. However, a tradeoff was made between breadth and depth, and as a result for many agreements only a cursory amount of information was obtained. For example, there was little information about how the Allied Control Commissions functioned. Only brief summaries of some of their activities, decisions, and structure were available. Similarly, little information on the Western European Union's (WEU's) Agency for the Control of Armaments (ACA) was available, with only a few speeches, studies, and references in official NATO documentation available.

This thesis' source material is almost entirely in English, possibly reflecting that most source material – especially secondary – concerning CAC is in English, especially in academic journals. This author diligently went through citations and bibliographies, but other than the occasional Russian source, most cited sources among the works consulted were in English.

This raises the question of whether sufficient account is made for Soviet/Russian perspectives on CAC. The available information that was consulted and researched for this dissertation provides sufficient information on the Russian perspective of the research questions being asked for this thesis' findings and conclusions to be valid. First, most of the research questions are not dependent on Russian (or other state's) individual perspectives – although chapter 4 required extensive research and some estimation of states' perceptions of the global order, military balance stability, and status quo. This includes assessing CAC agreement delegation (chapter 5) and CAC agreement success conditions (chapter 6). Where Russia, or other states' opinions, are necessary, this has often been available from public statements, official documents, or studies others have done on Russian language information and literature.

The two chapters in which Russia's perspective is particularly important is chapter 7 about the link between CAC and Russia's decision to invade Ukraine. This thesis is unlikely alone in painting a picture with an incomplete palette. The question of why Putin invaded Ukraine, and why he invaded when he did, are likely to linger for many years. Chapter 7 attempts to lay out a strong case based largely on Putin's own words, whether in speeches or strategy documents – but unavailable documents and other information held by the Kremlin and other Russian government offices might shed new light on the invasion's motivations were they to become available.

For some agreements, debates leading up to their creation, and their implementation, there was little information other than their legal text and minimal discussions about them in a few books and articles. In the cases of, for example, the Thracian border agreements and the WEU's ADA to ensure that Germany did not exceed NATO-authorized military capabilities, the lack of information may be due in part to the lack of disputes over the agreement. Other agreements similarly did not have a substantial amount of readily available information, such as the Turkish Straits conventions. For these cases, the analyses and narratives available, however, were sufficient to determine the variables for the quantitative coding in chapters 4-6. Additional information could shed additional light on these agreements and their background and might alter some of the quantitative coding in the sum score and QCA chapters.

Research Methodologies

This article-based thesis applies a different methodology for each main research study chapter, summarized below in Table 5 and elaborated within each article-chapter. However, due to length constraints, the methodological discussions were somewhat abbreviated. The following sub-sections offer more discussion about the methodologies used in each chapter.

Table 5: Summary of chapter methodologies

Chapter	Title	Methodology
4	<i>Status Quo Constancy and Conventional Arms Control</i>	Theory development and typological analysis
5	<i>Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation</i>	Sum-score correlational
6	<i>Conventional Arms Control Agreements in Europe: Conditions of Success and Failure</i>	QCA
7	<i>How Conventional Arms Control Failures Caused the Russo-Ukraine War</i>	Case study, process tracing, and counterfactual

Chapter 4: Status Quo Constancy and Conventional Arms Control

In order to answer the question: *Under what conditions do the more powerful states in an adversarial conventional arms control (CAC) agreement accept a reduction in their relative military power?* Chapter 4 applies a typological methodology to categorize three conditions (variables) that states face when considering entering into a CAC agreement: (1) perception of geopolitical stability, (2), an unstable military balance, and (3) significant resource constraints. This methodology is ideal because the three conditions and outcome do not necessarily scale well along a continuum, and thus a binary data scoring is ideal; and this methodology lends itself to comparing predictions with actual outcomes, which a QCA approach would not do. Lastly, the typological approach is taken because of a lack of existing theory or data on the issue of status quo change with CAC agreements.

This chapter identifies three conditions to assess under what conditions states (usually the more powerful one) will retain or alter the military status quo in a CAC agreement. This study's hypothesis is based on how states would conduct a cost-benefit analysis (CBA) of these factors to predict how combinations of these three conditions would result in retaining or changing the status quo, and then the hypothesis was tested with a typological analysis. The study incorporates a truth table to visualize and best understand the combinations and their outcomes. The three conditions and the outcome of retention or change of the status quo apply a typological approach and predict the pathways (combinations) of the three conditions that will result in a certain outcome, and then compare the actual outcomes with the predicted outcomes.¹⁷³

Typological approaches to social science research are common¹⁷⁴ even if they do not overtly acknowledge the development and application of typologies. Typological theorizing has many advantages for case study research, especially in international relations, where complex phenomena are common,¹⁷⁵ and comparative historical analysis,¹⁷⁶ which characterizes this chapter (and indeed much of this dissertation) as it extensively studies and compares the history of CAC agreements and constructs independent and dependent variables in part through process tracing. Typologizing research is often important to “bring a little order to the chaos of the data.”¹⁷⁷ Typological approaches to social sciences are especially relevant and applicable when the phenomenon being studied, such as policies, do not present immediately apparent quantitative and empirical qualities.¹⁷⁸

Typologies are in more colloquial language the process and establishment of categories or classification. Smith proposes that there are two approaches to classification: typology and taxonomy.¹⁷⁹ In his view, the difference is (and there is likely any number of areas which might fall somewhere in between) that typology is more reflective of social sciences wherein the classification is subjective; that is, it is not based on strict, observable or measurable traits, but

¹⁷³ Andrew. Bennett, “Case Study: Methods and Analysis,” in *International Encyclopedia of the Social & Behavioral Sciences* (Elsevier, 2015), 208–13, <https://doi.org/10.1016/B978-0-08-097086-8.44003-1>.

¹⁷⁴ Jørgen Møller and Svend-Erik Skaaning, “Explanatory Typologies as a Nested Strategy of Inquiry: Combining Cross-Case and Within-Case Analyses,” *Sociological Methods & Research* 46, no. 4 (November 2017): 1018–48, <https://doi.org/10.1177/0049124115613778>; Kevin B. Smith, “Typologies, Taxonomies, and the Benefits of Policy Classification,” *Policy Studies Journal*, 30, no. 3 (2002): 379–95.

¹⁷⁵ Andrew Bennett and Colin Elman, “Case Study Methods in the International Relations Subfield,” *Comparative Political Studies* 40, no. 2 (February 2007): 170–95, <https://doi.org/10.1177/0010414006296346>.

¹⁷⁶ James Mahoney, “Comparative-Historical Methodology,” *Annual Review of Sociology* 30, no. 1 (August 1, 2004): 81–101, <https://doi.org/10.1146/annurev.soc.30.012703.110507>.

¹⁷⁷ Jo Reichertz, “Abduction: The Logic of Discovery of Grounded Theory,” *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 11 (January 1, 2007): sec. 2, <https://doi.org/10.4135/9781848607941.n10>.

¹⁷⁸ Smith, “Typologies, Taxonomies, and the Benefits of Policy Classification.”

¹⁷⁹ Smith, 381–82.

rather reflect concepts. They “create useful heuristics and provide a systematic basis for comparison.”¹⁸⁰ Taxonomy, in contrast, is based on more empirically observable and measurable characteristics and reflects scholarship and work more typical in the hard sciences such as physics and biology.¹⁸¹ An electron is easy to define because of its distinct characteristics (mass and charge, for example); few scientists are likely to suggest that something is “partially” an electron. This is not to say that physical and biological scientists do not debate any number of taxonomical issues – undoubtedly much of their taxonomical labels are the product of debate and research.¹⁸² However, once a definition is settled, the definition is much less subject to interpretation and flexible conceptualization *in comparison* to social science. Bennett and Elman make a similar distinction between different approaches of classification, though they refer to what Smith calls typology as explanatory typology (which is most relevant to social science theory building) and contrast it with “simple descriptive and classification typologies”.¹⁸³

Social science typologies are conceptual for the simple reason that any given study or user adjusts the typology of the phenomenon based on their research question, data, and hypotheses. The definition of war, for example, changes based on what the studies’ focus is as well as the authors’ preferences and conceptualization.¹⁸⁴ Arms control is the subject of many typologies, whether based on the type of weapon (conventional vs. nuclear); or its motivations and objectives.¹⁸⁵ Major studies of arms control, such as this dissertation, engage in a typological exercise initially when decisions are made to decide which agreements to include or not. Tanner, for example, “establishes a typology of war outcomes in function of their effects on arms control.”¹⁸⁶ Kühn discusses several typologies for his study on arms control in Europe, including CAC agreement regimes and in his necessary selection and exclusion of which arms control agreements are relevant to his study.¹⁸⁷ Croft proposes five typologies of arms control, based on a combination of their origin, purpose, and function.¹⁸⁸

¹⁸⁰ Smith, 381.

¹⁸¹ Smith, 381–82.

¹⁸² One might recall the debate about whether or not Pluto is a planet. It was downgraded to dwarf planet, but not because of any change in its characteristics, but astronomers shifting definition of a planet.

¹⁸³ Bennett and Elman, “Case Study Methods in the International Relations Subfield,” 181.

¹⁸⁴ “Challenges and Threats to Security in Latin America” (Peru: Centro De Estudios Estratégicos Del Ejército Del Perú, November 2022); Mazarr, Chan, et al., *What Deters and Why*; Meredith Reid Sarkees, “The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)” (Correlates of War, n.d.), <https://correlatesofwar.org/wp-content/uploads/COW-Website-Typology-of-war.pdf>.

¹⁸⁵ Morgan, “Arms Control: A Theoretical Perspective.”

¹⁸⁶ Tanner, “Postwar Arms Control.”

¹⁸⁷ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

¹⁸⁸ Stuart Croft, “In Defence of Arms Control,” *Political Studies* 44, no. 5 (December 1996): 888–905, <https://doi.org/10.1111/j.1467-9248.1996.tb00340.x>.

This study's typological approach is driven by the creation of multiple variables under consideration,¹⁸⁹ with each variable and the outcome having similarities with set theory.¹⁹⁰ In this study, each condition is binary so that each agreement is within or outside of the set (condition). Similarly, each agreement falls in or outside of the outcome, status quo retention.

Although chapter 4 has some similarities to QCA in that it is characterized by conditions and outcomes – and its binary approach of yes/no for the conditions would be fitting for crisp set QCA (csQCA) – this is not a QCA study for two reasons. First, the chapter does not analyze the cases from the perspective of set theory despite similarities. QCA typically calculates to what extent cases fit in the conditions, conditional combinations, and outcomes. Second, the focus is not on determining what the pathways are for the outcomes, but on whether the actual outcomes matched the predicted outcomes.

This chapter, as well as chapters 5 and 6, as a comparative historical study, has attempted to effectively rise “to the challenge of dealing with the tension between cross-case and within-case considerations by comparing all relevant cases (within certain scope conditions) on the macro-level using explanatory typologies and by subsequently carrying out process tracing in each and every cases. Many scholars working within comparative historical analysis have, on this basis, combined cross-case and within-case analyses to formulate some forceful and impressive theoretical insights.”¹⁹¹

Chapter 5: Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation

In order to answer the question: *What is the effect of delegation to an agreement executor, such as an international organization, on the success of CAC in Europe?* This chapter uses a sum score methodology to measure state delegation of authority to agreement implementers and then to analyze this as the independent variable with agreement success (the dependent variable) in a cross-case correlational study. The chapter uses this methodology because, lacking a universal metric to measure delegation to treaty implementers (often IOs), this

¹⁸⁹ John Gerring, “Case Selection for Case-Study Analysis: Qualitative and Quantitative Techniques,” in *The Oxford Handbook of Political Methodology*, ed. Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier, 1st ed. (Oxford University Press, 2009), 645–84, <https://doi.org/10.1093/oxfordhb/9780199286546.003.0028>.

¹⁹⁰ Carsten Q. Schneider and Claudius Wagemann, *Set-Theoretic Methods for the Social Sciences: A Guide to Qualitative Comparative Analysis*, 1st ed. (Cambridge University Press, 2012), <https://doi.org/10.1017/CBO9781139004244>.

¹⁹¹ Møller and Skaaning, “Explanatory Typologies as a Nested Strategy of Inquiry,” 1030.

methodology fits with the need to disaggregate what constituted delegation to a CAC agreement implementer while generating a single figure that quantitatively describes the level of delegation. By establishing real numbers for delegation and success, it was possible to conduct various mathematical calculations. One of chapter 5's main inspirations was Brown's article, "Measuring Delegation," which calculates by summation 10 categories to assess delegation to IGOs.¹⁹²

Chapter 5's sum score methodology basis is that the overall independent variable (delegation) is composed of nine distinct traits. The approach of any sum score method is demonstrated by the following equation:

$$Y = X_1 + X_2 + X_3 + X_4 + X_V$$

Where Y is the total (sum) score, and X_1 through X_V (V being the total number of items) is the individual score for each item.

As discussed in further detail in chapter 5, the sum score methodology was originally conceived and developed as a scientific method in the field of psychology, wherein subjects (in the case of research) or patients (in the case of clinical sessions) were given tests, with the responses to each individual question being given by either the subject/patient or the clinician.¹⁹³ Psychology was an initiator of this method because of the need to measure mental states such as depression and anxiety, but for which there was no single, quantitative measurement (compared to body temperature or blood pressure). Psychologists developed methods to assess mental states by a series of questions that could be scored and the scores added up.¹⁹⁴ Some tests could assess different phenomena within the same test.

One of sum scoring's methodological issues concerns scoring sensitivity or insensitivity. Each question or item may be given equal weight as a part of the total (for example, five questions may each have a score of 0 to 3, adding up to a score between 0 and 15). This approach, however, assumes that each item is of equal weight, or as Edelsbrunner stated, "all indicators represent approximately equal shares of the construct."¹⁹⁵ The chapter on

¹⁹² Brown, "Measuring Delegation."

¹⁹³ Daniel McNeish and Melissa Gordon Wolf, "Thinking Twice about Sum Scores," *Behavior Research Methods* 52, no. 6 (April 22, 2020): 2287–2305, <https://doi.org/10.3758/s13428-020-01398-0>.

¹⁹⁴ McNeish and Wolf.

¹⁹⁵ Peter Adriaan Edelsbrunner, "A Model and Its Fit Lie in the Eye of the Beholder: Long Live the Sum Score," *Frontiers in Psychology* 13 (October 13, 2022): 3, <https://doi.org/10.3389/fpsyg.2022.986767>. See also Keith F. Widaman and William Revelle, "Thinking Thrice about Sum Scores, and Then Some More about Measurement and Analysis," *Behavior Research Methods* 55, no. 2 (April 25, 2022): 788–806, <https://doi.org/10.3758/s13428-022-01849-w>.

CAC agreement delegation assesses that the nine variables are equal in weight, as discussed in greater detail within the chapter.

An important difference between using sum scoring in this dissertation compared to health sciences is that in chapter 5 the author assigns the scores, while in psychology the scores are more typically the result of a subject's response to questions. However, even in clinical practice, sum-score tests may be filled out by the clinician rather than the patient, with the clinician basing the results on their subjective, experienced judgment or the test guidelines. Two examples of these are the Mini-Mental State Examination (MMSE)¹⁹⁶ and the Folstein Mini-Mental Examination.¹⁹⁷

A core characteristic of sum-scale scoring is the unidimensionality of the individual questions or categories. If there is an overlap between the individual categories of measurement that form the sum score, the results may lose accuracy and relevance. As Ziegler and Hagemann stated:

“Unidimensionality of the items comprising a test score is essential for the soundness of the assessment processes the score is being used in.... However, when constructing the items, one can at least try to ensure that the items are not loaded with other traits. Otherwise, constructs with a tightly woven nomological net, that is, many overlapping or closely related other constructs, might be impossible to represent with unidimensional items.”¹⁹⁸

One way to visualize this with a Venn diagram is that each item or variable being tested should exist as its own, separate circle or otherwise minimally intercept. An example of this in international security might be if one was attempting to measure with a sum score approach national power composed of variables including GDP and defense industrial capability (separately). This would not be an ideal division of variables because defense industrial

¹⁹⁶ Lenore Kurlowicz and Meredith Wallace, “The Mini-Mental State Examination (MMSE),” *Journal of Gerontological Nursing* 25, no. 5 (May 1999): 8–9, <https://doi.org/10.3928/0098-9134-19990501-08>.

¹⁹⁷ M. F. Folstein, S. E. Folstein, and P. R. McHugh, “Folstein Mini Mental Examination” (APA PsycTests, 1975), <https://www.wcpa.us/AttyTrain/FolsteinMiniMentalExamination.pdf>.

¹⁹⁸ Matthias Ziegler and Dirk Hagemann, “Testing the Unidimensionality of Items: Pitfalls and Loopholes,” *European Journal of Psychological Assessment* 31, no. 4 (December 14, 2015): 232, <https://doi.org/10.1027/1015-5759/a000309>.

capacity may be related to GDP.¹⁹⁹ Chapter 5, for example, does not include IGO involvement as a variable as many of the variables themselves are a manifestation of IGO involvement.

To summarize, there is no theoretical reason why any of the nine variables cannot exist in the absence of others, and indeed the data shows great variation in the variables between cases. One reason why such variation is possible is that states can perform some or all of the functions that serve as the delegation variables.

While the application of psychological tests, psychology research, and the health sciences may seem *prime facie* of limited relevance to international relations studies, the seminal work by Jervis, for example, applies psychology in part to develop his theory of perception and misperception in international relations.²⁰⁰ Moreover, as McNeish and Wolf note, it is impossible to measure psychological conditions with a ruler.²⁰¹ This observation can equally apply to many aspects of international relations, such as deterrence, diplomatic relations, alliance strengths, and in the case of this article, delegation (and its component parts) to CAC treaty implementers.

One example of a study that uses the equivalent of a sum score is Hooghe and Marks' article, "Delegation and Pooling in International Organizations."²⁰² The authors sum nine variables such as budget drafting and policy initiation to calculate a score for delegation for a maximum of nine points. They also sum four variables to arrive at their assessment of pooling. These two sums are then used to analyze how different types of international organizations and their membership interact. Similarly, Tallberg et al. in *The Opening Up of International Organizations*, assign scores to IOs to assess transnational actor (TNA) access to IOs, and conduct various analytical calculations on their scores such as correlational analysis on an IO's technical complexity, and trend analysis of levels of TNA access over time.²⁰³

This study's methodology has comparisons to, and may be considered a subset of, a composite index – which itself might be used as independent variables to be tested against

¹⁹⁹ Michael Beckley, "Economic Development and Military Effectiveness," *Journal of Strategic Studies* 33, no. 1 (February 1, 2010): 43–79, <https://doi.org/10.1080/01402391003603581>; Luqman Saeed, "The Impact of Military Expenditures on Economic Growth: A New Instrumental Variables Approach," *Defence and Peace Economics*, October 9, 2023, 1–16, <https://doi.org/10.1080/10242694.2023.2259651>.

²⁰⁰ Robert Jervis, "War and Misperception," *The Journal of Interdisciplinary History* 18, no. 4 (Spring 1988): 675–700.

²⁰¹ McNeish and Wolf, "Thinking Twice about Sum Scores."

²⁰² Hooghe and Marks, "Delegation and Pooling in International Organizations."

²⁰³ Jonas Tallberg et al., *The Opening Up of International Organizations: Transnational Access in Global Governance*, 1st ed. (Cambridge: Cambridge University Press, 2013), <https://doi.org/10.1017/CBO9781107325135>.

dependent variables.²⁰⁴ Composite indices are used in a wide range of areas, and examples within international relations include transparency,²⁰⁵ global financial analysis,²⁰⁶ corruption ratings,²⁰⁷ military force assessment,²⁰⁸ and public attitudes about democracy.²⁰⁹ The Correlates of War (CoW) Composite Indicator of National Capability (CINC), for example, uses data such as the size of a state's military in terms of personnel, military spending, population, and steel production to assess a state's overall national capability in the form of a real number generated by a quantitative calculation. This methodology is standardized for all states from 1816 to the present, thus enabling comparisons and ease of use for further data-based research and analysis.²¹⁰ Several studies use the CoW CINC for correlational analysis. For example, Adams tests "the hypotheses that attack and conquest are best explained by relative capabilities".²¹¹

Composite indices are not necessarily summations of individual, quantitative components; rather, the final number may be the result of a mathematical equation that combines and weighs the individual inputs in a manner that makes theoretical sense.

As a medium-*n* study, chapter 5 is not "testing" an individual, nor is it conducting a broad study of a large number of subjects (whether individuals, countries, groups, etc.). Rather, the non-random sample of agreements (that is, all relevant agreements are included) are scored and not only compared to one another (similar to a cross-case comparison), but their scores are also correlated with the dependent variable of success.

Chapter 5's definition of success assesses whether the agreement was successful during the executor's lifetime. This is a slightly different measure of success than in chapter 6, which primarily bases the assessment of success on the presence or absence of conflict between state parties. Nine independent and unidimensional variables were identified that compose delegation, and each variable was scored and added up to measure the amount of delegation for each agreement. Separately, each agreement was rated as successful, somewhat successful,

²⁰⁴ Salvatore Greco et al., "On the Methodological Framework of Composite Indices: A Review of the Issues of Weighting, Aggregation, and Robustness," *Social Indicators Research* 141, no. 1 (January 2019): 61–94, <https://doi.org/10.1007/s11205-017-1832-9>.

²⁰⁵ James R. Hollyer, B. Peter Rosendorff, and James Raymond Vreeland, "Measuring Transparency," *Political Analysis* 22, no. 4 (2014): 413–34, <https://doi.org/10.1093/pan/mpu001>.

²⁰⁶ Mark Copelovitch, Christopher Gandrud, and Mark Hallerberg, "Financial Data Transparency, International Institutions, and Sovereign Borrowing Costs," *International Studies Quarterly* 62, no. 1 (March 1, 2018): 23–41, <https://doi.org/10.1093/isq/sqx082>.

²⁰⁷ "The ABCs of the CPI: How the Corruption Perceptions Index Is Calculated," Transparency.org, December 20, 2021, <https://www.transparency.org/en/news/how-cpi-scores-are-calculated>.

²⁰⁸ William Lippert, "Military Balancing for Future Conventional Arms Control Agreements in Europe," *Contemporary Military Challenges* 26, no. 1 (March 1, 2024): 103–17, <https://doi.org/10.2478/cmc-2024-0007>.

²⁰⁹ Yun-han Chu, ed., *How East Asians View Democracy* (New York: Columbia University Press, 2008).

²¹⁰ Greig and Enterline, "Correlates of War Database, National Material Capabilities (v6.0)."

²¹¹ Adams, "Attack and Conquer? International Anarchy and the Offense-Defense-Deterrence Balance."

or unsuccessful. Thereafter, the data was analyzed to assess the extent of correlation between delegation and agreement success.

Chapter 6: Conventional Arms Control Agreements in Europe: Conditions of Success and Failure

In order to answer the question: *Under what conditions are adversarial CAC agreements in Europe successful or unsuccessful?* Chapter 6 uses QCA because this method is ideal for understanding how different conditions individually and in combination may result in certain outcomes; in this study, CAC agreement success or failure. As Schneider and Wagemann emphasize, QCA “focuses attention on unraveling causally complex patterns in terms of equifinality, conjunctural causation, and asymmetry... and can be useful for concept formation, the creation of typologies, and causal analysis.”²¹² QCA’s focus on scoring membership in a set is appropriate for CAC as some aspects of CAC, such as demilitarization and national limitations, do not lend themselves well to correlational studies as these traits are binary in nature rather than being valued along a continuous scale.

What characterizes QCA is that it identifies multiple conjunctural causation by determining which pathways lead to outcomes with equifinality based on set theory.²¹³ That is, it identifies which combinations of conditions result in any given outcome; in particular, it shows how different combinations can result in the same outcome.

The methodology section in chapter 6 offers some details on how QCA is applied, with an overview of the methodology, the use of truth tables, and the calculations of pathways. This section’s discussion of QCA is intended to complement what is written in chapter 6.

QCA is not yet widely used in international relations or international security, even though many international relations and security outcomes (conflict, peace, rivalries, alliances, etc.) are likely the result of a combination of causes or factors with variation between each case. According to Ide and Mello, there have been only 45 international relations-oriented QCA articles published in peer-reviewed, academic journals from 1987-2020.²¹⁴ Ide and Mello believe that “compared to regression analysis or case studies, QCA is still an emerging method in IR.”²¹⁵

²¹² Schneider and Wagemann, *Set-Theoretic Methods for the Social Sciences*, 8.

²¹³ Schneider and Wagemann, chap. Introduction.

²¹⁴ Tobias Ide and Patrick A Mello, “QCA in International Relations: A Review of Strengths, Pitfalls, and Empirical Applications,” *International Studies Review* 24, no. 1 (March 4, 2022): viac008, <https://doi.org/10.1093/isr/viac008>.

²¹⁵ Ide and Mello, 7.

QCA can complement other research methods. This chapter's data is based on four conditions that may characterize CAC agreements: delegation to agreement implementers, national limitations, demilitarization, great power rivalry, and the outcome of success or failure. Scoring of success and failure are based on a combination of factors including duration of effectiveness, whether they are still in force, and whether the state parties went to war on issues related to the agreement. The four conditions and the outcomes are calibrated for a score between 1 and 0 (inclusive) to create a data table. The data table was then converted into a truth table using the fsQCA software,²¹⁶ after which the data analysis was conducted to analyze causal pathways and necessary and sufficient conditions with the fsQCA software.

Determining the scores for the four conditions and outcomes required within-case analysis, as none of the conditions or outcomes could be quantitatively calculated (calibrated) based on an existing quantitative figure such as spending, population, or land mass.²¹⁷ QCA is also appropriate for this dissertation's topic and, perhaps in many IR topic areas, because of the medium number of cases for which QCA is ideally suited. A small number of cases are not appropriate for QCA because it relies on a variety of conditions and outcomes to offer the most interesting insights, while a large case size may conceal some of the insights that QCA offers. Moreover, a large case size may prohibit the case-based knowledge that should accompany QCA – although large-n QCA studies are possible.²¹⁸

One of QCA's advantages is that it can identify necessary and sufficient conditions and INUS conditions. INUS conditions are those conditions that are “an insufficient but necessary part of a condition, which is itself unnecessary but sufficient for the result.”²¹⁹ For international relations this is especially relevant as for some outcomes it may be common that an outcome requires a certain condition, but only with other conditions present; and alternatively, the presence of a certain condition will always result in a certain outcome, but that outcome may also occur without that condition.

Several examples of QCA used in international security studies are worth mentioning. Haesebrouck and Thiem apply a multivariate QCA (mvQCA) methodology along with other

²¹⁶ Charles C. Ragin and Sean Davey, “Fuzzy-Set/Qualitative Comparative Analysis 4.0 for Mac” (Irvine, California: Department of Sociology, University of California, 2022).

²¹⁷ The delegation condition was based on the quantitative sum-score from chapter 6 – but these were all based on within-case analysis and scoring based on qualitative information.

²¹⁸ Roel Rutten, “Applying and Assessing Large-N QCA: Causality and Robustness From a Critical Realist Perspective,” *Sociological Methods & Research* 51, no. 3 (August 2022): 1211–43, <https://doi.org/10.1177/0049124120914955>.

²¹⁹ J L Mackie, “Causes and Conditions,” 2024, 245. See also Gary Goertz, *Multimethod Research, Causal Mechanisms, and Case Studies: An Integrated Approach* (Princeton University Press, 2017), <https://doi.org/10.1515/9781400888115>.

methods to assess “Burden Sharing in CSDP Military Operations” (or EU Common Security and Defense Policy).²²⁰ Its nine conditions are based on a mix of qualitative and quantitative data, with some of the data having been derived from formulas that incorporate several variables. Haesebrouck’s article “NATO Burden Sharing in Libya: A Fuzzy Set Qualitative Comparative Analysis”²²¹ was chapter 6’s model both in its approach and in its presentation. In this article, Haesebrouck clearly presents two truth tables – for the presence and absence of the outcome (high burden) – and the intermediate solution, with additional tables and solutions in the appendix. His conditions and outcome are quantitatively derived from various formulas or other data, such as military spending and geographic position (in km).

Haesebrouck, in his article “NATO Burden Sharing after the Wales Summit: A Generalized Set Qualitative Analysis”, uses a relatively newer version of QCA called generalized set QCA (gsQCA) which “can process multivalent fuzzy set variables.”²²² The condition “threat” is a multi-value fuzzy set condition wherein the value is calculated differently for states which (as with his other studies mentioned above) serve as the study’s cases (this dissertation’s chapter 6 cases are individual CAC agreements or agreement sets). Another study by Haesebrouck, this one with van Immerseel, “When does politics stop at the water’s edge? A QCA of parliamentary consensus on military deployment decisions,”²²³ analyzes partisanship and foreign policy between states’ parliaments and executive branches. One interesting aspect of this article is its presentation of an integrated process model which shows the different pathways to the two outcomes of political consensus or political contestation in a wire diagram. The seven variables in the diagram are translated into fsQCA with seven conditions, with a presentation of the parsimonious solutions (instead of the more commonly presented intermediate solutions). The authors also discuss deviant cases which are not explained by the formulas.

The above studies authored by Haesebrouck (singly or co-authored) are based on conditions that are easily applied to all of his cases from either a theoretical or quantitative

²²⁰ Tim Haesebrouck and Alik Thiem, “Burden Sharing in CSDP Military Operations,” *Defence and Peace Economics* 29, no. 7 (November 10, 2018): 748–65, <https://doi.org/10.1080/10242694.2017.1320183>.

²²¹ Tim Haesebrouck, “NATO Burden Sharing in Libya: A Fuzzy Set Qualitative Comparative Analysis,” *Journal of Conflict Resolution* 61, no. 10 (November 2017): 2235–61, <https://doi.org/10.1177/0022002715626248>.

²²² Tim Haesebrouck, “NATO Burden Sharing after the Wales Summit: A Generalized Set Qualitative Analysis,” *Defence and Peace Economics* 33, no. 6 (August 18, 2022): 645, <https://doi.org/10.1080/10242694.2021.1928435>.

²²³ Tim Haesebrouck and Anouschka Van Immerseel, “When Does Politics Stop at the Water’s Edge? A QCA of Parliamentary Consensus on Military Deployment Decisions,” *European Political Science Review* 12, no. 3 (August 2020): 371–90, <https://doi.org/10.1017/S1755773920000223>.

perspective. That is, every case could be quantitatively measured along the variables such as geography, spending, or political leanings in contrast to this dissertation's chapter 6 study which, for at least three of the conditions, are yes/no (present/absent) rather than a quantitative or qualitative range.

Although adversarial CAC has not been a focus of QCA studies, Böller's article "Brakeman or booster? Presidents, ideological polarization, reciprocity, and the politics of US arms control"²²⁴ assesses US policies and approaches to 24 international arms control treaties from 1963-2001 to assess when the US would support or oppose arms control agreements. This study focuses on the "enhanced parsimonious" solution to analyze the pathways. Tangentially related to this dissertation's topic is Heinkelmann-Wild and Jankauskas' article "To Yield or Shield?"²²⁵ in which the authors use csQCA to assess how IOs react to criticism from the Trump administration based on a dataset of IOs that the US was a member of, and then counting each instance of contestation as a case for a total of 32 cases. As with this dissertation's chapter 5 study, the conditions are all quantifications of qualitative information. The main interest of this study aside from its application of QCA is that some of the cases involve international security IOs (particularly NATO and IAEA), and chapter 6 of this dissertation focuses on international organizations and their role in CAC agreement implementation.

QCA offers many advantages as a unique way to analyze data, but it has (like any method) drawbacks. First, the varied approaches and presentation suggest that there is either inconsistency or lack of consensus on if, and when, there is a best approach, set of steps, or standardized presentation formats. For example, studies cited above applied different forms of QCA – although a case can be made that csQCA is just a narrower form of fsQCA. Other differences include whether the focus should be on the parsimonious, intermediate, or complex solutions. More fundamentally, skeptics may ask if QCA is identifying causes as effectively as its advocates claim.²²⁶ Arel-Bundock also broadly criticizes QCA for what amounts to the many

²²⁴ Florian Böller, "Brakeman or Booster? Presidents, Ideological Polarization, Reciprocity, and the Politics of US Arms Control," *International Politics* 59, no. 4 (August 2022): 725–48, <https://doi.org/10.1057/s41311-021-00330-3>.

²²⁵ Tim Heinkelmann-Wild and Vytautas Jankauskas, "To Yield or Shield? Comparing International Public Administrations' Responses to Member States' Policy Contestation," *Journal of Comparative Policy Analysis: Research and Practice* 24, no. 3 (May 4, 2022): 296–312, <https://doi.org/10.1080/13876988.2020.1822144>.

²²⁶ Vincent Arel-Bundock, "The Double Bind of Qualitative Comparative Analysis," *Sociological Methods & Research* 51, no. 3 (August 2022): 963–82, <https://doi.org/10.1177/0049124119882460>; Tim Haesebrouck and Eva Thomann, "Introduction: Causation, Inferences, and Solution Types in Configurational Comparative Methods," *Quality & Quantity* 56, no. 4 (July 29, 2021): 1867–88, <https://doi.org/10.1007/s11135-021-01209-4>.

subjective steps that the methodology incorporates such as “classification problems, [and] typological ambiguity.”²²⁷

Most QCA studies, including chapter 6 in this dissertation, attempt to address these concerns by, among other means, explaining their choices, providing their data and calculations, and providing the three different types of solutions. Often some of this information is presented in the main text and then additional information is offered in appendices and supplemental information. Moreover, QCA experts such as Mello, Ragin, and Rutten emphasize that some of the objections to QCA are manifest in other methodologies and that ultimately a researcher needs to continuously assess findings in line with their overall knowledge and expertise.

Chapter 7: How Conventional Arms Control Failures Caused the Russo-Ukraine War

In order to answer the question: *What role did CAC agreements failures play in Russia's decision to invade Ukraine?* chapter 7 uses a within-case study with process tracing and counterfactual analysis of Russian President Putin's decision to invade Ukraine in February 2022 and hypothesizes that one of the main causes of the invasion was the deterioration of CAC in Europe. Process tracing is ideal for understanding why certain policy decisions are made. It “is a research method for tracing causal mechanisms using detailed, within-case empirical analysis of how a causal mechanism operated in real-world cases. Process-tracing can be used both for case studies that aim to gain a greater understanding of the causal dynamics that produced the outcome of a particular historical case.”²²⁸ Counterfactuals test alternate explanations,²²⁹ which is necessary as there are many causes attributed to practitioners and scholars – and articulated by Putin himself – as to why the decision was made to invade Ukraine.

²²⁷ Arel-Bundock, “The Double Bind of Qualitative Comparative Analysis,” 964.

²²⁸ Derek Beach and Rasmus Brun Pedersen, *Process-Tracing Methods: Foundations and Guidelines*, 2nd ed. (University of Michigan Press, 2019), 1, <https://books.google.nl/books?id=ae1ruwEACAAJ>.

²²⁹ Gary Goertz and James Mahoney, “9: Counterfactuals,” in *A Tale of Two Cultures: Qualitative and Quantitative Research in the Social Sciences* (Princeton: Princeton University Press, 2013), 248, <https://doi.org/10.1515/9781400845446>; Levy, “Counterfactuals and Case Studies.”

Process Tracing

This chapter is a single case study that applies process tracing, a within-case method²³⁰ to understand and assess Russian views of the military balance with NATO, how CAC did and could address this, and how Russian views of CAC failure resulted in the war's outbreak. The hypothesis is further tested, after detailed process tracing, with a relatively brief counterfactual which assesses not only what the impact would have been had CAC succeeded in Europe, but also assesses the counterfactual if other claimed causes had been absent.

“Process tracing consists of analyzing a case into a sequence (or several concatenating sequences) of events and showing how those events are plausibly linked given the interests and situations faced by groups or individual actors.”²³¹ Process tracing may be inductive or deductive²³² and applies to any social or scientific phenomenon in which there may be a complex cause and effect, although it is generally used in contrast to covariate methods because process tracing itself is first and foremost a qualitative method. As Collier notes, process tracing “offers a sharp contrast to mainstream statistical methods of hypothesis testing, which are based on cross-case analysis.”²³³ Similarly, Bennett and Elman note that process tracing involves “relentless empirical research on these hypothesized processes, using a wide variety of sources (often including archived documents, contemporary news accounts, secondary histories, biographies or memoirs, and interviews) with due attention to the potential motivated and informational biases of each source.”²³⁴ When a case study such as Putin's decision to invade Ukraine focuses on human decisions, *factual* quantitative data such as economic trends, force comparisons, popular opinion polls, etc., may be much less important than policymakers' *perceptions* of quantitative data. That is to say that while quantitative data may assist in understanding war causation historically, perceptions may be more relevant to understanding decisions within individual cases – and process tracing offers probably the best method to understand decision-making.

²³⁰ David Collier, “Within-Case versus Cross-Case Causal Analysis,” in *A Tale of Two Cultures: Qualitative and Quantitative Research in the Social Sciences* (Princeton: Princeton University Press, 2013), chap. 7, <https://doi.org/10.1515/9781400845446-008>.

²³¹ Jack A. Goldstone, “Comparative Historical Analysis And Knowledge Accumulation In The Study Of Revolutions,” in *Comparative Historical Analysis in the Social Sciences*, ed. James Mahoney and Dietrich Rueschemeyer, 1st ed. (Cambridge University Press, 2003), 47, <https://doi.org/10.1017/CBO9780511803963.003>.

²³² Bennett and Elman, “Case Study Methods in the International Relations Subfield.”

²³³ Collier, “Within-Case versus Cross-Case Causal Analysis,” 93.

²³⁴ Bennett and Elman, “Case Study Methods in the International Relations Subfield,” 183.

In the area of history and international relations, process tracing may look at, for example, a series of events, decisions, or circumstances to identify an explanation, or theory, of a certain outcome. As Bennett and Elman note, process tracing is ideal for the “detailed study of particular cases with sensitivity to sequencing, the use of process tracing to gain inferential leverage on rare or unique events, the opportunity to study cases inductively to help identify omitted variables, and the ability to study interaction effects in the context of particular cases.”²³⁵ Process tracing is a method to firmly identify, with confidence, key causes of events while discarding other causes.²³⁶ In contrast to a general history or chronology which seeks to tell a broad story (history) of interest, that is a detailed and compelling descriptive narrative, pattern tracing focuses on elements that identify and assess a hypothesized cause or causes of usually important and noteworthy outcomes. The tracing is identifying, observing, and analyzing “empirical fingerprints, or traces, left by the operation of a causal mechanism in a case.”²³⁷

Process tracing often requires a detailed understanding of both the event being studied and of many other subject areas²³⁸ because of the lack of quantifiable data which may be relatively easily manipulated to reveal relations (or lack thereof). In the case of the Russo-Ukraine War’s outbreak, not only is it necessary to consider the post-Cold War history of CAC to explain how it might have been a major cause of the war, but some amount of knowledge was necessary to put CAC in the context other issues such as history, economics and trade, culture and to consider alternate explanations.

Some process tracing studies might have more than one case in their sample size, especially if the goal is to test a theory in several cases. The theory itself could be the product of a single case study subjected to process tracing.²³⁹ An example of a small n process study in international security might be that lobbying by defense industry officials causes major industrial states to go to war.

One of process tracing’s tools is the application of up to four types of tests: straw-in-the-wind, hoop, smoking gun, and doubly decisive. These tests are essentially a continuum of establishing causation with certainty, with a hoop test being the weakest (that is the hypothesis is not eliminated but is not strongly affirmed or countered) and the doubly decisive test

²³⁵ Andrew Bennett and Colin Elman, “Complex Causal Relations and Case Study Methods: The Example of Path Dependence,” *Political Analysis* 14, no. 3 (2006): 251, <https://doi.org/10.1093/pan/mpj020>.

²³⁶ Bennett and Elman, “Complex Causal Relations and Case Study Methods.”

²³⁷ Beach and Pedersen, *Process-Tracing Methods: Foundations and Guidelines*, 2.

²³⁸ Goldstone, “Comparative Historical Analysis And Knowledge Accumulation In The Study Of Revolutions.”

²³⁹ Møller and Skaaning, “Explanatory Typologies as a Nested Strategy of Inquiry.”

confirming the hypothesis and eliminating all others.²⁴⁰ Chapter 7's study conducted tests against these four measures to bolster the hypotheses' affirmation.

Chapter 7 is focused on explaining outcome process tracing – that is specifically explaining why Russia invaded Ukraine. Three other process tracing variants are theory testing, theory building, and theoretical revision.²⁴¹ Explaining outcome process tracing is common and ideally suited for singular events – whether these are outliers or extremes of a larger dataset, or whether they are simply of great interest in and of themselves. Two historical cases that lend themselves to process tracing are the Cuban Missile Crisis and the outbreak of World War One. While identifying causes for either can have general theoretical implications for crisis decision-making and rivalries, the cases in and of themselves are significant enough to warrant within-case theory building through explaining outcome process tracing solely to understand the cases.²⁴²

Counterfactual

Counterfactuals can go hand-in-hand with process tracing²⁴³ for within-case qualitative analysis. Counterfactuals are, as discussed in further detail in chapter 7, an alternate history that seeks to demonstrate the impact a given event or variable had or did not have. Though not without its detractors, counterfactuals are a useful logical and intellectual tool to test qualitative hypotheses which propose one thing was the chief cause of another thing. This is done by showing that x had outcome y , but not x results in not y . As with any other method that seeks to establish causation, counterfactual analysis seeks to establish a causal relationship and present evidence that shows that a change in x results in a change in y .²⁴⁴

For serious research counterfactuals, versus conversational, several guidelines should be considered and followed. First, counterfactuals should be something that is well within the realm of possibility.²⁴⁵ This sets aside not just the fantastic such as extra-terrestrial intervention, but even the less likely. The “miracle” counterfactual that Putin had a crystal ball dream vision of Russia's high losses in Ukraine would not be in line with how serious counterfactuals should be done, not the least again because it does not offer insights as to why the decision to invade

²⁴⁰ David Collier, “Understanding Process Tracing,” *PS: Political Science & Politics* 44, no. 4 (October 2011): tbl. 1, <https://doi.org/10.1017/S1049096511001429>.

²⁴¹ Beach and Pedersen, *Process-Tracing Methods: Foundations and Guidelines*, tbl. 1.

²⁴² Beach and Pedersen, 285.

²⁴³ Collier, “Within-Case versus Cross-Case Causal Analysis.”

²⁴⁴ Levy, “Counterfactuals and Case Studies.”

²⁴⁵ Goertz and Mahoney, “9: Counterfactuals.”

was made. However, what counterfactuals are realistically possible is a matter of subjectivity; or, as Goertz and Mahoney phrase it, a “judgment about reasonableness... that depends heavily on the analyst’s knowledge of the case and its history.”²⁴⁶

In the case of CAC and NATO-Russian relations, it is not difficult to envision a counterfactual wherein CAC succeeded. Without going into too much substantive detail, NATO members and Russia did attempt throughout the period leading up to at least 2015 to make CAC work – in CFE implementation, A/CFE signature and entry into force, and continuous discussions about compliance and implementation in forums such as the OSCE and JCG. CAC success is, as an example of a realistic counterfactual, more likely than Russia joining NATO or NATO never expanding after 1991.

Second, counterfactuals should not compel a major alteration or rewrite of history.²⁴⁷ A prosperous CAC regime would not necessarily require altering more than a small number of events and policies in Russian-NATO and Russian-Ukrainian relations. CAC could have been preserved and reinforced while keeping all other events (variables) equal, such as NATO expansion in terms of membership, the Maidan revolution, the presence of Russian minorities in Ukraine, and the overall history of Ukraine and Russia. As an example of changing too much, a counterfactual which posits that if Hillary Clinton was on her second term and Putin had been overthrown in 2020 and replaced by a West-friendly leader, there would not have been an invasion. This may be true – but it changes too many variables to understand why Putin decided to invade Ukraine.

Some counterfactuals focus on a very narrow, singular event. In some cases, the counterfactual is self-evident. If John Wilkes Booth had not assassinated US President Abraham Lincoln (for example, his gun failed, or he missed), then Lincoln would have continued to serve as President. No information suggests that he would have later been assassinated. Thus, the cause-effect of Booth shooting at Lincoln and Lincoln’s death is self-evident but what is less certain – and a legitimate counterfactual analysis – is what effect Lincoln’s survival and continued Presidency would have on US Reconstruction. Similarly, historians may pose the counterfactual question that if Archduke Ferdinand had not been assassinated, would World War One have ever happened.

Yet unlike the two examples above, chapter 7 does not rely on a single event. There was no one moment in which CAC had decisively failed. Rather, it was a slow but steady

²⁴⁶ Goertz and Mahoney, 121.

²⁴⁷ Goertz and Mahoney, “9: Counterfactuals.”

deterioration, manifested both in the declining effectiveness and application of existing agreements and the failure to adopt new ones. Considering a series (or process) of counterfactuals within the same body of policy is in line with counterfactual methodology and complements pattern tracing.²⁴⁸ Moreover, assessing a set of decisions and policies within a broader policy makes logical sense as most of the explanations of Russia's invasion are not based on a single incident such as an assassination. All of them address root causes and a series of policies and their result. Not even Putin suggested that the invasion was due to any singular incident, event, or decision. This contrasts, for example, with the outbreak of World War Two in Europe and the Pacific being begun by two events: The (false flag) Polish attack against Germany in Gleiwitz, and the Japanese bombing of Pearl Harbor. Even the 1931 Japanese invasion of Manchuria which set into motion the Pacific War was caused by a singular (false flag) event.

Useful counterfactuals, no matter how well conceived and executed, fundamentally suffer from their untestability – at least in the areas of history and conflict. There is simply no way to rewind time and change something to see how history would have been altered. Yet, counterfactuals nonetheless complement process tracing methods in establishing the cause of certain outcomes.

CAC Agreement Dataset

Three chapters of this dissertation are based on a comprehensive dataset of CAC agreements from 1918 to 2015 (the most recent CAC agreement in Europe) which are consolidated in Table 1. Table 6 below states the number of cases in each chapter's dataset. The differences in the number of cases are primarily due to additional agreements having been identified and incorporated over the course of the research, although chapter 4 includes the A/CFE Treaty as it assesses the status quo prior to the agreement and the balance set by the agreement. These remain relevant and measurable even though the A/CFE Treaty did not enter into force.

²⁴⁸ Goertz and Mahoney.

Table 6: Number of cases in each chapter's dataset

Chapter	Number of Cases	Explanation
<i>Status Quo Constancy and Conventional Arms Control</i>	29	Additional cases as the methodology evolved and due to further research.
<i>Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation</i>	19	First set of cases researched
<i>Conventional Arms Control Agreements in Europe: Conditions of Success and Failure</i>	22	Addition of some cases, in part as requested by the editors.

Several traits differentiate these datasets from case datasets used in other arms control studies:

- The timeframe, as other treaty datasets have either a narrower or broader timeframe;
- The focus is on formal, adversarial agreements, as other datasets include universal and counterproliferation arms control, as well as CSBMs;
- This dataset only includes agreements that have a substantial CAC component. Thus, unlike many other arms control agreement datasets, primarily nuclear weapons-oriented, are excluded;
- Inclusion of agreements that do not involve the US/NATO-Russia/Soviet Union/Warsaw Pact rivalries, as other treaty datasets focus on these.

This dataset has consolidated several agreements into a single agreement case. The post-World War One peace treaties were signed between the Allies and the defeated Central powers – several of which were new states with the breakup of the Austro-Hungarian empire. The agreements were similar in approaches, setting strict limits on a range of military capabilities. One agreement in this period that was not included is the Brest-Litovsk Treaty

between Imperial Germany and Soviet Russia, because of this treaty's brief existence and its annulation when Germany surrendered. The Allies based the peace treaties that they drafted following the one with Germany on that agreement's text and approach.

Similarly, the World War Two treaties between the Allies and Axis states in Europe were consolidated, although these had more variety than their First World War counterparts and were often composed of a series of agreements spanning several years. For data coding purposes, the treaties had similar characteristics such as the imposition of the Allied Councils and Control Commissions (ACCs) and demands for general demobilization. The 1940 Finnish-Soviet Union peace treaty is included as an individual case in the dataset despite its brief lifetime because it not only set out clear CAC conditions (on Finland) but it was also nullified by conflict rather than, in the case of Brest-Litovsk, circumstances beyond the state parties' relationship.

Agreements that created multiple protocols and amendments were considered, in general, as one agreement. For example, the CFE Treaty included several additional protocols to deal with various issues, including the politically-binding establishment of personnel limits. Its most significant alteration was the "Flank Agreement" which required US Senate ratification. All of these are considered as a single agreement.

The 1998 Belfast Agreement ending conflict in Northern Ireland, also known as the Good Friday Agreement, was included in this dataset. This inclusion is rare, if not unique; it does not appear in any other discussions of CAC in Europe. This thesis includes the agreement for several reasons: the creation of not one but two agreement executors, both of which were highly independent and qualified as international organizations; the establishment of qualitative limits on British military forces in Northern Ireland; and the historical adversarial relationship between Ireland (as part of the United Kingdom, in varying degrees until quasi-independence in 1922) and the UK.

The 1954 Protocol No. IV on the Agency of Western European Union for the Control of Armaments is only minimally discussed in the CAC literature, but is included in this dataset because it is the product of a historic rivalry between Germany and other WEU members (all of whom, at the time of signature, had been at war with Germany during the Second World War); and because the dynamic limits (based on Germany's military capability goals established by NATO) were in place out of fear that Germany could again threaten its western neighbors.

The variables and conditions for chapters 4-6 were determined for the agreement cases, after which the data was coded for each variable and condition based on available information,

including the treaty texts. The conditions and variables were selected in part based on them being potentially applicable to all the agreements. That is, none of the conditions or variables are a logical impossibility, which would be the case if, for example, nuclear arms were included as these were only possible from 1945.

The research methodologies used in this thesis offer different types of analyses and offer different perspectives from which to understand the phenomenon of CAC. Taken together, they permit a unique set of conclusions which are discussed in chapter 8.

Chapter 3: Literature Review

This thesis has already introduced some of the literature covering CAC, particularly theoretical bases, the definition of adversarial CAC in Europe, other scholars' methodological approaches to CAC agreements, the importance and relevance of CAC to international security and peace, and CAC relevance to the Russo-Ukraine War and post-war geopolitics.

This chapter delves into greater detail of the available literature, acknowledging that while this thesis attempts to offer some new and unique insights about CAC in Europe, it does so based on the research and scholarship of many others. This chapter breaks the literature into four main categories. Additionally, chapters 4-7 contain a discussion of the literature relevant to each of the chapter's main themes.

General CAC Issues

Much CAC literature has already been covered in this thesis' previous sections, so the following section provides complementary information. The literature's central themes and conclusions discussed in this section do not focus on a single agreement or rivalry – although both are used as examples – but can be applied more broadly to any adversarial CAC agreement or potential agreement. The insights that this section's literature also applies broadly over time; that is, they are not limited to a particular historical period.

Croft offers a definition of arms control and lays out various theories related to arms control,²⁴⁹ while Jervis similarly offers theoretical observations and then presents a stag game and prisoner's dilemma as paradigms to understand arms control theory.²⁵⁰ These emphasize challenges with the security dilemma as well as the benefits of cooperation. Maurer proposes that arms control has three main purposes: disarmament, stability, and advantage while finding that states may pursue multiple purposes simultaneously.²⁵¹ States' primary goals will shape the kind of agreement that they seek as well as the agreement's quantitative details. Fearon focuses on the notion that a potential motivation and benefit of arms control is reducing the financial and resource cost of interstate competition inherent in an anarchic system.²⁵² His study develops

²⁴⁹ Croft, "In Defence of Arms Control."

²⁵⁰ Jervis, "Cooperation Under the Security Dilemma."

²⁵¹ Maurer, "The Purposes of Arms Control."

²⁵² James D. Fearon, "Cooperation, Conflict, and the Costs of Anarchy," *International Organization* 72, no. 3 (2018): 523–59, <https://doi.org/10.1017/S0020818318000115>.

a quantitative model based on the prisoner's dilemma to assess the costs of competition and the security dilemma and applies this to analyzing military force size over time. These articles emphasize an issue that this thesis does not itself address, which is the question of whether or not CAC agreements result in clear and actual financial and resource savings. Whether or not further research would support this hypothesis is beyond this thesis' scope, but these two articles are examples of quantitative attempts to offer a conclusion.

This thesis has attempted to disentangle the literature on nuclear weapons-related arms control and conventional arms control, despite theoretical and practical crossovers. Theoretically, many of the same premises apply, including perceptions of the status quo, deterrence, the security dilemma, and ODB. The differences, however, are too numerous to cover in this chapter. It is worth noting, however, Leah and Lowther's observation that if rivals reduce to low numbers or eliminate nuclear weapons, the importance of CAC is much greater because the stability between nuclear weapons powers that nuclear weapons impose may no longer be present.²⁵³

One of this dissertation's central themes is the question of the military balance and military competitions, which CAC agreements attempt to stabilize either in terms of quantitative, qualitative, or geographic controls on military capabilities. Schofield lays out the case that CAC is connected with the broader issue of the balance of power – which incorporates more variables than conventional forces. He observes that one reason for CAC failure is that it does not accurately account for the overall balance of power, whether at the time of signature or over time. Müller and Albert view arms control negotiations as a forum to communicate perceptions of one another's national and military power, and they define this as associational balancing versus adversarial balancing such as arms races and arms build-ups.²⁵⁴

Woolf, Downs, et al. emphasize the importance of verification and compliance enforcement in how states conceive and consider engaging in a CAC agreement, with the latter stating that if states suspect others will cheat or defect, states are unlikely to enter into an agreement in the first place.²⁵⁵ Coe and Vaynman similarly note that "The main impediment to arms control is the need for monitoring that renders a state's arming transparent enough to

²⁵³ Christine Leah and Adam B. Lowther, "Conventional Arms and Nuclear Peace," *Strategic Studies Quarterly* 11, no. 1 (Spring 2017): 14–24.

²⁵⁴ Müller and Albert, "Whose Balance?"

²⁵⁵ George W. Downs, David M. Roake, and Peter N. Barsoom, "Is the Good News about Compliance Good News about Cooperation?," *International Organization* 50, no. 3 (Summer 1996): 379–406; Amy F. Woolf, *Monitoring and Verification in Arms Control* (Washington, DC: Congressional Research Service (CRS), 2010).

assure its compliance but not so much as to threaten its security.”²⁵⁶ This underscores the manner in which the three CAC stages can be intertwined.

Schelling developed a framework to evaluate arms control proposals, identifying different combinations of the military balance and then focusing on negotiations and bargaining. He created the concept of *No*, *Iff* (if and only if), *Yes*, and *Yes!* which refer to bargaining positions and weapon possession preferences.²⁵⁷ Though he refers to “weapons”, the notion can apply equally to weapon systems or overall military capabilities. This thesis does not substantively address CAC agreement bargaining, but Schelling’s notion that states assess a variety of approaches to how limits are distributed between rivals is one demonstration of how there is substantial, potential CAC agreement variety.

Pre-Cold War

CAC literature covering the interwar period following the First World War until the onset of the Cold War, approximately 1918-1946, focuses in large part on a global desire to reduce the likelihood of war through what was then referred to as disarmament (but which is now referred to as arms control) and by complex great power rivalries between more than two states or groups of states. In the aftermath of the First World War, disarmament began with the peace treaties which sought to significantly restrict the defeated states’ military capabilities. Barros and Fox, for example, discuss British and French enforced disarmament policies towards Europe, including the creation and operations of the International Military Commission of Control (IMCC) and other, independent commissions focused on naval and air issues.²⁵⁸ Juhasz discusses the Hungarian experience of the Allied commissions, particularly how the commissions functioned and how Hungary resisted their work.²⁵⁹

Burns and Urquidi wrote a seminal reference work on interwar arms control agreements. This included the post-World War One peace treaties and the IMCC in Germany,

²⁵⁶ Andrew J. Coe and Jane Vaynman, “Why Arms Control Is So Rare,” *American Political Science Review* 114, no. 2 (2020): 342, <https://doi.org/10.1017/S000305541900073X>.

²⁵⁷ Thomas C. Schelling, “A Framework for the Evaluation of Arms-Control Proposals,” *Daedalus* 104, no. 3 (Summer 1975): 187–200.

²⁵⁸ Andrew Barros, “Disarmament as a Weapon: Anglo-French Relations and the Problems of Enforcing German Disarmament, 1919–28,” *Journal of Strategic Studies* 29, no. 2 (2006): 301–21, <https://doi.org/10.1080/01402390600585159>; John P. Fox, “Britain and the Inter-Allied Military Commission of Control, 1925–26,” *Journal of Contemporary History* 4, no. 2 (April 1969): 143–64, <https://doi.org/10.1177/002200946900400208>.

²⁵⁹ Balázs Juhasz, “The Inter-Allied Military Commission of Control and the Military Control of Hungary Between 1921 and 1927,” *Hadtudományi Szemle* 5, no. 1 (January 2012): 47–72.

demilitarization agreements for the Åland and Spitzbergen islands, the interwar naval agreements, and the agreements concerning the Turkish straits.²⁶⁰ This four-volume work covers the agreement conditions, geopolitical background, and the agreements' implementation. This work is especially useful because the literature on some of these agreements is marginal, and as a work that covers a variety of agreements, it provides a concluding analysis of these agreements collectively unlike other works that this dissertation consulted.

The horrors of the Great War convinced many – the general public and governments alike – that Europe should not experience another general, continental war. Genuine efforts were made to reduce global military capabilities through a combination of limiting the size of militaries, capabilities, and numbers of certain military systems such as capital ships, aircraft, and battle tanks, and banning some capabilities such as long-range bombers.²⁶¹ The heart of this effort took place in Geneva, Switzerland, through the League of Nations' disarmament conference. Webster's works focus on the interwar period and he covers the League's efforts in detail, including efforts to establish fixed ratios of forces between states as well as different approaches to arms control.²⁶² The League's disarmament work was led by two offices: the Permanent Advisory Commission on Armaments (PACA) composed of national representatives and the Temporary Mixed Commission (TMC) made up of independent, "eminent figures formed by the League to consider the problem of disarmament in its widest aspects and to suggest potential initiatives, plans and solutions."²⁶³

Contemporary discussions of the League's disarmament efforts offer interesting insights into the issues that states grappled with in largely good faith, especially in the 1920's.

²⁶⁰ Burns and Urquidi, *Disarmament in Perspective: Volume 1, An Analysis of Selected Arms Control and Disarmament Agreements Between the World Wars, 1919-1939*; Richard Dean Burns and Donald Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*, vol. 2 (Los Angeles: California State College at Los Angeles Foundation, 1968); Richard Dean Burns and Donald Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*, vol. 3 (Los Angeles: California State College at Los Angeles Foundation, 1968); Burns and Urquidi, *Disarmament in Perspective: Volume 4: Conclusions*.

²⁶¹ Arthur Henderson, "Conference for the Reduction and Limitation of Armaments: Preliminary Report of the Work of the Conference" (Geneva: League of Nations, November 1935).

²⁶² Webster, "Piecing Together the Interwar Disarmament Puzzle"; Andrew Webster, "Making Disarmament Work: The Implementation of the International Disarmament Provisions In the League of Nations Covenant, 1919-1925," *Diplomacy & Statecraft* 16, no. 3 (Fall 2005): 551-69, <https://doi.org/10.1080/09592290500208089>; Andrew Webster, "From Versailles to Geneva: The Many Forms of Interwar Disarmament," *Journal of Strategic Studies* 29, no. 2 (2006): 225-46, <https://doi.org/10.1080/01402390600585050>; Andrew Webster, "'Absolutely Irresponsible Amateurs': The Temporary Mixed Commission on Armaments, 1921-1924," *Australian Journal of Politics & History* 54, no. 3 (2008): 373-88, <https://doi.org/10.1111/j.1467-8497.2008.00512.x>; Andrew Webster, "The League of Nations, Disarmament and Internationalism," in *Internationalisms*, ed. Glenda Sluga and Patricia Clavin, 1st ed. (Cambridge University Press, 2016), 139-69, <https://doi.org/10.1017/9781107477568.008>.

²⁶³ Webster, "'Absolutely Irresponsible Amateurs,'" 374.

For example, Steiner discusses at length the difficult balance states debated between security and CAC.²⁶⁴ Henderson, the Disarmament Conference president, offers an extensive record of the Disarmament Conference which took place from 1932-1934.²⁶⁵ His report highlights many issues that states discussed and includes specific proposals and comments on proposals by participating states.

The body of scholarly literature on the post-World War Two peace treaties, their CAC agreements, and the bodies created to implement them is generally thin as the Cold War's onset superseded victors' desires to impose and retain arms control measures on the defeated Axis states that, except for Finland and Austria, became either Warsaw Pact or NATO members. Tanner provides a detailed survey of post-World War Two arms control in Europe, covering both limitations and the activities of the Allied Control Commissions.²⁶⁶

The history of interwar and post-World War Two peace agreement CAC offers insights into two, important areas. First, how quantitative military capability limitations were considered, selected, and implemented; and second, despite their poor recognition in the scholarly literature, the creation and design of post-World War One CAC agreement executors.

Cold War Era

Cold War-era CAC literature – whether it is works produced during the period or afterwards about the period – is focused on the NATO-Warsaw Pact rivalry, generally ignoring almost all other CAC agreements in force at that time. Most scholars were concerned with the question of how to reduce the likelihood of a conventional war in central Europe by reducing the military forces facing one another. Two negotiations dominated perspectives and considerations: the Mutual and Balanced Force Reduction (MBFR) negotiations, which despite fifteen years of talks failed to produce an agreement; and the CFE Treaty which was signed in 1990.

Scholars grappled with deterrence, the security dilemma, and the ODB. Recognizing that neither side would commit to an agreement that increased their vulnerability, scholars attempted to find the quantitative zone in which a successful defense could be conducted but

²⁶⁴ H. Arthur Steiner, "The Geneva Disarmament Conference of 1932," *The Annals of the American Academy of Political and Social Science* 168, no. 1 (July 1933): 212–19, <https://doi.org/10.1177/000271623316800128>.

²⁶⁵ Henderson, "Conference for the Reduction and Limitation of Armaments: Preliminary Report of the Work of the Conference."

²⁶⁶ Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), *From Versailles to Baghdad*.

neither alliance would pose an offensive threat. With this came the question of which weapons systems would provide for defense but not offer an offensive advantage. Among the complicating issues was the sheer scale of the forces facing one another, with tens of thousands of battle tanks and hundreds of thousands of troops stretching from the Baltic Sea to the Mediterranean. Soviet doctrine which called for an offense-based defense complicated goals of reducing forces to the lowest levels possible while maintaining defensive capabilities.

Bluth,²⁶⁷ Bowman,²⁶⁸ Brayton,²⁶⁹ and Goldblat²⁷⁰ discuss the MBFR negotiations in varying detail, highlighting issues such as geographic coverage, state parties, perceptions of relative military strength, and the question of whether Warsaw Pact reductions should be the same proportion as NATO's (which would mean that Warsaw Pact forces would remain numerically superior), or if the Warsaw Pact should reduce more forces to obtain equal limits with NATO.

Rohn attempted to identify the force levels in which both sides perceived that neither had an offensive advantage – by assessing military capability at various force levels and advance rates based on notional armored division equivalents (ADEs).²⁷¹ An important aspect of her study is the acknowledgment and calculations based on the belief that each side is likely to assess their adversary as more capable than they may assess themselves; that is, NATO assessed Warsaw as more offensively capable than it might assess itself, and vice versa. Kelley produced a similar study, focusing on tactical air forces and the then-proposed CFE Treaty TLE figures.²⁷²

Snyder discussed the ODB and how to incorporate this in a potential NATO-Warsaw Pact CAC agreement, taking into consideration ADEs, force-to-space ratios, and NATO's superior combat airpower.²⁷³ Biddle focused on force-to-space ratios, concluding that there is no absolute and specific minimum number of forces necessary to defend against an attack, in large part due to the many other factors beyond force size that contribute to battlefield

²⁶⁷ Bluth, "Arms Control as a Part of Strategy."

²⁶⁸ William R. Bowman, *Limiting Conventional Forces in Europe: An Alternative to the Mutual and Balanced Force Reduction Negotiations* (Washington, DC: National Defense University Press, 1985).

²⁶⁹ Abbott Brayton, "MBFR and Conventional Forces Reductions in Europe," *The World Today* 40, no. 12 (December 1984): 497–507.

²⁷⁰ Goldblat, *Arms Control: The New Guide to Negotiations and Agreements*.

²⁷¹ Laurinda L. Rohn, *Conventional Forces in Europe: A New Approach to the Balance, Stability, and Arms Control* (Santa Monica, CA: Rand Corp, 1990).

²⁷² Charles T. Jr. Kelley, *Methodology for Examining Effects of Arm Control Reduction on Tactical Air Forces: An Example from Conventional Forces In Europe (CFE) Treaty Analysis* (Santa Monica, CA: RAND Corporation, 1993).

²⁷³ Jack Snyder, "Limiting Offensive Conventional Forces: Soviet Proposals and Western Options," *International Security* 12, no. 4 (Spring 1988): 48–77, <https://doi.org/10.2307/2538994>.

outcomes.²⁷⁴ Houser addressed specific proposed treaty text and quantitative limits, identifying practical problems, definitional challenges, and implementation challenges.²⁷⁵ He also discusses, unlike some other studies, the zonal approaches.

Hamm attempts to go beyond conceptions of NATO-Warsaw Pact static or weighted force comparisons based on equipment and manpower and focuses on doctrine.²⁷⁶ This concept is later elaborated by Biddle's works which focused on the notion of force employment as being a greater determinant in combat outcome than numerical or technological differences.²⁷⁷ In a similar vein, Davis focuses on readiness as a focal point of CAC rather than force size and composition as a measure of potential or likely capability to conduct or defend against a surprise attack.²⁷⁸

The Cold War ended with a whimper rather than a bang, to the benefit of peace and security and Europe. Many of the issues raised by those who studied Cold War CAC were answered, if not resolved, by the CFE Treaty whose authors, ultimately, had to commit to writing specific figures and details, whether or not they fit perfectly with analysts' assessments. The CFE Treaty entered into force after the Cold War, but as one article noted in 1992 – when the Treaty took effect:

the objectives of conventional arms control are not obsolete. Steps to limit, reduce, and restructure conventional forces and armaments, whether by formal agreement, informal understanding, or reciprocal action, can aid broader efforts for peace in a turbulent world. The reductions mandated in the CFE Treaty would still contribute substantially to stability in Europe; post-CFE reductions in the conventional forces of the industrial nations would build confidence, facilitate peacekeeping and peacemaking, and reduce military spending.²⁷⁹

²⁷⁴ Stephen D. Biddle et al., *Defense at Low Force Levels: The Effect of Force to Space Ratios on Conventional Combat Dynamics* (Alexandria, Virginia: Institute for Defense Analyses, 1991).

²⁷⁵ G.M. Houser, *Conventional Armed Forces in Europe: Technology Scenario Development* (Argonne, Illinois: Argonne National Lab, 1990), <https://doi.org/10.2172/6795659>.

²⁷⁶ Manfred R. Hamm and Hartmut Pohlman, "Military Doctrine—the Missing Link of Conventional Arms Control," *Defense Analysis* 6, no. 2 (1990): 147–65, <https://doi.org/10.1080/07430179008405443>.

²⁷⁷ Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle*, 5. pr., 1, paperb. print (Princeton, N.J: Princeton University Press, 2006).

²⁷⁸ Paul K. Davis, *Toward a Conceptual Framework for Operational Arms Control in Europe's Central Region* (Santa Monica, CA: Rand Corp, 1988).

²⁷⁹ Jonathan Dean and Randall Watson Forsberg, "CFE and Beyond: The Future of Conventional Arms Control," *International Security* 17, no. 1 (Summer 1992): 77, <https://doi.org/10.2307/2539159>.

Cold War-era CAC discussions offer insights and analyses that are relevant to today's CAC challenges in Europe, and CAC theory in general. Though there are substantial differences between the Cold War and what might now be a new Cold War, many of the fundamental challenges of deterrence, the security dilemma, and ODB still apply, with the goal of preventing a surprise attack by NATO or Russia being as relevant today as it was several decades ago.

Post-Cold War Era

There are a substantial number of CAC reports and works on the post-Cold War era, which spans from approximately 1991 to the present. For much of this time, however, CAC in Europe was not a priority for policy or scholarship. From 2014, the issue began to resurface, with scholars and practitioners grappling with how to reduce NATO-Russia tensions and prevent a major conflict. Yet as Zellner noted in 2019, there was “little scholarly discussion on new initiatives or innovative approaches to CAC in Europe.”²⁸⁰

Mazar et. al assess arms control between NATO and Russia from a broad, historical, and quantitative perspective, first conducting case studies of great power rivalries and then identifying overarching themes and variables.²⁸¹ They assessed that the factors that were common across rivalries that resulted in conflict are present between NATO and Russia (even before the 2022 invasion of Ukraine), but that arms control could nonetheless contribute to stabilizing the rivalry. Charap et al. take a narrower approach, focusing on specific areas of friction and offering specific policy proposals.²⁸² Compared to other policy-oriented reports, this one is more comprehensive in its accounting of deterrence, the security dilemma, and the ODB in formulating policies. Moreover, this report makes various comparisons to Cold War CAC challenges.

CAC study since the early 2000's has primarily been to offer specific CAC proposals or to offer broader CAC strategies and considerations and advise that CAC should be a higher priority. Lunn and Williams, for example, argued that NATO should reprioritize arms control

²⁸⁰ Wolfgang Zellner, “Time for a New Approach to Conventional Arms Control?,” *Modern Diplomacy*, October 5, 2019, <https://moderndiplomacy.eu/2019/10/05/time-for-a-new-approach-to-conventional-arms-control/>.

²⁸¹ Michael J. Mazarr et al., *Stabilizing Great-Power Rivalries* (Santa Monica, CA: RAND Corporation, 2021), <https://doi.org/10.7249/RR-A456-1>.

²⁸² Charap et al., *A New Approach to Conventional Arms Control in Europe*.

as part of its defense strategy.²⁸³ Kühn emphasized the risk of escalation and conflict between NATO in the Baltic region and that CAC is one measure to address this.²⁸⁴ Van Ham, in contrast, offers broader approaches to CAC, raising institutional and organizational questions such as NATO's, the EU's, and OSCE's role in improving CAC.²⁸⁵ Engvall et al. assess CAC from the perspectives of certain countries and what their considerations might be.²⁸⁶ Some experts considered the issue of what might be considered offensive TLE in any future agreements such as UAVs.²⁸⁷

Several other studies also offer specific proposals, such as *A Little of the Old, a Little of the New: A Fresh Approach to Conventional Arms Control in Europe*.²⁸⁸ Prior to 2022, specific CAC proposed measures often focused on the Baltics. Examples include *Dilemmas of Arms Control: Meeting the Interests of NATO's North-Eastern Flank*,²⁸⁹ *Outlines for Future Conventional Arms Control in Europe: A Sub-Regional Regime in the Baltics*,²⁹⁰ and *Sub-Regional Arms Control for the Baltics: What Is Desirable? What Is Feasible?*²⁹¹

There is a stark difference in scholarship between Cold War and post-Cold War literature. First, Cold War literature did not have the template and institutions that the CFE and A/CFE agreements offered post-Cold War scholars. These provide post-Cold War CAC scholars a substantial basis of thought, reflected in many of the proposals and discussions directly or indirectly flowing from Cold War CAC accomplishments.

Second, some Cold War scholars applied quantitative conflict modeling to determine CAC options – something that is lacking in post-Cold War studies. Another notable absence is the lack of specific, quantitative proposals (perhaps due in part to the lack of quantitative studies). Studies and discussions look at geographic areas of interest for CAC and TLE categories but do not propose specific TLE ceilings beyond prohibitions. Lastly, as with the

²⁸³ Simon Lunn and Nicholas Williams, *NATO's DNA: The Alliance's Contribution to Arms Control, Disarmament, and Non-Proliferation* (London, UK: European Leadership Network (ELN), 2020).

²⁸⁴ Ulrich Kühn, *Preventing Escalation in the Baltics: A NATO Playbook* (Washington, DC: Carnegie Endowment for International Peace, 2018).

²⁸⁵ van Ham, *Modernizing Conventional Arms Control in the Euro-Atlantic Region*.

²⁸⁶ Johan Engvall, *OSCE and Military Confidence-Building in Conflicts* (FOI, 2019).

²⁸⁷ Gregory G Govan, "Conventional Arms Control in Europe: Some Thoughts about an Uncertain Future," Deep Cuts Issue Brief #5, July 2015, 4; Kulesa, "The Future of Conventional Arms Control in Europe"; Kühn, "Conventional Arms Control 2.0."

²⁸⁸ Zellner, Oliker, and Pifer, "A Little of the Old, a Little of the New: A Fresh Approach to Conventional Arms Control in Europe."

²⁸⁹ Artur Kacprzyk and Łukasz Kulesa, *Dilemmas of Arms Control: Meeting the Interests of NATO's North-Eastern Flank* (Tallinn, Estonia: International Centre for Defence and Security, 2020).

²⁹⁰ Evgeny Buzhinskiy and Oleg Shakirov, *Outlines for Future Conventional Arms Control in Europe: A Sub-Regional Regime in the Baltics* (London, UK: European Leadership Network (ELN), 2019).

²⁹¹ Wolfgang Richter, *Sub-Regional Arms Control for the Baltics: What Is Desirable? What Is Feasible?*, Deep Cuts Working Paper 8 (Hamburg, Germany: Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg (IFSH), 2016).

Cold War CAC scholarship, experts often omit mention of agreements that are not between the superpowers or their alliances.

In 2009, a few years after Russia's suspension of their CFE Treaty participation, Zellner accurately predicted that the treaty's collapse would be a major contributor to arms control deterioration in Europe and the breakdown of the NATO/US-Russia cooperative relationship.²⁹² Although it was not possible to predict if, when, or where the deterioration would lead to armed conflict, Zellner's warnings were, in retrospect, prescient.

Outside of Europe

This dissertation is focused on CAC in Europe for several reasons, including the dense overlapping European institutions involved in CAC, the extensive history of CAC over the past 100 years, and the notion that CAC historical lessons and insights might apply to addressing the NATO-Russia rivalry and the Russo-Ukraine War. Although this dissertation is Europe-focused, a brief discussion on the extra-European CAC may offer some global perspectives on the issues.

Fortna²⁹³ offers a dataset of ceasefires and peace agreements from 1948-1994 covering the entire world, and these could, based on experience in Europe, form the basis of CAC agreements elsewhere in the world. However, despite the potential based on quantity, relatively few of these agreements resulted in CAC agreements or included CAC elements outside of Europe.

Adversarial CAC in South and Central America is likely largely absent due to many factors. Although South and Central American states participated in the 1930's Geneva Disarmament Conference,²⁹⁴ South and Central America has had no involvement in any of the European CAC agreements (in comparison to North America) except to the extent to which they had declared war against the Central Powers or Axis states (World War One and Two, respectively) and were direct or indirect parties to the ceasefires, armistices, and peace agreements. The 1959 Antarctic Treaty prohibits any military capabilities on the continent – a

²⁹² Wolfgang Zellner, "Can This Treaty Be Saved? Breaking the Stalemate on Conventional Forces in Europe," Arms Control Association, September 2009, <https://www.armscontrol.org/act/2009-09/can-treaty-be-saved-breaking-stalemate-conventional-forces-europe>.

²⁹³ Fortna, *Peace Time*, app. A.

²⁹⁴ Henderson, "Conference for the Reduction and Limitation of Armaments: Preliminary Report of the Work of the Conference."

relevant agreement due to the continent's proximity to Argentina and Chile.²⁹⁵ Otherwise, there are few or no CAC agreements that have been made since 1918 relevant to South and Central America. This may be due to a combination of factors, but one of the most important of which may be the relatively low number and low scale of interstate conflict between South and Central American states. This lack of conflict may mitigate the security dilemma, as states may be hesitant to perceive other state's actions (within South and Central America) as malign if there is no or minimal history of armed conflict. Moreover, there may be a sense of mutual deterrence between most states that have any security rivalry, because a combination of the size of the states and the insufficient size of adversaries' militaries (as a measure of the size and capability they may need to defeat an adversary) may also discourage formal CAC. Several South and Central American states have been compelled to deal with, and continue to in some cases, internal strife including organized crime, terrorism, separatism, and insurgency. Thus, states often have a force posture clearly oriented towards these threats that are not viewed as threatening to their neighbors.²⁹⁶

In sum, South and Central America may not have a history of CAC because various factors such as economics already impose sufficient limitations so that armies are at or near their lowest capabilities, there is a minimal perception of military threats in large part due to a minimal history of interstate conflict, and many states are focused on internal security threats.

The overall lack of CAC in the Middle East is driven by a complex, overlapping set of rivalries and conflict rather than by any lack of perceived need. The main CAC form in the region has been geographic demilitarization in the form of buffer zones – mainly in or near the Sinai to separate Israeli and Egyptian forces.²⁹⁷ Iraq was subjected to a range of military capabilities restrictions following its 1991 capitulation to the US-led coalition and the passage of UN Security Council Resolution 687.²⁹⁸ Although most attention was placed on its WMD capabilities,²⁹⁹ limitations included ballistic missiles, conventional or otherwise. The Middle East has experienced frequent interstate conflicts since at least the end of World War Two, with

²⁹⁵ Florian Vidal, "The Antarctic Peninsula: Argentina and Chile in the Era of Global Change," *The Polar Journal* 13, no. 1 (January 2, 2023): 13–30, <https://doi.org/10.1080/2154896X.2023.2205236>.

²⁹⁶ The Security Challenge for Democracies in Latin America; Andrew Hurrell; Challenges and Security Threats in Latin America.

²⁹⁷ Mona Ghali, "Non-UN Peacekeeping Operations in the Middle East," 12, Occasional Paper Series (Washington, DC: The Henry L. Stimson Center, May 1993); "Multinational Force & Observers," Multinational Force and Observers, accessed September 23, 2024, <https://mfo.org/>.

²⁹⁸ Ruth Wedgwood, "The Enforcement of Security Council Resolution 687: The Threat of Force Against Iraq's Weapons of Mass Destruction," *American Journal of International Law* 92, no. 4 (October 1998): 724–28, <https://doi.org/10.2307/2998137>.

²⁹⁹ Towle, *Enforced Disarmament*.

interstate attacks short of all-out conflict almost commonplace (especially if non-state actors who have many of the characteristics of state actors are involved, such as the Houthis in Yemen or Hezbollah in Lebanon). There are likely many reasons for the lack of CAC including mistrust, multiple, overlapping rivalries which complicate setting national limitations (balancing), and the roles of proxy and great power states.

Asia was included – through Japan’s participation in the Washington Naval Treaty’s Five-Power agreement – in one of the first, major, post-World War One balancing agreements.³⁰⁰ The Korean peninsula saw the establishment of the first, major post-World War Two demilitarized zone staffed by the United Nations which was created when a ceasefire ended (provisionally, as a formal peace agreement is yet to be made) the Korean War.³⁰¹ A 2018 agreement established several restrictions on certain types of military activities, mostly within proscribed areas (geographic demilitarization).³⁰²

Nonetheless, despite Southeast and East Asia having been the setting of several interstate conflicts since 1919, including the World Wars, CAC has been minimal. In contrast to the European Axis states, Japan was not subject to any formal arms control largely due to the onset of the Cold War and Japan being dominated by the US to the exclusion of the USSR.³⁰³ The main restriction was that Japan was only authorized “self-defense” forces according to its US-co-written constitution³⁰⁴ – a generally vague limitation.

There is, however, a broadly recognized need for CAC in Asia, driven in part by both rivalries and arms racing.³⁰⁵ Setting aside issues of feasibility, areas in which CAC could be

³⁰⁰ Meredith William Berg, “Admiral William H. Standley and The Second London Naval Treaty,” *The Historian* 33, no. 22 (February 1971): 215–36; Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*.

³⁰¹ Michael Anderson, “Shadows of War: Violence along the Korean Demilitarized Zone,” *Military Review*, December 2019, 91–99.

³⁰² Yong-Sup Han, “Conventional Arms Control on the Korean Peninsula,” Research Paper (Oslo: Norwegian Institute of International Affairs, 2020).

³⁰³ Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), *From Versailles to Baghdad*; Towle, *Enforced Disarmament*.

³⁰⁴ James E. Auer, “Article Nine of Japan’s Constitution: From Renunciation of Armed Force ‘Forever’ to the Third Largest Defense Budget in the World,” *Law and Contemporary Problems* 53, no. 2 (1990): 171, <https://doi.org/10.2307/1191849>.

³⁰⁵ Robert Ayson, “Arms Control in Asia: Yesterday’s Concept for Today’s Region?,” *Australian Journal of International Affairs* 67, no. 1 (2013): 1–17, <https://doi.org/10.1080/10357718.2013.748272>; Lee Jaehyon, “Understanding the Recent Southeast Asian Arms Build-up: A Commitment to a Minimum Military Response Capability,” Issue Brief (Seoul: The Asan Institute for Policy Studies, December 20, 2023); Masako Ikegami, “Missile Arms-Racing and Insecurity in the Asia-Pacific,” Missile Dialogue Initiative (London: The International Institute for Strategic Studies, August 2021); Felix Heiduk, “An Arms Race in Southeast Asia? Changing Arms Dynamics, Regional Security and the Role of European Arms Exports,” SWP Research Paper (Berlin: Stiftung Wissenschaft und Politik: German Institute for International and Security Affairs, August 2017).

developed include medium-range ballistic missiles (INF-like),³⁰⁶ major warships, amphibious landing ships, submarines, and the designation of demilitarized areas – especially islands in the South China Sea that are currently a major flashpoint between China and Southeast Asian states.³⁰⁷ State parties might be limited to sub-regions, such as the Korean peninsula, Southeast Asia, or between Japan and its neighbors. Alternatively, they might be much broader, to include great powers such as the US, UK, France, and Russia (all of whom have interests, if not territory, in the greater Asia-Pacific region).³⁰⁸ The US-China rivalry might be mitigated by CAC.³⁰⁹

The last agreement that bears mentioning is a border area treaty for China, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan which, among other requirements, sets limits on the size and scope of military exercises and a general prohibition on permanent stationing of military forces along their common borders.³¹⁰

The world is full of rivalries and, to a lesser extent, conflict. This brief literature review explains that there is so little literature on CAC outside of Europe because, for numerous reasons, there is little CAC and little *political* demand for CAC. This is not to say that there is not a general, theoretical need for CAC; all that is necessary is the presence, history, or prospect of a rivalry.³¹¹ Thus, this discounts a CAC agreement between, for example, Bolivia and Bhutan – outside of very large alliances, there is no likelihood that either will ever be security or military competitors – but otherwise, there are a very large number of potential agreements through various combinations of rivalries, now, in the past, and future. In general, differences

³⁰⁶ One of the INF and CFE Treaty's sticking points during negotiations was the concern that either party could shift prohibited capabilities in Europe to Asia – especially relevant for INF-range missiles. Thus, the agreement prohibited the missiles globally, while a likely combination of practicality, improving relations, and other factors reduced fears of CFE-reduced forces shifting to Asia (Larsen).

³⁰⁷ Brian Benjamin Crisher, "Ships over Troubled Waters: Examining Naval Development in Asia," *Journal of Asian and African Studies* 56, no. 8 (December 2021): 1918–34, <https://doi.org/10.1177/0021909621995859>; Brijesh Khemlani, "Southeast Asia's Arms Race," RUSI, January 13, 2011, <https://rusi.orghttps://rusi.org>.

³⁰⁸ Khemlani, "Southeast Asia's Arms Race."

³⁰⁹ Michael J. Mazarr et al., *Stabilizing Great-Power Rivalries* (Santa Monica, CA: RAND Corporation, 2021), <https://doi.org/10.7249/RR-A456-1>.

³¹⁰ "Agreement between the Russian Federation, the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the People's Republic of China on Confidence Building in the Military Field in the Border Area" (Shanghai, April 26, 1996).

³¹¹ Even the US and Canada, close allies and partners for over 100 years, retain a CAC agreement in the form of the 1817 Rush-Bagot Treaty which sets limits on naval forces in the Great Lakes and Lake Champagne, and is a product of the rivalry between the two that had existed from the American Revolution through the War of 1812. Barry O'Neill, "Rush-Bagot and the Upkeep of Arms Treaties," *Arms Control Today* 21, no. 7 (September 1991): 20–23.

between Eurasian states' foreign policy priorities and security interests versus those in the Global South may minimize CAC experiences in Europe are relevant in the Global South.³¹²

³¹² Nicolas Blarel and Niels Van Willigen, "Symposium: Coalitions and Foreign-Policy-Making: Insights from the Global South," *European Political Science* 16, no. 4 (December 2017): 502–14, <https://doi.org/10.1057/s41304-016-0066-7>.

Part II: Research Articles

Part 2 contains the four research articles that compose this dissertation's detailed research, analysis, and findings. These articles cover how states initially conceived CAC agreements, how they have approached implementation and how successful this was, assessed what combination of conditions lead to CAC agreement success and failure, and a case study in CAC regime collapse and its impact on peace and security in Europe. The information about journal submission, acceptance, and publication is provided in a footnote at the beginning of each chapter as well as in the list below, in order of how they appear in the dissertation:

- Lippert, William E., and Jordan Becker. "Conventional Arms Control and Military Balance in Europe." *Contemporary Security Policy*, March 26, 2025, 1–32. <https://doi.org/10.1080/13523260.2025.2474873>. Note: when this dissertation was drafted, the article's title was "Status Quo Constancy and Conventional Arms Control."
- Lippert, William. "Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation." *Global Governance: A Review of Multilateralism and International Organizations* 30, no. 1 (2024): 93–122. <https://doi.org/10.1163/19426720-03001005>.
- Lippert, William. "Conventional Arms Control Agreements in Europe: Conditions of Success and Failure." *Central European Journal of International and Security Studies* 18, no. 3 (September 27, 2024): 5–37. <https://doi.org/10.51870/WGUO2938>.
- Lippert, William. "How Conventional Arms Control Failures Caused the Russo-Ukraine War." *Defense & Security Analysis*, January 17, 2024, 1–23. <https://doi.org/10.1080/14751798.2024.2300889>.

The Stronger Party's Rules

Since at least the Peace of Westphalia, inter-state relations have included conventional arms control (CAC) agreements. These agreements took on a more prominent and institutionalized role in Europe following World War One (WW1), serving as a substantial component of the peace treaties. During the interwar years, CAC agreements flourished as states attempted to prevent conflict by stabilizing rivalries and removing immediate causes of conflict. Following World War Two (WW2), CAC continued to serve as a tool for peace and stability and will likely continue to do so in the future. CAC agreements often retain the military-security status quo, whether by codifying existing military balances or by establishing a geographic demilitarized area corresponding to operational realities. In most of the cases analyzed, the strongest states stay strong, the weakest states stay weak, and existing battle lines determine buffer zones. States defeated in major wars in some ways end up weaker than they were just prior to surrender – which is the cost of defeat and the cost of terminating a losing war in which it was clear that a conflict's continuation would result in the losing side's increasing loss of relative military capability. Nonetheless, in some agreements, states have sacrificed their superiority, offering weaker rivals a relative gain or even accepting parity with those rivals. This compels us to ask: Under what conditions do the more powerful states in an adversarial conventional arms control (CAC) agreement accept a reduction in their relative military power?

The question of when and under what circumstances states are willing to conclude a CAC agreement is presently relevant, and will remain so in the foreseeable future. First, differing perceptions of the status quo may partly explain why Russia's separate CAC proposals to the US and the North Atlantic Treaty Organization (NATO) were largely rejected in December 2021, shortly before Russia launched its full-scale invasion of Ukraine.³¹⁴ Second,

³¹³ Chapter 4 of this thesis is an adapted version of the following co-authored article: Lippert, William E., and Jordan Becker. "Conventional Arms Control and Military Balance in Europe." *Contemporary Security Policy*, March 26, 2025, 1–32. <https://doi.org/10.1080/13523260.2025.2474873>. William Lippert is the first author and Jordan Becker is the second. William Lippert had the lead in the research and drafting of the article, while Jordan Becker provided substantive inputs and edits. This article-chapter was accepted by the journal *Contemporary Security Policy* on 7 February 2025, after the dissertation was submitted to the review committee. The published article is an updated version of the chapter in this dissertation as a result of article submission reviewer feedback.

³¹⁴ David R. Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis.," The MacMillan Center,

the kind of CAC limitations Russia and Ukraine may seek to impose on one another, or limitations imposed on themselves, may be part of their victory goals.³¹⁵ Third, a post-conflict agreement is likely to include a CAC component, and what the past suggests is feasible can suggest pathways for involved or interested parties. Fourth, what kind of agreements might be possible in the near future between the European Union (EU)/NATO and Russia may be bracketed by perceptions of the status quo. Fifth, there are or may emerge other rivalries in Europe beyond the broad EU/NATO-Russia rivalry which may require new CAC agreements.

The study focuses on CAC agreements rather than both nuclear and conventional arms control because most arms control agreements focus on one or the other, but not both; only a small number of countries possess nuclear weapons; and conventional rather than nuclear or combined conventional-nuclear warfare has characterized European conflicts. The study's focus is on Europe because of the overlapping and intertwined European institutions concerned with CAC, and the deep history of CAC in Europe that has no comparable experience elsewhere in the world.

Although scholars³¹⁶ acknowledge that state parties to CAC agreements (or agreements with CAC components) maintain the status quo, researchers have not analyzed the extent to which CAC agreements retain or alter the status quo at the time of their signing. This study remedies this gap in the literature first by describing the status quo using - depending on the type of agreement - the military balance, a national military capabilities rating, or the battlefield lines (table A7 in appendix A contains information on the status quo prior to the agreement). In this study, a theory was developed through a typological analysis³¹⁷ and the creation of a truth table, and then use these to predict whether the most powerful state in a CAC agreement will accept a reduction in relative military power based on three conditions: the extent to which the stronger party perceives the regional geopolitical environment as benign, whether the stronger party views the military balance as unstable, and whether the stronger state faces significant

February 3, 2022, <https://macmillan.yale.edu/news/after-us-nato-reject-russias-proposals-outlook-ukraine-grim-normandy-format-talks-still-offer>.

³¹⁵ William Lippert, "Conventional Arms Control and Ending the Russo-Ukrainian War," War on the Rocks, October 30, 2024, <https://warontherocks.com/2024/10/conventional-arms-control-and-ending-the-russo-ukrainian-war/>.

³¹⁶ Downs, Rocke, and Barsoom, "Is the Good News about Compliance Good News about Cooperation?"; Evangelista, "Cooperation Theory and Disarmament Negotiations in the 1950s"; Suzanne Werner and Amy Yuen, "Making and Keeping Peace," *International Organization* 59, no. 02 (Spring 2005): 261–92, <https://doi.org/10.1017/S0020818305050095>.

³¹⁷ Andrew Bennett, Joseph Leggold, and Danny Unger, "Burden-Sharing in the Persian Gulf War," *International Organization* 48, no. 1 (1994): 39–75, <https://doi.org/10.1017/S0020818300000813>; Andrew Bennett, "Qualitative Research: Progress despite Imperfection," *Qualitative and Multi-Method Research*, March 31, 2011, <https://doi.org/10.5281/zenodo.933296>.

resource constraints in maintaining their superiority. This study proposes and tests the hypothesis which states that resource constraints are a necessary but insufficient condition for altering the status quo in terms of the military balance.

The hypothesis was tested on 29 European CAC agreements from 1918 to the present, scoring the three conditions and the outcomes based on the agreements' text and the agreements' historical background and context. The findings indicated that in four cases, if these three conditions are fulfilled the stronger party will accept a reduction in its relative military power in CAC agreements. The hypothesis also predicted that in two other cases resource shortages would result in a change in the status quo, but not if the geopolitical order was unstable and the military balance was stable. Lastly, the study predicted that in the absence of resource constraints there would not be a change in the status quo.

Of the six agreements in which the study's predictions were not borne out, in three cases (the 1922 Russo-Finnish Helsinki agreement, the 1935 Anglo-German Naval Agreement, and the 2008 Six-Point Peace for Georgia) the hypotheses predicted no change to the status quo, but in fact the stronger party accepted a reduction in its relative power. In these three cases states likely viewed the reduction as having a minimal impact on their overall security due to areas of military capability untouched by the agreements. In three other cases (WW1 peace treaties, the Spitsbergen Treaty, and the East Aegean demilitarization agreements) the study's theory predicted a change in the status quo but there was none. Overall, the status quo was altered in seven out of the 29 cases the study analyzed.

This study offers a theoretical framework to analyze CAC agreements and to predict what future agreements might look like. Scholars of arms control, international agreements, and security should find this study interesting as it not only addresses issues of interstate competition, conflict resolution, and conflict prevention but also offers a unique, theoretical framework to analyze any type of adversarial CAC³¹⁸ agreements. Practitioners may find utility in this study's framework to craft future CAC agreements, especially in determining how to address the military balance and its relationship with the status quo. Such a framework could be useful, for instance, in an eventual stabilization of Russia's relationship with the rest of Europe following the Russo-Ukrainian War, which was a war of choice for Russia.

³¹⁸ Adversarial CAC refers to an agreement between rival states, either as part of a war termination process, or during peacetime.

Adversarial CAC Theory

In contrast to other types of CAC which focus on counter-proliferation and humanitarian concerns,³¹⁹ adversarial CAC,³²⁰ focuses on stabilizing the relationship between rival states, either as part of a war termination process or during peacetime. Non-adversarial arms control agreements, such as the 1997 anti-personnel landmine treaty or the 2008 Convention on Cluster Munitions are intended to reduce the humanitarian cost of conflict rather than affect adversaries' relative military capabilities as parties include adversaries, neutral, and allied countries alike; although they can have some substantive impact, especially for defensive capabilities.³²¹

One United Nations (UN) definition states that conventional arms “include, but are not limited to, armoured combat vehicles (personnel carriers and tanks, for example), combat helicopters, combat aircraft, warships, small arms and light weapons, landmines, cluster munitions, ammunition and artillery,”³²² and exclude chemical, biological, nuclear, and radiological weapons.

Larsen defines arms control as:

any agreement among states to regulate some aspect of their military capability or potential. The agreement may apply to the location, amount, readiness, and types of military forces, weapons, and facilities. Whatever their scope and terms, however, all plans for arms control have one common factor: they presuppose some form of cooperation or joint action among the participants regarding their military programs.³²³

While Fatton contends that states' primary motivation to enter a CAC agreement is to stabilize a rival relationship by improving “perceptions of others' intentions and the predictability of behaviour,”³²⁴ there may be additional motivations such as reducing defense expenditures, improving diplomatic relations, creating a wedge between adversaries, appeasing allies, or placating domestic audiences.³²⁵

³¹⁹ Croft, “In Defence of Arms Control.”

³²⁰ Hereafter, all references to CAC will be to *adversarial* CAC, unless otherwise stated.

³²¹ John F. Troxell, “Landmines: Why the Korea Exception Should Be the Rule,” *The US Army War College Quarterly: Parameters* 30, no. 1 (Spring 2000): 82–101, <https://doi.org/10.55540/0031-1723.1970>.

³²² Gillis, “Conventional Arms and the Arms Trade,” 71.

³²³ Larsen, *Arms Control: Cooperative Security in a Changing Environment*, 1.

³²⁴ Fatton, “The Impotence of Conventional Arms Control,” 201.

³²⁵ Bluth, “Arms Control as a Part of Strategy”; Burns and Urquidí, *Disarmament in Perspective: Volume 1, An Analysis of Selected Arms Control and Disarmament Agreements Between the World Wars, 1919-1939*; Susan

State parties must sign and ratify CAC agreements for them to enter into force. Thus, entering into a CAC agreement is a choice that often follows extensive bargaining as states present competing demands and information not just about one another's material military power but also about perceptions of the relative military balance, national power, and the current trajectory, as applicable, of existing conflicts.³²⁶

Scholars have made minimal efforts to theorize adversarial CAC, especially since the end of the Cold War.³²⁷ Hastedt and Eksterowicz attempted to develop a CAC theory, but this was in the context of the Cold War and thus focused on deterrence, developing interdependency between the blocs, and intra-alliance issues.³²⁸ Recent CAC scholars have focused on policy proposal and analysis, while most theoretical scholarship, which dates back to the Cold War, focuses on dyadic competitions. Some scholars such as Graef³²⁹ and Kühn³³⁰ have recently assessed arms control theory and others such as Egel and Vaynam³³¹ have recently offered broad overviews, but the focus was on understanding the evolution of North Atlantic Treaty Organization (NATO)-Russia arms control rather than the question of how states address the status quo.

As Freedman noted, there was (in 1991) “little formal theory of conventional arms control,”³³² while Kühn assessed more recently that CAC theory suffers from “terminological fuzziness and theoretical references not backed up by evidence.”³³³ The incorporation of non-

Colbourn, *Euromissiles*, The Nuclear Weapons That Nearly Destroyed NATO (Cornell University Press, 2022), <https://doi.org/10.1515/9781501766039>; Crawford and Vu, “Arms Control as Wedge Strategy”; Fortna, *Peace Time*; Maurer, “The Purposes of Arms Control”; Morgan, “Arms Control: A Theoretical Perspective”; Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), *From Versailles to Baghdad*.

³²⁶ Fearon, “Bargaining, Enforcement, and International Cooperation”; Brender, “Determinants of International Arms Control Ratification”; Darren Filson and Suzanne Werner, “A Bargaining Model of War and Peace: Anticipating the Onset, Duration, and Outcome of War,” *American Journal of Political Science* 46, no. 4 (October 2002): 819, <https://doi.org/10.2307/3088436>; Paul R. Pillar, *Negotiating Peace: War Termination as a Bargaining Process*, vol. 695 (Princeton University Press, 1983), <https://doi.org/10.2307/j.ctt7ztn0>; Dan Reiter, *How Wars End* (Princeton: Princeton University Press, 2009); Bahar Leventoglu and Branislav L. Slantchev, “The Armed Peace: A Punctuated Equilibrium Theory of War,” *American Journal of Political Science* 51, no. 4 (October 2007): 755–71, <https://doi.org/10.1111/j.1540-5907.2007.00279.x>.

³²⁷ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020, 25.

³²⁸ Hastedt and Eksterowicz, “Conventional Arms Control.”

³²⁹ Graef, “Beyond Stability.”

³³⁰ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

³³¹ Naomi Egel and Jane Vaynman, “Reconsidering Arms Control Orthodoxy,” War on the Rocks, March 26, 2021, <https://warontherocks.com/2021/03/reconsidering-arms-control-orthodoxy/>.

³³² Freedman “Arms Control: Thirty Years On,” 78. attributed the lack of a formal theory of CAC to CAC's purpose being “diminish the likelihood of nuclear war.” By formal theory he was referring to concepts common in nuclear arms scholarship such as first-strike stability, crisis stability, and mutually assured destruction. Fundamentally, nuclear arms control is about preventing any use of nuclear weapons due to a high likelihood of global destruction while conventional arms control has no such distinct, rigid goals as the cost is not so high.

³³³ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020, 28.

adversarial arms control³³⁴ and nuclear arms control³³⁵ often dilutes specific theoretical approaches to CAC, even though elements of both are also applicable. In short, both formal, game theoretical modeling of the causes of CAC agreements and systematic empirical analysis of variation in the willingness of stronger parties to accept reductions in relative power as part of arms control agreements are lacking. This study aims to improve this situation by developing a theory of the causes of this variation in willingness to accept reductions in relative power and conducting an initial empirical test.

CAC and the Status Quo

CAC agreements, with some exceptions included below, fix the status quo regarding conventional arms within the agreement's scope. That is, CAC agreements that cover naval forces might lock in the naval balance status quo, or agreements that establish a buffer zone along a battlefield to at least establish a cessation of hostilities freeze the battlefield in place. But CAC agreements leave areas outside of their scope subject to change and variation without technically or legally violating the agreement.

There are many reasons why CAC agreements lock in the status quo. In agreements where one party is clearly superior, like the Allies at the end of both World Wars, the victors generally compel the defeated state to remain inferior to prevent vengeance or the recapture of lost goods such as territory.³³⁶ States in a position of parity, whether in terms of military balance or battlefield stagnation, may seek to lock in the status quo to prevent future losses and fears of alterations in the relative balance in rivals' favor.

Acceptance of the status quo is almost a necessary condition of a CAC agreement because alterations of the status quo are difficult to obtain through negotiation as opposed to through force, particularly when the recent use of force has clarified the balance of power. Levy notes that the status quo is the baseline of states' decision-making and choices.³³⁷ How negotiating parties perceive the present and likely future trajectory of the military and power

³³⁴ Morgan, "Arms Control: A Theoretical Perspective"; Risse, "External Threats and State Support for Arms Control."

³³⁵ Bull, "Arms Control and World Order"; Linton F. Brooks, "The End of Arms Control?," *Daedalus* 149, no. 2 (April 2020): 84–100, https://doi.org/10.1162/daed_a_01791; Larsen, *Arms Control: Cooperative Security in a Changing Environment*; Miller, *Hard Times for Arms Control What Can Be Done?*

³³⁶ Richard Ned Lebow, *Why Nations Fight: Past and Future Motives for War* (New York: Cambridge University Press, 2010).

³³⁷ Levy, "Loss Aversion, Framing, and Bargaining: The Implications of Prospect Theory for International Conflict."

balance³³⁸ also determines the status quo. Even in peacetime, weaker states might accept the status quo if they see their position otherwise further weakening or face the threat of an attack.³³⁹ CAC agreements during or immediately following conflicts emerge because state parties agreed on what the status quo was, and the conflict's likely trajectory. Today in Ukraine, for example, failure to negotiate a cessation is largely due to both sides believing in their own prospects of victory.³⁴⁰

Theoretical Conditions

This study theorizes that the extent to which the three conditions (geopolitical stability, dyadic stability, and resource constraints) are present determines whether the more powerful state or party will retain or alter the status quo in a CAC agreement. This study's research suggests that stronger states have much more bargaining power to determine or demand the broad CAC agreement framework especially related to the military balance. This is because the stronger state can impose pressure on and threaten weaker rivals to accept the status quo or resist a relative decrease in their comparative military strength. Yet not every CAC negotiation or proposal has had a clearly superior rival. In these cases, the status quo is one of relative equality and any agreement should reflect this. When making major policy decisions, states and their leadership must weigh factors like domestic opinion, financial and resource constraints, and, in the case of foreign and defense policy, diplomatic effects and the impact on national security. Indeed, because of their implications for security and even state survival, states are likely to carefully assess costs and benefits before agreeing to a CAC.³⁴¹

The literature on modern government decision-making, especially foreign policy, is based on rational assessments of costs and benefits.³⁴² Cost-benefit analysis (CBA) is its own

³³⁸ Downs, Rocke, and Barsoom, "Is the Good News about Compliance Good News about Cooperation?"

³³⁹ Evangelista, "Cooperation Theory and Disarmament Negotiations in the 1950s."

³⁴⁰ Samuel Charap and Sergey Radchenko, "The Talks That Could Have Ended the War in Ukraine," *Foreign Affairs*, April 16, 2024, https://www.foreignaffairs.com/ukraine/talks-could-have-ended-war-ukraine?utm_campaign=dfn-ebb&utm_medium=email&utm_source=sailthru; Hans-Joachim Schmidt, "How the Russia-Ukraine War Could End, and Its Impact on Conventional Arms Control," *IAI Papers* 23, no. 10 (May 2023), <https://doi.org/978-88-9368-290-9>.

³⁴¹ Robert Jervis, "Security Regimes," *International Organization* 36, no. 2 (Spring 1982): 357–78, <https://doi.org/10.1017/S0020818300018981>.

³⁴² David Brulé and Alex Mintz, *Foreign Policy Decision Making: Evolution, Models, and Methods*, vol. 1 (Oxford University Press, 2017), <https://doi.org/10.1093/acrefore/9780190846626.013.185>; Bård B. Knudsen, "Developing a National Security Policy/Strategy: A Roadmap," *Sicherheit & Frieden* 30, no. 3 (2012): 135–40, <https://doi.org/10.5771/0175-274x-2012-3-135>; John J. Mearsheimer and Sebastian Rosato, *How States Think: The Rationality of Foreign Policy* (Yale University Press, 2023); Alex Mintz and Karl DeRouen Jr,

field beyond the scope of this study's scope, but quantitative approaches to foreign policy CBA include factoring in financial costs, lives lost and saved if the decision is whether to go to war, and quality of life. The US Congressional Budget Office even offered a detailed CBA of the proposed Conventional Armed Forces in Europe (CFE) Treaty.³⁴³ Thus, the study assumes that states act as rational actors when they consider any type of CAC agreement as denial of an agreement is always a possible, and possibly reasonable, choice. Moreover, the question may not only be whether to conclude an agreement but also the agreement's specific details (such as whether the status quo should be altered). Thus, for example, today there may be a willingness on the part of both Russia and Ukraine to agree to an end to the current conflict – but irreconcilable differences about an agreement's details prevent its conclusion.³⁴⁴

These three conditions were chosen after considering other conditions because these three are applicable regardless of the type of CAC agreement (demilitarization or national limitations) and whether the rivals are in a state of war or peace. Other conditions might apply for only some of the agreements: domestic unrest,³⁴⁵ military elite opinions,³⁴⁶ the extent to which the head of state or government has full control of government policies,³⁴⁷ human rights records,³⁴⁸ intelligence capabilities,³⁴⁹ wedge strategies,³⁵⁰ and technological perceptions and innovation in arms acquisition policy (technological imperative).³⁵¹ Most of these might be less applicable when conceiving a post-conflict agreement as the victor has full leeway in their demands, with other factors secondary to the imperative of the defeated state accepting an agreement. These conditions may influence specific conditions of the agreement but are unlikely to impact the status quo approach.

Understanding Foreign Policy Decision Making (Cambridge: Cambridge University Press, 2010), <https://doi.org/10.1017/CBO9780511757761>.

³⁴³ *Budgetary and Military Effects of a Treaty Limiting Conventional Forces in Europe* (Washington, DC: US Congressional Budget Office, 1990).

³⁴⁴ Kathryn Hedgecock and Robert Person, "Bargaining with Blood: Russia's War in Ukraine" (Brussels School of Governance, Centre for Strategy, Diplomacy and Security, April 6, 2022), <https://brussels-school.be/publications/policy-briefs/bargaining-blood-russia%E2%80%99s-war-ukraine>.

³⁴⁵ Colbourn, *Euromissiles*; Matthew Evangelista, *How the United States and the Soviet Union Develop New Military Technologies* (Ithaca, NY: Cornell University Press, 1989), <https://doi.org/doi:10.7591/9781501734304>.

³⁴⁶ William A. Schlickemaier, *Playing the Generals' Game: Superpowers, Self-Limiting, and Strategic Emerging Technologies*, Dissertation (Ann Arbor, MI: ProQuest LLC, 2020).

³⁴⁷ Böller, "Brakeman or Booster?"

³⁴⁸ Brender, "Determinants of International Arms Control Ratification."

³⁴⁹ Abram N. Shulsky, "Intelligence and Arms Control Policy," *Teaching Political Science* 16, no. 2 (Winter 1989): 47–54.

³⁵⁰ Crawford and Vu, "Arms Control as Wedge Strategy."

³⁵¹ Evangelista, *How the United States and the Soviet Union Develop New Military Technologies*.

Condition 1: Geopolitical Order

Most discussions of CAC focus on the relationship between the state parties themselves but ignore the impact of the prevailing geopolitical order. For both concrete reasons and nebulous perceptions, states consider the geopolitical order when considering their approach to CAC generally and when they negotiate and sign CAC agreements specifically.

Concretely, states must consider if their entry into a CAC agreement with a rival will impact the security situation and military balance with other rivals. During the interwar years global disarmament (as CAC was then called) was frustrated in large part due to a complicated patchwork of interstate rivalries. Negotiators in the lone 1932-1934 disarmament conference simply could not find a formula that could stabilize one rivalry without destabilizing another.³⁵²

A predominant atmosphere or attitude might exist; a “period of peace” in which CAC agreements are viewed with greater promise and states are less concerned about relative losses and trust is institutionalized.³⁵³ Thus, they may be more willing to accept a reduction of their relative military power within a CAC agreement. As Miall notes, arms control is viewed more positively when “new [world] orders” are established.³⁵⁴ Kupchan similarly notes that in a period of cooperation, states have shifted from short-term agreements to the establishment of a security community wherein “individual gain” is no longer the driving force of an agreement and states adopt longer-term stabilization agreements such as arms control including demilitarization.³⁵⁵ One characteristic of a period of peace is satisfaction with the geopolitical distribution of power and reduced fear of surprise attack, while dissatisfaction increases the risk of surprise attack.³⁵⁶

But when might such an optimistic period exist? Following major European wars, war fatigue may set in which discourages rivalries, destabilizing behavior, and great power

³⁵² Henderson, “Conference for the Reduction and Limitation of Armaments: Preliminary Report of the Work of the Conference”; Webster, “Piecing Together the Interwar Disarmament Puzzle”; Webster, “The League of Nations, Disarmament and Internationalism.”

³⁵³ Hinde, “Trust, Co-Operation, Commitment and International Relationships”; Tobias Wille and Benjamin Martill, “Trust and Calculation in International Negotiations: How Trust Was Lost after Brexit,” *International Affairs*, 2023.

³⁵⁴ “Arms Control and World Order: Report on the Toda Peace Institute International Workshop Held in Vienna, 13-15 October 2019,” Policy Brief (Tokyo: Toda Peace Institute, November 2019).

³⁵⁵ Kupchan, *How Enemies Become Friends*, chap. 5.

³⁵⁶ Jervis, “Arms Control, Stability, and Causes of War,” Winter 1991.

competition.³⁵⁷ Formal institutions such as the League of Nations and the United Nations were even established to promote peaceful co-existence.³⁵⁸

In contrast, states may be generally more reluctant to enter into CAC agreements and more specifically accept changes to the military balance status quo in periods of uncertainty and instability. They may have to account for more potential adversaries and unexpected contingencies; that is, uncertainty of threats and competitors may compel a broader capabilities-based approach to defense planning which might be incompatible with substantial arms reductions.³⁵⁹

Bull assessed that states must be aware, “in pursuing arms control, of the existence of other dimensions of world order, and particularly of the role of military force in effecting changes that express emerging principles of international legitimacy.”³⁶⁰ Periods in which states are more sensitive to perceived threats wherein the security dilemma is more acute may be less likely to enter into CAC agreements because of fears of cheating and erosion of relative advantages even if in such periods CAC agreements might be more beneficial ³⁶¹. In contrast, a mild or muted security dilemma characterized by optimistic perceptions and predictions of relations will promote cooperation and thus encourage CAC agreements.³⁶²

Theory and history thus suggest that in periods of optimistic peace, states are more willing to risk altering the status quo, while in periods of distrust, they will not accept a reduction of their relative advantage. Table A1 in Appendix A assesses whether a historical period was characterized by optimism or pessimism.

Condition 2: Military Balance Instability

The study contends that the stronger party is more likely to accept reductions in its military power relative to its counterpart if there is instability in the military balance during a CAC negotiation. The study defines the military balance as how militaries compare to one another.³⁶³

³⁵⁷ Sverre Lodgaard, “Arms Control and World Order,” *Journal for Peace and Nuclear Disarmament* 2, no. 1 (June 28, 2019): 1–18, <https://doi.org/10.1080/25751654.2019.1631243>.

³⁵⁸ G. John Ikenberry, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order After Major Wars*, vol. 116 (Princeton, N.J: Princeton University Press, 2001), <http://doi.wiley.com/10.2307/798082>; Charles A. Kupchan, “Concerts, Collective Security, and the Future of Europe,” *International Security* 16, no. 1 (Summer 1991): 114–61, <https://doi.org/10.2307/2539053>.

³⁵⁹ Eric V. Larson, *Force Planning Scenarios, 1945-2016: Their Origins and Use in Defense Strategic Planning* (RAND Corporation, 2019), <https://doi.org/10.7249/RR2173.1>.

³⁶⁰ Bull, “Arms Control and World Order,” 13.

³⁶¹ Lodgaard, “Arms Control and World Order,” 15.

³⁶² Glaser, “The Security Dilemma Revisited,” October 1997; Lodgaard, “Arms Control and World Order.”

³⁶³ Clint Reach, Vikram Kilambi, and Mark Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means* (RAND Corporation, 2020), <https://doi.org/10.7249/RR4235>.

There are differing approaches to assessing the military balance including static or weighted measurements, all of which offer advantages and disadvantages.³⁶⁴ Although there may be uncertainties and differing perceptions about the military balance when states are comparable, in some situations both parties are comparable and balanced and there exists a state of mutual deterrence,³⁶⁵ or one state (or bloc) is clearly superior.

States seeking to establish a stable relationship through CAC may consider two factors: the military balance broadly and whether existing technologies and military capabilities offer a decisive offensive advantage. An unstable relationship might exist when states are nearly comparable, but uncertainty about capabilities and conflict outcomes encourages states to compete to obtain a clearer superiority; or a relationship with a clearly superior rival may be unstable if the weaker state seeks to narrow the military balance difference because they fear the stronger state.³⁶⁶ Unstable rivalries might also exist when there is a perception that geographically concentrated military capabilities offer a surprise attack advantage, often referred to as the offense-defense balance.³⁶⁷

CAC can stabilize the military balance in two ways. First, it can reduce the number of “offensive”-capable weapons, reducing the threat of surprise attack.³⁶⁸ Second, it can establish a force ratio-based equilibrium.³⁶⁹

Stability is very much a matter of perception and is not as simple as having an equal (stable) or unequal (unstable) balance of forces. Perceptions, particularly those of the more powerful party, matter as much as the actual military balance. The more powerful state needs to assess whether the weaker state is or will remain content with inferiority. If not, they may have to reduce their superiority (modifying the status quo) to achieve a lasting agreement that they perceive to be more important than the degree of military superiority they enjoy at the time of the agreement.

³⁶⁴ William Lippert, “A European Military Balance Organization and Dynamic Conventional Arms Control,” *Bulletin of “Carol I” National Defense University* 12, no. 3 (2023): 41–59, <https://doi.org/10.53477/2284-9378-23-31>; Lippert, “Military Balancing for Future Conventional Arms Control Agreements in Europe.”

³⁶⁵ Haffa, “The Future of Conventional Deterrence”; Christine M. Leah, “Deterrence and Arms Control in a Second Conventional Age,” *Comparative Strategy* 34, no. 5 (2015): 401–21, <https://doi.org/10.1080/01495933.2015.1089122>; Mazarr, Chan, et al., *What Deters and Why*.

³⁶⁶ David Blagden, “When Does Competition Become Conflict? Technology, Geography, and the Offense–Defense Balance,” *Journal of Global Security Studies* 6, no. 4 (2021): 1–23, <https://doi.org/10.1093/jogss/ogab007>.

³⁶⁷ Adams, “Attack and Conquer? International Anarchy and the Offense–Defense–Deterrence Balance”; Levy, “The Offensive/Defensive Balance of Military Technology”; Lynn-Jones, “Offense–Defense Theory and Its Critics.”

³⁶⁸ Morgan, “Arms Control: A Theoretical Perspective.” This was the CFE Treaty’s central purpose, as stated in its preamble.

³⁶⁹ Stephen D. Biddle, “The European Conventional Balance: A Reinterpretation of the Debate,” *Survival* 30, no. 2 (March 1, 1988): 99–121, <https://doi.org/10.1080/00396338808442399>.

Some state rivalries that lack an overwhelming difference in the military balance, such as naval forces in the interwar period or conventional forces in Europe during the Cold War, may need to determine if the existing balance is sufficiently stable or if a CAC agreement would increase stability.³⁷⁰ One driver of instability no matter what the relationship and balance is arms racing, which is costly, can result in deteriorating diplomatic relations, and may provoke a state which sees its relative position eroding to attack.

Theory and history thus suggest that, absent other factors, stronger states are willing to alter the status quo by reducing their relative advantage if doing so will increase stability but otherwise they would prefer to keep the military balance as is with reductions resulting in comparable ratios to the status quo.

Condition 3: Resource Constraints

States face competing demands on their resources and finances wherein expenditures in one area such as defense imposes opportunity costs in another such as healthcare or education. Thus, states generally aim to obtain as much security as possible at the lowest cost possible, but arms racing frustrates this goal as defense budgets blossom without a net increase in security due to rivals' matching expenditures and growth. Although opportunity costs and effects of defense expenditures on economic output differ across countries, over time, and according to the type of expenditure concerned, states do not have unlimited resources.

States' willingness and ability to shoulder defense expenditures varies. Some states, such as NATO member Iceland, and other states such as Costa Rica and Panama do not have militaries at all. The average share of Gross Domestic Product (GDP) dedicated to defense (known as military burden) among those (up to 144) states cataloged by the Stockholm International Peace Research Institute (SIPRI), NATO, and the European Defence Agency (EDA) from as long as 1949 to 2023 is 2.75%.³⁷¹ NATO allies have aimed to spend 2% of GDP on defense since the 1990s, with defense ministers agreeing to this target at their February 2006

³⁷⁰ For example during the Cold War, NATO's policy was to obtain a "stable balance of conventional forces at lower levels," NATO, "Brussels Declaration On Conventional Arms Control," NATO, accessed February 8, 2022, http://www.nato.int/cps/en/natohq/official_texts_23337.htm.. Determining whether there is an overwhelming difference in the military balance is subjective for experts and policymakers alike, and the judgment may vary based on circumstance or objective. For CAC and other purposes such as public messaging, states may be more likely to understate their capabilities while overstating those of their adversaries. See, for example, contrasting assessments in the 1980's about the Soviet Union/Warsaw Pact made by the US "Soviet Military Power" (Washington, DC: US Department of Defense, March 1987). or Soviet assessments of NATO/US *Whence the Threat to Peace*, Fourth Edition (Moscow: Military Publishing House, Progress Publishers and Novosti Press Agency Publishing House, 1987).

³⁷¹ Jordan Becker et al., "Disaggregated Defense Spending: Introduction to Data," *Journal of Peace Research*, March 7, 2024, 00223433231215785, <https://doi.org/10.1177/00223433231215785>.

ministerial meeting.³⁷² Allied Heads of State and Government agreed to this aim at their 2014 Wales Summit, along with aiming to spend 20% of defense budgets on equipment modernization.³⁷³ At the 2023 Vilnius Summit allies made the 2% and 20% guidelines into a “floor, not a ceiling.”³⁷⁴ While both the Wales and the Vilnius pledges on defense spending have affected spending positively,³⁷⁵ an even greater increase appears to have followed Russia’s 2022 attempt to conquer Ukraine.³⁷⁶ Historically speaking, these aims are rather modest: during WW2 the United States, for example, was spending forty percent of its GDP on defense.³⁷⁷ This suggests that governments have a loose ceiling on defense spending: while some scholars have argued that countries increasingly sacrifice other programs that contribute to growth and prosperity,³⁷⁸ the defense economics literature indicates heterogeneity both over time and across countries³⁷⁹ and across different types of defense expenditure.³⁸⁰ A common public goal following a conflict or period of intense rivalry is to attain a peace dividend.³⁸¹ What a government is able and willing to spend on defense may depend in some part on public

³⁷² Jordan Becker, “Pledge and Forget? Testing the Effects of NATO’s Wales Pledge on Defense Investment,” *International Studies Perspectives*, January 23, 2024, ekad027, <https://doi.org/10.1093/isp/ekad027>; James Appathurai, “NATO Speech: Briefing by NATO Spokesman - MOD - 8 June 2006,” June 8, 2006, <https://www.nato.int/docu/speech/2006/s060608m.htm>.

³⁷³ NATO, “Wales Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Wales,” NATO, 2014, http://www.nato.int/cps/en/natohq/official_texts_112964.htm.

³⁷⁴ NATO, “Pre-Summit Press Conference by Secretary General Jens Stoltenberg Ahead of the NATO Summit in Vilnius,” NATO, July 7, 2023, https://www.nato.int/cps/en/natohq/opinions_216939.htm.

³⁷⁵ Becker, “Pledge and Forget?”

³⁷⁶ NATO, “Defence Expenditures and NATO’s 2% Guideline,” NATO, April 5, 2024, https://www.nato.int/cps/en/natohq/topics_49198.htm.

³⁷⁷ Guillaume Vandenbroucke, “Which War Saw the Highest Defense Spending? Depends How It’s Measured,” St. Louis Federal Reserve, February 4, 2020, <https://www.stlouisfed.org/on-the-economy/2020/february/war-highest-defense-spending-measured>.

³⁷⁸ There is little debate about the cost of high defense spending to social and economic prosperity, with the question rather coming down to what the costs are. See, for example, Brito “The Economics of Disarmament, Arms Races and Arms Control,” Mayberry “Demilitarization and Economic Growth: Empirical Evidence in Support of a Peace Dividend,” *Journal of Comparative Economics* 51, no. 3 (September 2023): 960–88, <https://doi.org/10.1016/j.jce.2023.04.001>, and Saeed “The Impact of Military Expenditures on Economic Growth.” However, states which permanently face an existential threat such as Israel and in which the public perceives this threat may sustain a higher than average defense budget.

³⁷⁹ Paul Dunne and Ron Smith, “Military Expenditure, Investment and Growth,” *Defence and Peace Economics* 31, no. 6 (August 17, 2020): 601–14, <https://doi.org/10.1080/10242694.2019.1636182>.

³⁸⁰ Jordan Becker and J Paul Dunne, “Military Spending Composition and Economic Growth,” *Defence and Peace Economics* 34, no. 3 (April 3, 2023): 259–71, <https://doi.org/10.1080/10242694.2021.2003530>; Justin George and Todd Sandler, “A Spatial Analysis of NATO Burden Sharing at the Operational Levels,” *Kyklos* n/a, no. n/a (2024), <https://doi.org/10.1111/kykl.12401>.

³⁸¹ Malcolm Knight, Norman Loayza, and Delano Villanueva, “The Peace Dividend: Military Spending Cuts and Economic Growth,” Working Paper (IMF, May 1995); “The Economic Effects of Reduced Defense Spending” (Washington, DC: Congressional Budget Office (CBO), February 1992).

perceptions (especially in democracies),³⁸² and in times of a stable peace, the public may pressure states to reduce defense spending – including through arms control.

Arms racing may be a significant driver of defense expenditures³⁸³ but when such races – as they often do – result in no net gain, states have an interest in controlling or ending the arms racing through arms control.³⁸⁴ As Brodie noted, “An international agreement which succeeds in limiting that competition is an important and welcome way of limiting those costs.”³⁸⁵ Arms racing and arms control, however, are not always mutually exclusive. In competitive arms control or cooperative arms racing, states accept that they are going to engage in arms racing but they attempt to do so in a cooperative manner through a combination of transparency and agreements so as not to signal mistaken malign intentions, and to ensure some stability by retaining the status quo.³⁸⁶ Arms racing might even be stabilizing if the outcome is more rather than less parity³⁸⁷ and it may prevent conflict.³⁸⁸ Similarly, arms racing, and controlled arms racing, can be shaped by qualitative aspects. Some agreements, such as the Washington and London naval treaties, accounted for qualitative aspects by specifying gun caliber (although not other capabilities such as radar targeting); while others such as the CFE Treaty counted treaty-limited equipment (TLE) in each category equally regardless of age or capabilities. Qualitative differences in TLE could even be part of an arms control strategy wherein one side agrees to equivalent quantitative limitations but anticipates qualitative superiority.³⁸⁹

³⁸² Matthew DiGiuseppe et al., “Threats and the Public Constraint on Military Spending,” *British Journal of Political Science* 54, no. 3 (July 2024): 649–66, <https://doi.org/10.1017/S0007123423000443>.

³⁸³ Paul Collier and Anke Hoeffler, *Military Expenditure: Threats, Aid, and Arms Races*, Policy Research Working Papers (The World Bank, 2002), <https://doi.org/10.1596/1813-9450-2927>.

³⁸⁴ Toby J. Rider, “Uncertainty, Salient Stakes, and the Causes of Conventional Arms Races,” *International Studies Quarterly* 57, no. 3 (September 2013): 580–91, <https://doi.org/10.1111/isqu.12058>; Toby J. Rider, Michael G. Findley, and Paul F. Diehl, “Just Part of the Game? Arms Races, Rivalry, and War,” *Journal of Peace Research* 48, no. 1 (2011): 85–100, <https://doi.org/10.1177/0022343310389505>.

³⁸⁵ Bernard Brodie, “On the Objectives of Arms Control,” *International Security* 1, no. 1 (Summer 1976): 17–36.

³⁸⁶ James Cameron, “Soviet-American Strategic Arms Limitation and the Limits of Co-Operative Competition,” *Diplomacy & Statecraft* 33, no. 1 (January 2, 2022): 111–32, <https://doi.org/10.1080/09592296.2022.2041812>; Colin S. Gray, “The Arms Race Phenomenon,” *World Politics* 24, no. 1 (October 1971): 39–79, <https://doi.org/10.2307/2009706>; Brendan Rittenhouse Green, *The Revolution That Failed: Nuclear Competition, Arms Control, and the Cold War*, 1st ed. (Cambridge University Press, 2020), <https://doi.org/10.1017/9781108779593>; John D. Maurer, “Divided Counsels: Competing Approaches to SALT, 1969–1970*,” *Diplomatic History* 43, no. 2 (April 1, 2019): 353–77, <https://doi.org/10.1093/dh/dhy069>.

³⁸⁷ Gray, “The Arms Race Phenomenon,” 61–62.

³⁸⁸ Bruce Berkowitz, *Calculated Risks: A Century of Arms Control, Why It Has Failed, and How It Can Be Made to Work*, *Calculated Risks: A Century of Arms Control, Why It Has Failed, and How It Can Be Made to Work* (New York, NY: Simon and Schuster, 1987); Gray, “The Arms Race Phenomenon”; C.S. Gray, *House of Cards: Why Arms Control Must Fail* (Cornell: Cornell University Press, 1992), <https://books.google.nl/books?id=t8SPAAAMAAJ>.

³⁸⁹ Gray, “The Arms Race Phenomenon”; Green, *The Revolution That Failed*.

Resource constraints may be a necessary but insufficient cause for altering the status quo in terms of the military balance for many reasons. First, the militarily stronger rival may desire to reduce its defense expenditures but may be unwilling or unable to do so due to domestic constraints without a negotiated agreement.³⁹⁰ Second, resource constraint-driven unilateral cuts might be difficult to implement if the more powerful state fears that the reduction will harm its security and standing relative to other rivals. As Downs and Rocke note, rivals might exploit a tacit agreement (or no agreement at all).³⁹¹ Thus, states are more likely to accept a reduction in their relative military power within an agreement because both transparency measures and fixing rivals' military capabilities at a certain level (at least in some areas) helps alleviate the stronger power's relative military reduction. All states may implement unilateral reductions – or increases – but lacking an agreement the more powerful state can respond to changes without the diplomatic costs of violating an agreement. That is, if the stronger state implements unilateral reductions, it may also unilaterally reverse these if it sees its rivals are seeking to exploit any military balance changes.

The study therefore identifies two circumstances in which governments might seek to reduce defense spending (sometimes in the form of a peace dividend) due to a perception of resource constraints. They may broadly perceive a decrease in threats, even from specific rivals, due to the end of a conflict; or they may perceive improved diplomatic relations (which itself may be the product of previous arms control agreements). Alternatively, states may primarily seek financial savings through CAC, leaving the rivalry largely intact (although possibly hoping for improved relations) but with all parties realizing savings without a net loss of security.

Resource constraints interact with perceptions of geopolitical stability and military balance stability as part of the more powerful state's CBA. In sum, resource constraints would encourage states to accept seemingly unfavorable changes to the status quo because in a benign geopolitical order, states would consider relative decreases in military capability to be less dangerous than in a more hostile order, and alleviating a destabilizing military balance would be an added benefit. Similarly, a more powerful state would be expected to accept a change in the status quo if there is an unstable geopolitical order if doing so would alleviate a destabilizing military balance. In this case, the state would favor immediate (near-term and proximate) stabilization and cost savings over exposure to longer-term, potential threats.

³⁹⁰ Freedman, "Arms Control: Thirty Years On."

³⁹¹ George W. Downs and David M. Rocke, "Tacit Bargaining and Arms Control," *World Politics* 39, no. 3 (April 1987): 297–325, <https://doi.org/10.2307/2010222>.

In contrast, the lack of resource constraints will always discourage the more powerful states from accepting a diminution of their relative military power because either they feel they need to hedge against geopolitical instability by retaining as much military capability as possible, the stable military balance discourages any changes to the military balance status quo, or simply that the cost to insure against such risks is so low there is no reason not to bear it.

Theory and history thus suggest that absent other countervailing considerations, states will seek to reduce defense expenditures and will be willing to accept a reduction in their relative military superiority through a CAC agreement when faced with substantial resource constraints – even when the other two conditions are absent.

Hypothesis

The study proposes that resource constraints are the primary variable or condition affecting the dependent variable, the willingness of the stronger party to accept reductions in military superiority; although geopolitical or military balance stability/instability also contribute. As more powerful states often have the lead on CAC agreement details and their impact on the military balance, the study hypothesizes the following:

The stronger state or alliance in a CAC agreement will accept a reduction in its relative military power if a) it faces resource constraints and b) it views the geopolitical order as stable or the military balance with its adversary as unstable. (Model B, C, D, and H).

Table 7 summarizes the conditions and expected outcomes, with an explanation of the expected outcome in table A3 in appendix A.

Table 7: CAC agreement conditions and expected outcome for changing the status quo

	Is the geopolitical order anticipated to remain or be more stable and peaceful ? 1=yes	Does the more powerful state/bloc view the current ratio viewed as dangerously unstable? 1=yes	Can states afford to compete to maintain the ratio? 1=No (they cannot afford because there is a resource shortage)	Status quo change or not (ratio reduction for the stronger party); 1 = ratio change
Model	Geopolitical Order Stable	Balance Stabilization Danger	Resource Shortage	Expected Outcome
A	0	1	1	1
B	0	1	0	0
C	0	0	0	0
D	1	0	0	0
E	1	1	1	1
F	1	0	1	1
G	0	0	1	0
H	1	1	0	0

Source: Authors' research and analysis

Research Design and Methodology

Having established the three conditions that jointly determine the outcome of the status quo changing or remaining the same, the study conducts a typological analysis to test its hypothesis. Using this method, the study seeks to identify complex causal relations of the conditions and the outcomes through detailed case studies of each CAC case in the dataset, following the discussion by Bennett and Elman.³⁹² The study's hypothesis is based on a typological theoretical approach, which identifies "recurring conjunctions of mechanisms and provide[s] hypotheses on the pathways through which they produce effects."³⁹³ Having identified the conditions, Table 7 displays all of the possible combinations of the variables. Based on research and analysis of how governments are most likely to conduct CBA for arms control, the study then predicted which outcome would result from each combination of the three variables.

³⁹² Bennett and Elman, "Complex Causal Relations and Case Study Methods."

³⁹³ Bennett, "Case Study."

Case Selection

The study identified 29 CAC control agreements in Europe from 1919 to 2015 for this study, with each agreement controlling at least one state's conventional armed forces with a geographic and/or quantitative limitation, restriction, or prohibition of varying specificity. The study excluded nuclear arms control agreements because of the fundamental differences between nuclear and conventional weapons and warfare, such as the massive firepower of nuclear weapons, their near-certainty of effects (compared to the much greater uncertainty of conventional forces' effectiveness), and that nuclear arms control agreements have been limited to the US and Soviet Union/Russia.³⁹⁴

This is not to say there is no relationship between nuclear and conventional arms control. First, as in the case of the 1987 Intermediate-range Nuclear Forces (INF) Treaty, conventional and nuclear land-based missiles of the same range were prohibited. Second, considerations of nuclear and conventional capabilities have gone hand-in-hand when applicable, especially when considering conflict scenarios and relative military power.³⁹⁵ For example, Bluth discusses how in the 1960's and 1970's NATO assessed that the Warsaw Pact had superiority in conventional weapons, while the Warsaw Pact viewed NATO as having tactical nuclear weapon superiority;³⁹⁶ views that were an important component of the Mutual and Balanced Force Reduction (MBFR) negotiations.³⁹⁷ Even though US and Soviet leaders merged nuclear and conventional threats and arms control issues in planning and discussions, formal agreements have largely separated the two.

This study's cases focused on the period from 1919 to 2015 because this reflects the period in which CAC was most carefully crafted, most institutionalized, most specific, and most relevant to the present context as many of the states that exist today did not exist prior to WWI and the most recent CAC agreement in Europe that entered into force was the 2015

³⁹⁴ Graef, "Beyond Stability," 224–25; Leah and Lowther, "Conventional Arms and Nuclear Peace"; John Stone, "Conventional Deterrence and the Challenge of Credibility," *Contemporary Security Policy* 33, no. 1 (2012): 108–23.

³⁹⁵ See Cameron "Soviet-American Strategic Arms Limitation and the Limits of Co-Operative Competition." and Colbourn *Euromissiles*. for additional discussions about the overlap between nuclear and conventional warfare strategies and plans and arms control. Luňák et al. "Taking Lyon on the Ninth Day? The 1964 Warsaw Pact Plan for a Nuclear War in Europe and Related Documents" (Washington, D.C. / Zurich: PHP Publications Series, May 2000). offer a detailed assessment of a Warsaw Pact offensive plan to use a combination of conventional and nuclear forces to defeat NATO. Nuclear weapons considerations were absent from agreements predating the nuclear era and agreements between non-nuclear weapons states.

³⁹⁶ "Arms Control as a Part of Strategy."

³⁹⁷ NATO Military Committee, "Memo: Balanced East-West Force Reductions" (NATO, August 30, 1968).

Minsk Agreements for Ukraine. This study focused on European agreements for the same reasons –previous agreements in Europe are most relevant to future agreements in Europe. CAC has a much deeper history and institutional role in Europe than in other parts of the world,³⁹⁸ whether due to substantially less interstate conflict (as in South America) or other reasons that are beyond this article’s scope. As Sommerer and Tallberg note, lessons and experiences (of international organizations (IOs) specifically) transfer well between states and institutions within a region, but not between regions around the globe.³⁹⁹

This study only includes formally agreed agreements rather than tacit agreements or proposals for many reasons. First, initial proposals may not represent the final agreement with the result that quantitative scoring would at best be speculative.⁴⁰⁰ Second, focusing on actual cases decreases subjectivity, as there are a nearly infinite number of potential adversarial CAC agreements when the only requirement is the existence of two rival states at any given time or historical period.⁴⁰¹ This study also thus excludes instances where a state decides to reduce its relative military strength unilaterally (for example, the unilateral Soviet military reductions in Europe announced prior to the CFE agreement.⁴⁰² Although understanding cases where a rival has accepted a reduction, or even inversion, of the military balance would offer many insights, it is outside of this study’s scope which is focused on the crafting and formalization of CAC agreements.

³⁹⁸ Zdzisław Lachowski, “Half-Century of Arms Control: A Tentative Score Sheet,” *Polish Quarterly of International Affairs* 19, no. 4 (2010): 40–65; Rotfeld, “1: A Future Arms Control Agenda.”

³⁹⁹ Sommerer and Tallberg, “Diffusion Across International Organizations.” The notion of knowledge transfer between IOs is especially relevant to CAC agreements because CAC agreements are often implemented by IOs such as the United Nations (UN) and Organization for Security and Cooperation in Europe (OSCE) William Lippert, “Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation,” *Global Governance: A Review of Multilateralism and International Organizations* 30, no. 1 (2024): 93–122, <https://doi.org/10.1163/19426720-03001005>.

⁴⁰⁰ For example, the Russian proposals to NATO and the US in December 2021 “Russia, U.S., NATO Security Proposals,” Arms Control Association, March 2022, <https://www.armscontrol.org/act/2022-03/news/russia-us-nato-security-proposals>. demanded what might have been an inversion of the status quo, with significantly more restrictions placed on NATO and the US compared to Russia. However, had an agreement been made, there is no certainty what final military balance would have been agreed to.

⁴⁰¹ Moreover, as even this study’s dataset shows, the even formal allies sign adversarial CAC agreements due to previous rivalries and conflicts (such as the 1954 Western European Union (WEU) arms control protocol), or recent allies sign agreements in the expectation of future rivalries (such as Japan, the UK, and US – all three WW1 allies – for the Washington Naval Treaty).

⁴⁰² James A. Thomson, “Implications of the Gorbachev Force Cuts” (Santa Monica, CA: RAND Corporation, February 1989).

Coding Criteria

This study defined the three typological conditions and outcomes to determine the coding for each agreement, and each coding decision is explained for each agreement in appendix A (tables A4-A7).

Assessing geopolitical stability from the perspective of the most powerful CAC agreement state party is based on a combination of contemporaneous statements and historical analysis. The study also assessed the sub-regional geopolitical perceptions, as these can differ from broader European trends. Table A1 offers a guideline of how the more powerful state(s) was likely to have viewed the period in which the applicable CAC agreement was negotiated and signed, but when necessary, possible, and applicable the study identified specific statements and assessments by states' leaders concerning their view of the geopolitical situation. Table A4 in the appendix explains the geopolitical order assessment for each case.

The study assessed the (in)stability of the military balance by researching contemporaneous statements and historical analysis of each case. In some cases, the more powerful state party/bloc clearly viewed the military balance as destabilizing. In other cases, the study assessed this from a broader analysis of the historical circumstances with an explanation of each case's determination for military balance instability in table A5.

Assessing whether the more powerful state(s) faced resource constraints is based on a combination of contemporaneous statements, historical analysis, and assessments of budgets and spending (for example, a period of high spending following low spending suggests potential resource constraints). Government reports, official statements, and historians often clearly assessed the extent to which states were facing resource constraints and sought to curb defense spending at certain historic periods or when considering certain CAC agreements. Table A6 in appendix A explains each case's determination of parties' desires to limit or reduce defense expenditures due to resource constraints.

To catalog the dependent variable, whether the status quo was retained or altered, the study first considered if the agreement involved specific force quantities, especially when applied to all parties. If so, the study could compare the ratios prior to the agreement and the ratios that the agreement established. Second, for agreements in which there was any uncertainty about the relative balance of power but which lacked quantitative limits for at least some of the state parties, the study used the Correlates of War (COW) database's National

Material Capabilities/Composite Indicator of National Capabilities (CINC).⁴⁰³ Table A7 in the appendix explains the assessment of whether the study considered the status quo retained or altered for each case.

Findings

Out of the 29 cases in the study's dataset, 22 of these saw no change in the status quo while seven cases reflected a status quo change in the military balance (see Table 8). In none of the seven status quo change cases was there a reversal where a state went from being militarily superior to inferior, though in three cases states forfeited their superiority to accept parity. In five out of the seven cases where there was a change in the military balance status quo, the more powerful state faced resource constraints. The status quo was retained in 19 cases which lacked resource constraints.

⁴⁰³ Greig and Enterline, "Correlates of War Database, National Material Capabilities (v6.0)."

Table 8: Condition combinations and outcome for each agreement

Case	Geopolitical Order Stable	Balance Stabilization Danger	Resource Shortage	Expected Outcome	Actual Outcome
B	0	1	0	0	
Anglo-German*	0	1	0	0	1
C	0	0	0	0	
Montreux	0	0	0	0	0
Second London Naval Treaty	0	0	0	0	0
Moscow1940	0	0	0	0	0
Georgia 2008	0	0	0	0	1
Minsk	0	0	0	0	0
E	1	1	1	1	
WashNavTreaty	1	1	1	1	1
INF	1	1	1	1	1
CFE	1	1	1	1	1
Belfast	1	1	1	1	1
D	1	0	0	0	
Åland	1	0	0	0	0
Lausanne1923	1	0	0	0	0
Tangiers	1	0	0	0	0
Thrace	1	0	0	0	0
First London Naval Treaty	1	0	0	0	0
Dodecanese	1	0	0	0	0
WW2	1	0	0	0	0
WEU	1	0	0	0	0
Cyprus	1	0	0	0	0
Germany1990	1	0	0	0	0
Transdnistria	1	0	0	0	0
Balkans	1	0	0	0	0
Kosovo	1	0	0	0	0
A/CFE	1	0	0	0	0
F	1	0	1	1	
WW1	1	0	1	1	0
Spitsbergen	1	0	1	1	0
Aegean	1	0	1	1	0
G	0	0	1	0	
Helsinki1922	0	0	1	0	1
Finnish-Russia1920 (Tartu)	0	0	1	0	0

Source: Authors' research and analysis

This study poses the question: Under what conditions do the more powerful states in an adversarial conventional arms control (CAC) agreement accept a reduction in their relative military power? The study developed a theory to answer this question based on the three independent variables: the larger power's perceptions of geopolitical stability, the larger power's perceptions of military balance stability, and resource constraints under which the larger power is operating. Research suggests that states will accept an alteration to the status quo in the following condition combinations (C):

C₁:⁴⁰⁴ When the stronger actor perceives the wider geopolitical order to be stable, perceives the current dyadic balance of military power to be unstable, and fears a resource shortage; (Model E)

C₂: When there is a perception of global disorder, an unstable rivalry, and no resource shortage; (Model B)

C₃: When the world order is unstable, the military balance is stable, and there are resource constraints. (Model G)

This study's model C₁ successfully predicts a change in the status quo as all four cases with these conditions resulted in a status quo change. In three of the four cases (Washington Naval, INF, and CFE treaties) the superior party (United Kingdom (UK), Soviet Union, and Warsaw Pact, respectively) abandoned their superior standing for parity (at least in the TLE categories). The Washington Naval Treaty established parity between the US and the UK – which may have been possible in part due to their WW1 alliance though at the same time both states were aware that they might have competing interests in the future and thus often assessed military questions through a rivalry lens.⁴⁰⁵ The Soviet Union signed the INF Treaty when it had a superiority in INF-category missiles, but feared an arms race as well as a first strike against Moscow by the weapons (Washington, DC, was not similarly vulnerable) – and thus agreed (among other reasons) to a global prohibition on the weapons.⁴⁰⁶ Under the CFE Treaty, the Warsaw Pact removed and/or destroyed far more TLE than NATO, resulting in each bloc having an equal number of TLE-category weapon systems – an interesting outcome in light of

⁴⁰⁴ C=Combination

⁴⁰⁵ Thomas F. Lynch III and Frank Hoffman, "Chapter 2: Past Eras of Great Power Competition," in *Strategic Assessment 2020: Into a New Era of Great Power Competition* (Washington, DC: NDU Press, 2020), 30–35.

⁴⁰⁶ Colbourn, *Euromissiles*; Lynn E. Davis, "Lessons of the INF Treaty," *Foreign Affairs* 66, no. 4 (Spring 1988): 720–34.

several decades of disagreement over the issue during the MBFR negotiations in which Moscow had pressed for equal reductions rather than equal forces.⁴⁰⁷

The study revealed several unexpected findings. First, the combination of a stable geopolitical order, lack of military balance instability, and the presence of resource constraints was not enough to compel a change in the status quo in three cases where a change was expected. This could be due to states viewing the maintenance of stability (both geopolitical and military balance) as more important than savings, with the notion being that a formal change in the military balance could become destabilizing. However, this is only speculative as such a CBA was never clearly articulated in the cases. In general, accepting a change could have several benefits such as increasing rivals' willingness to accept and abide by agreements and improving diplomatic relations overall. In the case of the post-WWI agreements, the major Allied powers had intended to formalize their reductions in future CAC agreements through the League of Nations and the forthcoming disarmament conference – thus they were committed to formally reducing their superiority, but just not within the peace treaties. In the case of the 1920 Spitsbergen agreement, the UK (which had the most powerful navy in the North Atlantic region) accepted the archipelago's continued demilitarization as well as its formal transfer to Norwegian sovereignty. The likely reason that it did not accept any alteration to the status quo concerning its own naval supremacy was the nature of the problem and the agreement. Spitsbergen had not been contested militarily, having been an international "no-man's" land and mainly exploited for commercial purposes.⁴⁰⁸ Granting the island to Norway while keeping it demilitarized retained the island's status quo and did not require any alterations to any states' military capabilities.

Lastly, the set of agreements that laid out the demilitarization of the East Aegean Sea's Greek and Turkish islands did not impact national capabilities – which might have been more relevant in any case to controlling land forces, given the existence of a common land border – but also that possession was less of an issue than perceived threats. The demilitarization agreements mutually reduced threats sufficiently that Turkey in particular did not need to offer further constraints or reductions to stabilize the relationship.

Three other cases contradicted the predicted outcome, where the prediction was for the retention of the status quo, but the agreements formalized an alteration. The 1922 Helsinki Treaty between Soviet Russia and Finland (C₃) established a buffer zone along their border

⁴⁰⁷ Bluth, "Arms Control as a Part of Strategy."

⁴⁰⁸ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*.

north of Lake Lagoda, imposing equal restrictions on both states. Thus, Soviet Russia accepted limitations when they otherwise might not have, given their military superiority. The model predicted that the combination of conditions would not have resulted in a status quo change because Soviet Russia had broad concerns about the geopolitical situation, especially regionally (due to conflicts and tensions along its western borders) even if they faced resource constraints due to the Russian civil war and foreign invasions. One reason that Russia might have accepted the reduction in its military position was that it was a minor degradation as the buffer zone itself did not severely impact either its national or even northwest military capability. Russia's acceptance of a return to the status quo under the 2008 Six-Point Peace Plan was a substantial change in the status quo as defined by the battlefield conditions at the time. The agreement compelled Russia to withdraw forces to pre-conflict lines, which included withdrawing from several mid-sized cities, and the reduction of their forces to pre-conflict levels.⁴⁰⁹ Yet their battlefield superiority was uncontested; little prevented Russia from driving on to Tbilisi, Georgia, and occupying the entire country. Georgia simply lacked the forces, equipment, and strategic depth to replicate what Ukraine would later do in 2022.⁴¹⁰ Thus, given the conditions of an unstable global order, non-destabilizing military balance, and no major resource constraints, the study predicted that Russia would have retained the status quo (as occurred with three other agreements with this set of conditions). Russia's acceptance of a cessation of hostilities relatively generous to Georgia especially as Russia held Georgia responsible for its outbreak⁴¹¹ is surprising at many levels, and more time and information are necessary to fully understand the Kremlin's decision.

The Anglo-German Naval Agreement saw the UK accept a significant reduction of their naval superiority as measured by gross tonnage from 100:14 to 100:35 (UK:Germany) despite global instability and a lack of major resource constraints (as this combination, despite the existent military balance instability, suggests retaining the status quo) (C₂). There are several

⁴⁰⁹ David L. Phillips, "Implementation Review: Six-Point Ceasefire Agreement Between Russia and Georgia" (National Committee on American Foreign Policy and Institute for the Study of Human Rights (ISHR), August 2011).

⁴¹⁰ M. Galeotti and J. Shumate, *Russia's Five-Day War: The Invasion of Georgia, August 2008*, Elite Series (Bloomsbury USA, 2023); Michael Kofman, "The August War, Ten Years On: A Retrospective on the Russo-Georgian War," War on the Rocks, August 17, 2018, <https://warontherocks.com/2018/08/the-august-war-ten-years-on-a-retrospective-on-the-russo-georgian-war/>; Riho Ühtegi, "The 2008 Russia-Georgia War Five Years Later," ICDS, August 8, 2013, <https://icds.ce/en/the-2008-russia-georgia-war-five-years-later/>.

⁴¹¹ The immediate cause was determined to be Georgia's shelling of Russian peacekeepers in South Ossetia, but the deeper causes were both sides' fault Ahto Lobjakas, "EU Report On 2008 War Tilts Against Georgia," *Radio Free Europe/Radio Liberty*, September 30, 2009, sec. Features, https://www.rferl.org/a/EU_Report_On_2008_War_Tilts_Against_Georgia/1840447.html; "Independent International Fact-Finding Mission on the Conflict in Georgia Report - Volume 1," September 2009..

historical explanations for this, including the UK's goal of promoting naval arms control throughout Europe and improving diplomatic relations with Germany. The UK may have accepted a reduction of its naval superiority vis-à-vis Germany in part because its land forces could threaten Germany more easily than the inverse, and France offered (they believed) a supplemental deterrence – especially land-based – to Germany.

Model E predicted that the combination of geopolitical stability, military balance instability, and resource constraints would result in a change in the military balance status quo, and this prediction was affirmed in the four relevant cases. For the 1998 Belfast agreement meant to end violence in Northern Ireland, London reduced British military in Ireland due to its lack of fear of Ireland's relative increase in military capability, given Ireland's exceptionally small military and that the rivalry was a political rather than a military rivalry.⁴¹² Though Dublin was generally critical of British military actions in Northern Ireland (and maintains a reunification policy), the dispute was more of a law enforcement challenge as Ireland was lenient towards Republican-nationalist militants.⁴¹³

Moscow may have accepted the elimination of their offensive advantages in the CFE and INF treaties, partly because their remaining strategic nuclear weapons arsenal offered a robust deterrence. The CFE Treaty, as its preamble states, sought to eliminate both sides' "capability for launching surprise attack and for initiating large-scale offensive action,"⁴¹⁴ which might have suggested at least two phenomena. First, that qualitative differences in offensive capabilities might have made the military balance disparities less than they appear from a simple quantitative tabulation. NATO AirLand battle, which was a NATO shift towards offensive capabilities with a rear area concept of operations, posed a new threat to Warsaw Pact forces.⁴¹⁵ Second, the CFE Treaty re-emphasized the notion of controlling offensive capabilities while retaining defensive capabilities.

Two conditional combinations lacked any examples, and the study can only speculate why this is the case. The lack of an agreement characterized by an unstable geopolitical order, unstable military balance, and resource constraints is more likely the reflection of the medium

⁴¹² The 1998 Belfast/Good Friday agreement is included in this dataset because it set non-specific reductions to the UK military in Northern Ireland, created two international commissions to ensure compliance, involved several states – especially the US – as a mediator, and was signed by two states (UK and Ireland). This is the only agreement in the dataset which involves a primarily internal conflict.

⁴¹³ Jennifer Dowling, "Pulling the Brakes on Political Violence: How Internal Brakes Limited Violent Escalation from the Provisional IRA in Pre- and Post-Good Friday Northern Ireland," *Terrorism and Political Violence*, May 2, 2023, 1–17, <https://doi.org/10.1080/09546553.2023.2198608>.

⁴¹⁴ "Treaty On Conventional Armed Forces In Europe."

⁴¹⁵ Goldfischer, "1. The Meaning of Offense and Defense," 34; Hamm and Pohlman, "Military Doctrine—the Missing Link of Conventional Arms Control"; Rohn, *Conventional Forces in Europe*, 59.

rather than a large number of agreements. The other combination for which there is no agreement is a perception of geopolitical stability, an unstable military balance, and no resource constraints. There are not any theoretical reasons why these combinations are not possible.

Conclusion

This study attempted to determine when rival states in Europe, especially the more militarily powerful ones, decided to sacrifice some of their relative military capability when they entered – and sometimes drove – conventional arms control agreements from 1919 to 2015. Not only do CAC agreements tend to lock in the status quo, but states also generally show reluctance to forfeit their relative military advantages with rivals due to the high stakes of security and their survival concerns. Yet, somewhat puzzlingly, some adversarial CAC agreements have involved a reduction in military advantages by more powerful parties to the agreement, and to understand this the study hypothesized that in the presence of certain conditions, states would be willing to reduce their relative military advantage. The three conditions the study considered for the multicausal outcome of status quo change were whether the stronger party to the agreement views the military balance as stable, whether that party views global or regional geopolitics as stable, and whether the stronger state faces significant resource constraints in maintaining their relative superiority.

The study mostly upheld this study's hypothesis that the stronger state or alliance in a CAC agreement will accept a reduction in its relative military power if a) it faces resource constraints and b) it views the geopolitical order as stable or the military balance with its adversary as unstable.

None of the CAC agreements in this study inverted the status quo ante; in other words, no agreement made a strong state weaker than a previously weaker state. In seven cases, more powerful states accepted a reduction in their power relative to the less powerful parties to the agreement. The reasons for the change are particular to each agreement and relationship but may emphasize in part that states may be willing to accept a change in the status quo when other considerations such as the desire to improve diplomatic relations and preserve (or establish) peace outweigh concerns about relative military power.

This study can serve as a guide when parties consider whether the military balance status quo might be altered, and who may determine such an alteration. This is especially relevant to any future Russo-Ukraine ceasefire or peace agreement because this study

emphasizes the role that the stronger (victorious) state has in determining an agreement's content and if that state is more likely or not to accept a reduction in their relative military capability.

This study adds to the research on arms control and armed conflict by quantitatively assessing the military balance between rival states that have entered into CAC agreements – a feat not previously accomplished for a study of this many cases. Additionally, it offers a model framework for how states conduct CBA when crafting and negotiating CAC agreements. Lastly, it offers insights into how states view and prioritize their military position, especially when it is superior, against other considerations such as resource constraints, improving diplomatic relations especially when related to the military balance, and how broader world views figure into their calculations and decisions.

This typological exercise is an initial test and offers some paths to more convincing causal tests for future research. First, the study selected three typological conditions based on an understanding of CAC agreements in Europe – but the study's choices do not close the door to different or additional conditions. One approach might be to assess the status quo relative to internal and externally-driven conditions, as Bennett et al. did in assessing national military commitments to the 1991 Gulf War coalition.⁴¹⁶ This in itself raises the question of whether internal or external drivers of defense acquisition policy are paramount, and the impact of this dynamic on arms control agreements and policy.⁴¹⁷

Second, this study did not address CAC agreements' performance. Does changing the status quo increase agreements' longevity and effectiveness? Similarly, while CAC agreements lock in a certain stability through limits on personnel, equipment, fortifications, geographic prohibitions, and other restrictions, no CAC agreement can effectively limit every military capability. Unforeseen military capabilities and technologies may develop after agreements are signed, or existing capabilities omitted by agreements may grow (or decrease). Some examples of the former might be how stealth aircraft and precision-guided munitions (PGMs) were left out of the CFE Treaty because their effectiveness was not widely understood at the time; and naval forces were left out of the CFE Treaty by NATO's insistence. Today, several major military capabilities have yet to be subject to limitations, such as cyberweapons and drones – the latter of which has proven to be pivotal in Ukraine (mostly by offering both sides a decisive

⁴¹⁶ Bennett, Lepgold, and Unger, "Burden-Sharing in the Persian Gulf War."

⁴¹⁷ Evangelista, *How the United States and the Soviet Union Develop New Military Technologies*; Schlickemaier, *Playing the Generals' Game: Superpowers, Self-Limiting, and Strategic Emerging Technologies*.

defensive advantage).⁴¹⁸ One thus might ask to what extent does the military balance shifts even when states are compliant with CAC agreements.

Regime type may be an important contributor to what form CAC agreements assume, especially from the military balance status quo perspective. Filson and Werner assess, for example, the relationship between regime type and war termination. More broadly, a study could assess if there is a relationship between regime type and all adversarial CAC agreements' retention of the status quo.⁴¹⁹

Future research might also go beyond where this study has arrived empirically by operationalizing the three key independent variables quantitatively and testing their effects on stronger parties' willingness to accept CAC agreements that reduce their relative power. For instance, reductions in relative power can be quantitatively operationalized using newly available measures of material military power,⁴²⁰ while fiscal constraints can be measured using debt and deficit figures, supranational fiscal constraints,⁴²¹ or fiscal space.⁴²² A qualitative comparative analysis (QCA) approach could offer additional insights about the combination of conditions and the outcome (change or retention of the status quo), and additional or different conditions could be considered. QCA⁴²³ and Coincidence Analysis (CNA)⁴²⁴ have both proven useful in security scholarship and have been effectively combined with different techniques of qualitative and quantitative analysis to address empirically challenging topics.⁴²⁵

CAC agreements are an important feature of interstate relations between rivals in Europe. They are characterized by variety and aim to either establish or preserve peace. Amidst

⁴¹⁸ Stacie L. Pettyjohn, "Drones Are Transforming the Battlefield in Ukraine But in an Evolutionary Fashion," *War on the Rocks*, March 5, 2024, <https://warontherocks.com/2024/03/drones-are-transforming-the-battlefield-in-ukraine-but-in-an-evolutionary-fashion/>.

⁴¹⁹ Darren Filson and Suzanne Werner, "Bargaining and Fighting: The Impact of Regime Type on War Onset, Duration, and Outcomes," *American Journal of Political Science* 48, no. 2 (April 2004): 296–313.

⁴²⁰ Mark Souva, "Material Military Power: A Country-Year Measure of Military Power, 1865–2019," *Journal of Peace Research* 60, no. 6 (November 1, 2023): 1002–9, <https://doi.org/10.1177/00223433221112970>.

⁴²¹ Jordan Becker, "Accidental Rivals? EU Fiscal Rules, NATO, and Transatlantic Burden-Sharing," *Journal of Peace Research* 56, no. 5 (September 1, 2019): 697–713, <https://doi.org/10.1177/0022343319829690>.

⁴²² Edward Hunter Christie, "The Demand for Military Expenditure in Europe: The Role of Fiscal Space in the Context of a Resurgent Russia," *Defence and Peace Economics* 30, no. 1 (January 2, 2019): 72–84, <https://doi.org/10.1080/10242694.2017.1373542>.

⁴²³ Haesebrouck and Thomann, "Introduction"; Ide and Mello, "QCA in International Relations."

⁴²⁴ Tim Haesebrouck, "The Populist Radical Right and Military Intervention: A Coincidence Analysis of Military Deployment Votes," *International Interactions* 49, no. 3 (May 4, 2023): 345–71, <https://doi.org/10.1080/03050629.2023.2184815>; Tim Haesebrouck, "EU Member State Support to Ukraine," *Foreign Policy Analysis* 20, no. 2 (April 1, 2024): ora005, <https://doi.org/10.1093/fpa/orae005>.

⁴²⁵ Jordan Becker, Paul Poast, and Tim Haesebrouck, "Setting Targets: Abatement Cost, Vulnerability, and the Agreement of NATO's Wales Pledge on Defense Investment," *Journal of Peace Research*, November 3, 2024, 00223433241267798, <https://doi.org/10.1177/00223433241267798>.

Europe's largest and most destructive war since 1945, increasing awareness and understanding of CAC agreements may both help end the current conflict and prevent another.

Chapter 5: Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation⁴²⁶

Introduction

Russia's June 2023 withdrawal from the 1990 Conventional Armed Forces in Europe (CFE) Treaty amidst the Russo-Ukraine War followed a century of conventional arms control (CAC) agreements in Europe, some of which have been successful, some of which have failed, and others that fall somewhere in between. One of the CFE Treaty's core characteristics was minimal delegation to a treaty executor and no third-party state involvement, which contrasts with other, successful CAC agreements in Europe. This raises the question of whether certain agreement⁴²⁷ traits contribute to the likelihood of success. Or, how does delegation to an agreement executor affect the outcomes of conventional arms control agreements involving Europe, and are certain delegation approaches more successful than others?

I answer these questions by identifying and analyzing delegation by disaggregating it into component variables relevant to CAC and using these to assess the different approaches to CAC agreement execution. In the empirical part of this chapter, I introduce a novel dataset of Europe-focused CAC agreements that have entered into force and I employ a sum score methodology to measure the level of delegation of CAC agreements from the end of World War I to the present (see Table 9). This scoring facilitates agreement comparison relative to the dependent variable, agreement success. To elaborate on the sum score approach to measure delegation, two case studies are offered in the appendix B. In sum, while overall delegation is only weakly correlated with agreement outcome, there is a strong relationship between the presence of third-party states and success, and international organizations (IOs) and success.

The question of CAC agreement institutional design and concomitant delegation may become urgent when (assuming) the Russo-Ukraine War ceases or ends altogether.⁴²⁸ Interstate

⁴²⁶ This chapter is based on the article authored by Lippert, William. "Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation." *Global Governance: A Review of Multilateralism and International Organizations* 30, no. 1 (2024): 93–122. <https://doi.org/10.1163/19426720-03001005>. It was accepted on 25 February 2024 and published online on 15 April 2024.

⁴²⁷ The term agreement as used in this chapter includes formal, signed agreements, conventions, and treaties, except when referring to a specific agreement in which case the relevant term in the agreement's title is used.

⁴²⁸ Kühn, for example, emphasizes the importance of adaptability, courtesy, and clarity in arms control agreements—all of which are relevant to issues of CAC agreement delegation. Ulrich Kühn, "Institutional Resilience, Deterrence and the Transition to Zero Nuclear Weapons," *Security and Human Rights* 26, no. 2–4 (December 7, 2015): 262–80, <https://doi.org/10.1163/18750230-02602002>.

conflicts may cease with a temporary cease-fire or more permanent settlement, but both situations often involve agreements, many of which incorporate CAC measures.⁴²⁹

CAC Agreements and Their Delegation Approaches

This chapter focuses on adversarial conventional arms control agreements between geopolitical, interstate rivals and which impose limits, restrictions, or prohibitions on conventional weapon systems such as tanks, aircraft, and artillery; fortifications; troop locations; and specified military activities focused on Europe. A CAC agreement may differ in its level of delegation based on many factors such as the extent to which third parties and IOs are involved and how much autonomy the agreement executor has from states parties. A CAC agreement with no delegation might not significantly change how states parties interact, while a heavily delegated CAC agreement could create a new network and system of relations between states parties to ensure compliance.

High delegation might contribute to successful CAC agreements in a number of ways: an agreement executor to which high levels of authority are delegated, especially an IO,⁴³⁰ can serve as a neutral collector, assessor, and distributor of information, which in turn can increase confidence and security obtained through transparency; provide a formal and possibly objective mechanism(s) to resolve agreement disputes; neutrally implement and enforce the agreement; and increase the diplomatic and reputational costs of defection. Thus, this chapter hypothesizes that higher levels of CAC agreement delegation to an agreement executor increase the likelihood that agreements will succeed.

CAC agreement implementation bodies come in two forms: agreement bodies and IOs. Agreement bodies, such as the CFE Treaty's Joint Consultative Group (JCG), are permanent entities created by the agreement, whose activity is done through meetings of state representatives, with no standing staff or headquarters. Thus, they are formal and legal entities, but have minimal agency. IOs, in contrast, are permanent and have their own staff who, in full or part, work for the organization's interest rather than that of a state. For simplicity, these two types of bodies are referred to collectively in this chapter as *agreement executors*.

⁴²⁹ Reiter, *How Wars End*; Tanner, "Postwar Arms Control."

⁴³⁰ Sur states that "an International Organization [is] a permanent structure established by agreement by two or more States for the common management of certain activities." Sur and United Nations Institute for Disarmament Research, *Verification of Disarmament or Limitation of Armaments*, 209. This chapter uses this definition for IOs although the term intergovernmental organizations (IGOs) is also commonly used.

The role of agreement executors in any CAC agreement is primarily determined by the agreement's text, which itself is drafted and signed by states parties, and sometimes results in the creation of an IO.

An IO's power and influence is directly related to what Robert L. Brown, Erik Voeten, and others refer to as delegation from Member States;⁴³¹ and although their work focuses on formal IOs, the concepts apply similarly to other formal, treaty-established agreement executors such as the CFE's JCG. *Delegation* is the overarching term that encapsulates how and to what extent states grant IOs authority in the principle-agent relationship, with states being the principles and IOs being the agents of their policies. In determining how much Member States have delegated powers to an IO, Brown⁴³² quantitatively assesses the level of delegation based on three categories: agent services, agent resources, and agent autonomy. As Ranjit Lall discusses, states, when considering the role of IOs in CAC agreements, determine to what extent the IO should be independent at the cost of state sovereignty and loss of state control⁴³³ while Liesbet Hooghe and Gary Marks refer to the provision of joint decision-making authority to an IO as *pooling*. Retaining sovereignty comes at the cost of also permitting other states parties to retain sovereignty.⁴³⁴ In practice this means that, for example, if one state party has a veto on decisions, this veto right will also be given to some, or all, other states parties. In contrast, surrendering a veto means that an IO's decisions can be contrary to a state party's policies or a state party's policies can be adopted by an IO more easily.⁴³⁵

Delegation is manifested in a number of ways, including through an IO's authority to set agendas, the expertise of its staff, its ability to interpret legal texts and policies, its resourcing and possession of capabilities, and its possession of unique information.⁴³⁶ Kenneth W. Abbott and Duncan Snidal state that "high delegation in the context of a multilateral agreement would mean vesting decision-making authority in a third party institution with

⁴³¹ Brown, "Measuring Delegation"; Erik Voeten, *Ideology and International Institutions* (Princeton, New Jersey: Princeton University Press, 2021).

⁴³² Brown, "Measuring Delegation."

⁴³³ Ranjit Lall, "Beyond Institutional Design: Explaining the Performance of International Organizations," *International Organization* 71, no. 2 (Spring 2017): 245–80, <https://doi.org/10.1017/S0020818317000066>.

⁴³⁴ Hooghe and Marks, "Delegation and Pooling in International Organizations."

⁴³⁵ Seth Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950* (Baltimore: Johns Hopkins University Press, 2017), <https://doi.org/10.1353/book.98248>. Johnston discusses the difference between the North Atlantic Council's (NAC) consensus rule versus the UN Security Council's permanent five-member veto rule.

⁴³⁶ See, for example, Dijkstra, "Collusion in International Organizations"; Marieke Louis and Lucile Maertens, *Why International Organizations Hate Politics: Depoliticizing the World* (Oxon and New York: Routledge, 2021); Tallberg and Zürn, "The Legitimacy and Legitimation of International Organizations."

strong adjudicative capacity or independent administrative power”⁴³⁷ and where an IO can employ a number of tactics to maximize its authority, even in opposition to states parties.⁴³⁸ IOs are thus an important, though not necessary, tool for states to successfully implement CAC agreements. Abbott and Snidal⁴³⁹ also identify delegation as one of the three primary variables of formal, international agreements.⁴⁴⁰

Independent IOs with high delegation convey several advantages for states parties and CAC agreements, depending on the agreement’s purpose. As Kenneth W. Abbott notes, IOs may serve as a neutral collector and provider of information and may share this with the general public or neutral states.⁴⁴¹ IOs may be more impartial, and thus less “likely to seek collateral intelligence, and less of an intrusion on national sovereignty than monitoring by other states.”

Sum Scoring Methodology

This chapter uses a sum score methodology to assess the variables that compose delegation and then measure the extent of delegation, based on the sum of the variables. Sum score methodology is a widely used approach in health sciences, particularly in psychology. A sum score methodology is based on assessing individual questions of variables, and then adding them up. The sums result in a score, or multiple scores, that can be compared within an overall test, between subjects or between sets. The scores can be averaged (mean) to simplify comparisons and assessments.

As Peter Adriaan Edelsbrunner states, sum scores “include the statistical and conceptual simplicity of building such a score: building a sum score does not require setting up an elaborate statistical model.”⁴⁴² Typically, psychology researchers have to deal with large *n* (over 1,000) population. Sum score methods can simplify assessments of tests and subjects. There are many examples of sum score tests and subsequent studies. The Hamilton rating scale for depression

⁴³⁷ Kenneth W. Abbott and Duncan Snidal, “Hard and Soft Law in International Governance,” *International Organization* 54, no. 3 (Summer 2000): 421–56, <https://doi.org/10.1162/002081800551280>.

⁴³⁸ Alexander Wendt, “Anarchy Is What States Make of It: The Social Construction of Power Politics,” *International Organization* 46, no. 2 (1992): 391–425. Johnston identifies “several mechanisms” that impart institutional power (in his book, for adaptation): convening, agenda setting, delegating, information sharing, delaying, moderating, co-opting; Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950*, 28–31.

⁴³⁹ Abbott and Snidal, “Hard and Soft Law in International Governance.”

⁴⁴⁰ The authors propose obligation, precision, and delegation as the three variables for assessing the formality and strength of treaties, including arms control agreements. They generalize arms control agreements as having high obligation and precision, but low delegation. Abbott and Snidal, 443.

⁴⁴¹ Abbott, “Trust But Verify: The Production of Information in Arms Control Treaties and Other International Agreements,” 35.

⁴⁴² Edelsbrunner, “A Model and Its Fit Lie in the Eye of the Beholder: Long Live the Sum Score,” 1.

is “one of the most commonly used depression measures in clinical practice,”⁴⁴³ and adds up responses from seventeen items with more points indicating higher levels of depression.⁴⁴⁴ Another example is Thomas Stochl et al., who analyze two sum score-based anxiety and depression tests that use the mean scores of each test to assess the impact of counseling appointments.⁴⁴⁵ Sum score tests such as the Fatigue Assessment Scale (FAS) or the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-30 (EORTC QLQ-C30) quality of life test for cancer patients can also simplify diagnoses and follow-up action for clinicians. Richard Whittington et al. use sum score means to compare mental health tests from subjects in four countries.⁴⁴⁶

A key aspect of accurate sum score-based tests and studies is unidimensionality, which means that each item in a sum score test or evaluation is independent of each other item; that is, the items do not substantially influence one another and can have any value regardless of other items’ the values. As Moritz Heene, Andrew Kyndon, and Sckopke state, “Unidimensionality must hold before ... a total score is calculated. ... Violation of unidimensionality may bias item and ... estimates and will result in wrong conclusions about the nature of latent traits.”⁴⁴⁷ In this study, I have attempted to ensure unidimensionality of the nine variables through careful consideration and assessment of the theory, application, and history of CAC agreement implementation while acknowledging that the nine independent variables may likely possess some causal relationships.

Case Selection

There are several different types of arms control agreements, including universal (humanitarian), nonproliferation, and export. In this chapter, I focus on adversarial conventional arms control agreements that entered into force between geopolitical, interstate rivals and that impose limits, restrictions, or prohibitions on conventional weapon systems such

⁴⁴³ Jan Stochl et al., “On Dimensionality, Measurement Invariance, and Suitability of Sum Scores for the PHQ-9 and the GAD-7,” *Assessment* 29, no. 3 (April 2022): 356, <https://doi.org/10.1177/1073191120976863>.

⁴⁴⁴ Rachel Sharp, “The Hamilton Rating Scale for Depression,” *Occupational Medicine* 65, no. 340 (2015), <https://doi.org/10.1093/occmed/kqv043>.

⁴⁴⁵ Stochl et al., “On Dimensionality, Measurement Invariance, and Suitability of Sum Scores for the PHQ-9 and the GAD-7.”

⁴⁴⁶ Richard Whittington et al., “Unidimensionality of the Strengths and Vulnerabilities Scales in the Short-Term Assessment of Risk and Treatability (START),” *International Journal of Forensic Mental Health* 21, no. 2 (August 2, 2021): 175–84, <https://doi.org/10.1080/14999013.2021.1953193>.

⁴⁴⁷ Moritz Heene, Andrew Kyndon, and Philipp Sckopke, “Detecting Violations of Unidimensionality by Order-Restricted Inference Methods,” *Frontiers in Applied Mathematics and Statistics* 2 (March 31, 2016): 1, <https://doi.org/10.3389/fams.2016.00003>.

as tanks, aircraft, and artillery; fortifications; troop locations; and specified military activities.⁴⁴⁸

The focus in this study is on CAC agreements in Europe, which not only narrows the scope of the agreements considered but does so based on the notion that historical experiences and institutions in Europe, especially in CAC, are most relevant to any future CAC agreement. For example, a future agreement will likely involve the North Atlantic Treaty Organization (NATO), the European Union (EU), and possibly the Organization for Security and Co-operation in Europe (OSCE)—all institutions based in Europe. NATO and the OSCE were created, along with several CAC agreements considered in this chapter, in part to deal with the NATO-Warsaw Treaty Organization (WTO) rivalry—a competition in which the Russo-Ukraine War has roots.⁴⁴⁹ As Thomas Sommerer and Jonas Tallberg note, international organizations working in the same domain in the same region develop relationships and cooperation, in part due to similar cultures; and that organizations with similar mandates but in different regions do not cooperate in the same way.⁴⁵⁰

Nineteen CAC agreements and other agreements or sets of agreements that entered into force, which have a substantial CAC element in Europe from 1918 to present, form a dataset in which nine variables are considered (see Table 9). Several judgments were made in the case selection and how they are counted and consolidated such as grouping together the post-conflict agreements for World War I and II into one case each.⁴⁵¹ The first is that several of the World War I and II agreements were grouped together because they are similar and were signed in the same period in comparable geopolitical circumstances. Several of the 1919–1920 post-World War I peace agreements with Austria, Bulgaria, Germany, and Hungary, as well as the post-World War II agreements with the defeated Axis states are treated as one as they are identical from a delegation perspective.⁴⁵² Moreover, within the post-World War I treaties, at least three

⁴⁴⁸ Other definitions of arms control are provided by Bull and Morgan. Bull, “Arms Control and World Order”; Morgan, “Arms Control: A Theoretical Perspective.” This chapter uses a more specific definition, focusing on geographic conventional arms capabilities limitations and prohibitions between rival or adversarial states. This, then, excludes, for example, agreements that focus on humanitarian effects of weapons, export controls to control proliferation, or nuclear, biological, or chemical weapons.

⁴⁴⁹ Jake Coyle, “In Russian Invasion of Ukraine, Cold War Echoes Reverberate,” AP NEWS, March 17, 2022, <https://apnews.com/article/cold-war-echoes-russia-us-ukraine-0050dd806e5f8748bf59b5e84d15b959>; Lippert, “A European Military Balance Organization and Dynamic Conventional Arms Control”; M. E. Sarotte, “The Classic Cold War Conundrum Is Back,” *Foreign Policy* (blog), July 1, 2022, <https://foreignpolicy.com/2022/07/01/iron-curtain-russia-ukraine-cold-war/>.

⁴⁵⁰ Sommerer and Tallberg, “Diffusion Across International Organizations.”

⁴⁵¹ Some quantitative studies of arms control agreements, such as Brender, count individual versions and separate protocols of overall agreements; Brender, “Determinants of International Arms Control Ratification.”

⁴⁵² For Hungary and Bulgaria, the main CAC clauses involved withdrawal of arms forces

separate IOs were created for each country, but these are similar enough so that they can be treated as one for analytical purposes. Second, some agreements were not included because of exceptionally short duration and they were nullified due to the geopolitical situation outside of the signatories' control (e.g., the 1918 Treaty of Brest-Litovsk between Germany and Russia, which was irrelevant within a year and nullified due to Germany's defeat).

to their national borders. For Italy, there was a general reference to demobilization. Finland was obligated to reduce the size of its military. No specific limitations were set for Austria until the 1955 peace treaty. Germany was generally obligated to disarm. Compared to most other CAC agreements, the post-World War II CAC agreements are vague.

Table 9: Conventional Arms Control (CAC) agreement dataset, delegation scores, and success scores

Agreement	Year	Mandate modification	Governance independence	Staff independence	Assessment independence (of the governing body)	Enforcement authority	Agent resources	Monitoring	On-site inspection (by the managing body/ICG)	Third-party state involvement	Total number of delegation points	Success
Post-World War I peace treaties	1919	0	0.5	0.5	1	1	1	1	1	0	6	0.5
Svalbard (Spitsbergen) Treaty	1920	0	0	0	0	0	0	0	0	1	1	1
Finnish-Russian Dorpat/Tartu Agreement	1920	0	0	0	0	0	0.25	0	0	0	0.25	0.5
Åland Island convention	1921	0	0	0	0	0	0	0	0	1	1	1
Washington Naval Treaty	1922	0	0	0	0	0	0	0	0	0	0	0.5
Lausanne Agreements of 1923	1923	0	0	0	1	0	0.25	1	0	1	3.25	1
London Naval Treaties	1930, 1936	0	0	0	0	0	0	0	0	0	0	0
Anglo-German Naval Treaty	1935	0	0	0	0	0	0	0	0	0	0	0
Montreux Convention of the Straits	1936	0	0	0	0	0	0	0	0	1	1	1
Moscow Treaty (Finland and Russia) of 1940	1940	0	0	0	0	0	0	0	0	0	0	0
Post-World War II agreements	1945	1	0.5	0.5	0.5	1	1	1	1	0	6.5	0.5

Western European Union (WEU) agreements	1954	0	0.5	0.5	1	0	0.5	1	1	0	4.5	1
Intermediate-Range Nuclear Forces (INF) Treaty	1987	0	0	0	0	0	0.25	0	0	0	0.25	0.5
Conventional Forces in Europe (CFE) Treaty	1990	0	0	0	0	0	0.25	0	0	0	0.25	0.5
Subregional Arms Control (Balkans)	1996	0	0.5	0.5	0.5	0	0.5	1	1	1	5	1
Belfast Agreement	1998	0	1	1	1	0	0.25	1	1	1	6.25	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	1999	0	0.5	0.5	1	1	1	1	1	1	7	1
Six-Point Peace Plan for Georgia	2008	0	1	0.5	1	0	1	1	1	1	6.5	1
Minsk agreements	2015	0.5	0.5	0.5	1	0	1	1	1	1	6.5	0

Source: Author's research and analysis

Third, two CAC agreements that do not address the military balance between rivals were included because they have enough resemblances to such agreements and provide important and relevant insights to CAC agreements and delegation to agreement executors because the agreement was between formal rivals and a fear of a future rivalry (the creation of the Western European Union's Agency for the Control of Armaments [ACA]); or between former rivals and the creation of two IOs with high delegation (the 1998 Belfast Agreement).

The nineteen cases vary substantially in character, historical context, and geopolitical situation. While a reasonable question might be asked if they are compatible for the purpose of assessing CAC delegation and agreement success, there is no clear measure that should discount some while retaining others except, perhaps, the exclusion of the Western European Union (WEU) and Belfast agreements between former rivals. All the agreements share some type of restrictions and limits on conventional arms. And although the circumstances in which each agreement was signed may vary considerably, this is also the case with conflicts for which scholars nonetheless attempt to identify common factors and trends.⁴⁵³

This chapter focuses on conventional arms control, excluding nuclear arms control agreements for several reasons. First, the limited number of rival nuclear arms control agreement parties (almost all are between the United States and Soviet Union/Russia) makes them less relevant to CAC agreements in part because—with only two parties—there is a minimal need for delegation. Second, nuclear arms control is based on averting an exchange of nuclear weapons for fear of near-global annihilation—which a conventional conflict does not pose. Finally, a post-Russo-Ukraine War agreement is likely to have some resemblance to or will be based on previous CAC agreements.

Case studies for the CFE Treaty and the Minsk agreements for Ukraine are presented, which demonstrate different delegation approaches to CAC agreements and explain how each variable for each case was scored, are available in appendix B.

Measuring Conventional Arms Control Agreement Delegation

Brown's study on IO delegation quantitative approaches to measuring IO delegation serves as a methodological example for this chapter, identifying three broad measures of delegation: agent services, agent resources, and agent autonomy which are in turn composed of sub-

⁴⁵³ Lebow, *Why Nations Fight*; Douglas M Gibler, Toby J Rider, and Marc L. Hutchison, "Taking Arms Against a Sea of Troubles: Conventional Arms Races During Periods of Rivalry," *Journal of Peace Research* 42, no. 2 (March 2005): 131–47; Van Evera, *Causes of War*.

measures.⁴⁵⁴ Brown also assigns scores to the variables, using these scores to assess delegation trends over time for individual IOs.⁴⁵⁵ A substantial difference between this chapter and Brown's study is that this chapter compares different agreements and their outcome, while Brown attempts to establish the notion that delegation to IOs is measurable in the first place and then he shows increasing delegation over time for specific IOs. While Brown's study offers a framework to measure IO delegation, this study's variables differ from his in quantity (nine versus three independent variables) because Brown's study does not assess notions of "success" and they apply more broadly to IOs, while this study's purpose is to analyze agreement success as a dependent variable with the particularities of a CAC agreement. Although Brown discusses IOs specifically, the following discussion in reference to Brown's study refer to agreement executors more generally.

This chapter measures nine variables to assess the level of delegation to CAC agreement executors, as explained below. At the lowest level of delegation, an agreement is little more than an agreement between states that sets military limits of some kind, but otherwise does not create an agreement executor so that verification is left to ad hoc, bilateral activities, if at all.

The variables are measures of delegation to agreement executors, thus they are not measures of whether or not a given function is permitted by states parties, but whether or not an agreement executor can conduct the function. Table B 1 lists and explains the variables and their scoring range. The points were added up to determine a delegation score. Each variable is considered of equal value from a point perspective; that is, having enforcement authority is considered equal to having monitoring authority. While a strong case can be made that the weight of the variables may not be equal, they are treated as such for simplicity of comparisons and assessment and because of uncertainty over how to differentially weigh each variable.⁴⁵⁶

Mandate Modification

This variable measures whether or not an agreement executor could (or did) change or reinterpret its mandate without significant state party approval such as a renegotiation of the

⁴⁵⁴ Brown, "Measuring Delegation."

⁴⁵⁵ Brown also addresses the use of an additive (sum) approach and how he weighted his indicators; Brown, 144.

⁴⁵⁶ See Widaman and Revelle for a discussion about sum scoring with weighted variables and items; Widaman and Revelle, "Thinking Thrice about Sum Scores, and Then Some More about Measurement and Analysis."

agreement. CAC agreements usually have a specific mandate⁴⁵⁷ that cannot easily be modified even if the states parties wish to do so, without renegotiation and resigning. There are many reasons for this, including a reluctance to permit any side to attempt to substantively alter the agreement to obtain more favorable terms if there is a change in the geopolitical and security situation. Thus, if states parties erect high barriers to agreement mandate modification to prevent one another from modifying the agreement mandate, they are unlikely to delegate the ability to do so to agreement executors.

Governance Independence

The extent to which a CAC agreement executor has any *governance independence*, defined here by their ability to make major decisions without explicit state party consent, can vary based on how it is staffed, its voting rules, and to what extent it may make and execute decisions. Brown discusses different components of agent autonomy, which include management autonomy, stating that “delegation increases with the decreasing ability of the principal to revise or retract the delegation contract.”⁴⁵⁸ Brown also discusses the ability of an IO to engage in bargaining as a measure of delegation, though he places it under agent services.⁴⁵⁹

In this chapter, *governance independence* is defined by the agreement executor leadership, senior and mid-level managers being authorized to make decisions about how to implement a CAC agreement such as where and when to conduct inspections; organizational decisions such as staffing and budget allocations; and substantial leeway in daily operations.

Staff Independence

This variable measures to what extent an agreement executor’s staff are independent, wherein organizations in which the majority of staff are under contract and not officially linked to a national administration are the most independent, while those whose staff solely represent their government are the least independent. Staff independence is determined by what extent staff working for or in the agreement executor are independent of national governments and

⁴⁵⁷ Defining a mandate for CAC is difficult, but in general could be summarized as the where, what, and how limits and prohibitions on forces and military equipment are defined, determined, and implemented. The CFE Treaty, for example, allowed states to designate any new models of military equipment that fell under the five Treaty Limited Equipment categories, which does not shift the military balance or the treaty’s scope. However, it did not permit changes to the geographic zoning, nor accept accession new members beyond certain former Soviet states that signed and acceded in 1992.

⁴⁵⁸ Brown, “Measuring Delegation,” 150.

⁴⁵⁹ Brown, 145.

represent the interests of the executor, usually an IO, first and foremost. On a scale of most independent to least independent, treaty executors may range from all staff working only for the organization (usually an IO), to there being a mix of seconded, international contract, and semidetached staff, to staff representing only their national governments.

Monitoring

States may delegate monitoring responsibilities to a CAC agreement executor. Brown places IO monitoring under agent services, stating that “monitoring delegation occurs when an IO is more than a clearing-house for self-reporting and has some autonomy to select the time (length of notice), place, or intrusiveness of routine monitoring activities or performs analysis of the acquired private information that produces new data needed for mission-relevant conclusions.”⁴⁶⁰ Monitoring tasks might include conducting open-source research, having access to intelligence, having resources to purchase commercial information, receiving reports from states parties, or performing other duties that might permit an assessment but not constitute on-site inspections, which is a separate variable. The extent to which IOs are given greater resources to surmount these obstacles suggests delegation, especially when IOs are empowered to monitor the states from which their resources derive.

Assessment Independence

One of the fundamental aspects of a CAC agreement is the assessment of states parties’ compliance. This role can be performed by the states parties themselves, through alliances, through a third party such as a neutral state, or by the agreement executor if authorized to perform assessments. An agreement executor’s ability to perform assessments reflects the extent to which states have entrusted the agreement executor, delegating it with a responsibility in which the executor can pass judgment with substantial security and political impact. When states retain assessment authority, they can weigh accusations of violations or affirmations of compliance with other issues, including consideration of the impact. If states grant agreement executors the right of assessment, they may be opening themselves up to scrutiny as they surrender a potentially important political tool to a third party. One example of complications

⁴⁶⁰ Brown, 146.

in delegating assessment independence to an IO was the role of UN inspectors in Iraq offering assessments that were contradictory to the US assessments.⁴⁶¹

On-Site Inspection

On-site inspection entails a loss of sovereignty because it permits another state or entity to enter one's territory or military facilities and inspect them, potentially enabling intelligence collection, uncovering activities or capabilities that states might prefer to be keep secret, and opening up a nation's military activities and capabilities to challenge.⁴⁶² Granting a CAC agreement executor the authority to conduct inspections suggests a high level of delegation as states are entrusting another entity to ensure that agreements are being respected. This is a substantial sacrifice of sovereignty as it entails potentially increased risks that violations will not be detected, increasing the vulnerability of attack from the inspected state. When state signatories accept inspections on their territory or of their military capabilities outside of their territory, whether by an IO or another state, they are sacrificing sovereignty.⁴⁶³ During the interwar period, states discussed disarmament and arms control, with some states and international officials suggesting a global system of inspections. US president Woodrow Wilson, however, despite his internationalist visions, rejected inspections as he felt they infringed on national sovereignty.⁴⁶⁴

Enforcement Authority

Enforcement of a CAC agreement may require the use of military force that remains the primary domain of states, even if they might lend military forces to an international body. And it is states that violate CAC agreements by having military forces in prohibited areas, possessing weapons that they had agreed not to possess, and so forth. Thus, ejecting or eliminating military forces in violation of an agreement may require military force that agreement executors are unlikely to have and that entail substantial risks and costs, or levying other diplomatic or economic sanctions, which again are mostly the purview of states. When an agreement executor is granted some amount of enforcement authority, this may either

⁴⁶¹ Robert E. Kelley, "Twenty Years Ago in Iraq, Ignoring the Expert Weapons Inspectors Proved to Be a Fatal Mistake," SIPRI Commentary, March 23, 2023, <https://www.sipri.org/commentary/essay/2023/twenty-years-ago-iraq-ignoring-expert-weapons-inspectors-proved-be-fatal-mistake>.

⁴⁶² Lewis A. Dunn, "Arms Control Verification: Living with Uncertainty," *International Security* 14, no. 4 (Spring 1990): 165–75, <https://doi.org/10.2307/2538757>.

⁴⁶³ Tanner, "Postwar Arms Control"; Vaynman, *Enemies in Agreement: Domestic Politics, Uncertainty, and Cooperation between Adversaries*.

⁴⁶⁴ Richard Dean Burns, "International Arms Inspection Policies Between World Wars, 1919-1934," *The Historian* 31, no. 4 (August 1, 1969): 583–603.

remove the decision to use force against a violator from states, or potentially commit states parties to use force against a violator.

Thus, granting enforcement authority demonstrates a high level of delegation and introduces higher sovereignty costs.⁴⁶⁵

Agent Resources

Agent resources refer to the financial, manpower, equipment, and other resources that a CAC agreement executor may have at its disposal. Brown identifies agent resources as one of the three measures of delegation, stating that “IOs with more resources and more autonomous resources have a greater capacity to provide services and are harder for principals to monitor and sanction.”⁴⁶⁶ His measurement is based on staff size and budget.

At the lowest level, an executor may have almost no resources available, only the meeting space and the staff who attend the regular meetings as official representatives. At the other end of the scale, an executor might have at its disposal a substantial budget of tens of millions of US dollar equivalents or more, vehicles, hundreds of personnel, and a multipurpose secretariat. Higher levels of resources allocated to the executor suggest higher levels of delegation, as states parties have given the executor more tools and resources to conduct a broader range and higher number of tasks and activities.

Third-Party State Involvement

There are two ways in which a CAC agreement can have third-party state involvement. First is as a signatory to the agreement, and in this chapter the third-party state signatory is not imposing or joining the CAC agreement for their own, immediate security and they do not predominately favor any of the primary rival states or blocs. They serve the role of an active adjudicator and guarantor. A third-party state may wish to see opposing sides achieve a stable relationship for reasons of trade, humanitarian purposes, or to demonstrate their diplomatic influence. Virginia Page Fortna and Suzanne Werner and Amy Yuen discuss the contributions of third parties’ involvement in cease-fires and peace agreements.⁴⁶⁷

While being a third-party signatory does not automatically convey delegation to an agreement executor, this chapter counts third-party state signatories as equivalent to third-party state involvement in an agreement executor because of the similarities in diplomatic costs of

⁴⁶⁵ Abbott and Snidal, “Hard and Soft Law in International Governance,” 433–35.

⁴⁶⁶ Brown, “Measuring Delegation,” 149.

⁴⁶⁷ Fortna, *Peace Time*; Werner and Yuen, “Making and Keeping Peace.”

defection, the role that the signatories can play in adjudicating and resolving disputes, and their potential of providing other expertise and resources to facilitate agreement implementation. Second, third-party states may be actively involved in implementation as part of the agreement executor. This could include being a member of the agreement executor as a state party, lending officials to the executor's leadership, providing experts, or seconding staff. Third-party state involvement increases the level of delegation as well as the diplomatic cost of defection.

Defining and Assessing Agreement Success

These nineteen CAC agreements demonstrate different approaches to agreement executor delegation and can show to what extent delegation and agreement success may be related. Defining *CAC agreement success* is difficult for several reasons, and no available resource in the scholarship has attempted to assess CAC success for the nineteen CAC agreements used in this study's dataset. A brief explanation for each agreement's success score (unsuccessful, somewhat successful, successful) is shown in Table B 2. Success is determined by a number of considerations such as whether the states parties went to war over the primary issues that the CAC agreement was intended to address. For example, though many signatories of the Åland and Spitsbergen Islands agreements and the Montreux Convention went to war, they did not go to war over issues concerning demilitarization and arms control in these three areas. The duration during which an agreement lasted is also a consideration, with brief agreements that failed due to conflict being considered a success, agreements that lasted several decades but ended either due to conflict or disputes over the agreement between the states parties being a partial success, and agreements that are still in force today or lasted more than several decades and ceased to be relevant due to an end of the rivalry being considered a success.⁴⁶⁸ Agreements that ended and then were followed by a conflict some years later or that lasted over twenty-five years are considered somewhat successful. Agreements that terminated within ten years due to the outbreak of armed conflict between the states parties on issues that the agreement was supposed to address are considered failures.

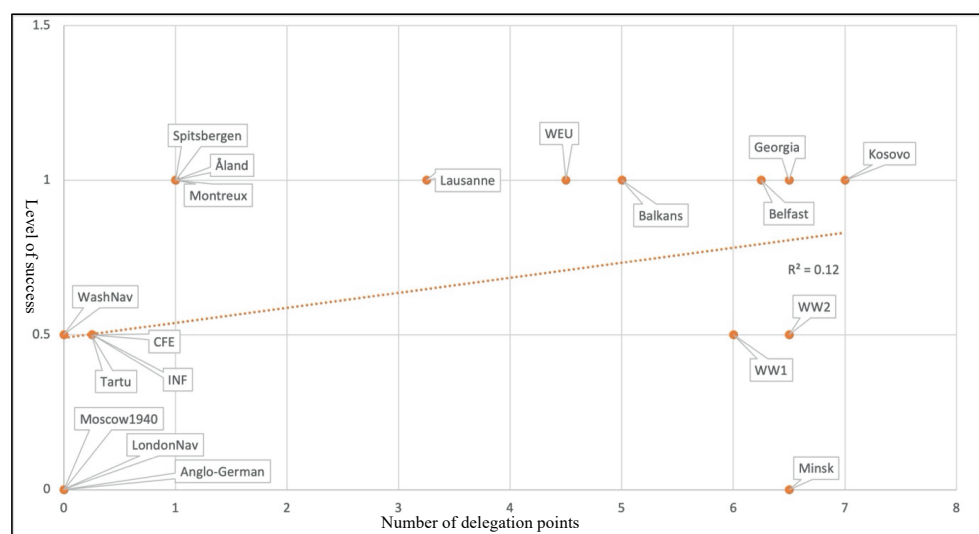
⁴⁶⁸ Vaynman acknowledges that an "important challenge for thinking about [agreement] effectiveness is determining the period that an adversarial agreement should be in place for it to be considered effective." Vaynman, *Enemies in Agreement: Domestic Politics, Uncertainty, and Cooperation between Adversaries*, 314.

Assessment of Delegation Approaches to CAC

Overall Observations

Of the nineteen CAC agreements in the dataset, nine are assessed as fully successful, six somewhat successful, and four overall failures. Ten of the agreements were assessed as being of infinitely successful duration; that is, between their date of signature and today, the states parties have not gone to war or they have not gone to war over the subject of the agreement.⁴⁶⁹ Figure 5 shows that while the data is significantly scattered, there is a weak correlation ($r^2 = 0.12$) between delegation scores and agreement success. Two sets of data points in particular weaken the correlation: the Minsk agreements that failed despite high levels of delegation, and the Spitsbergen, Åland, and Montreux agreements that were successful despite low levels of delegation. These, however, cannot be considered as statistical outliers as there is no reason to discount them. That is, they serve as important examples of how levels of delegation were not predictors of agreement success.

Figure 5: Relationship between level of success and number of delegation points

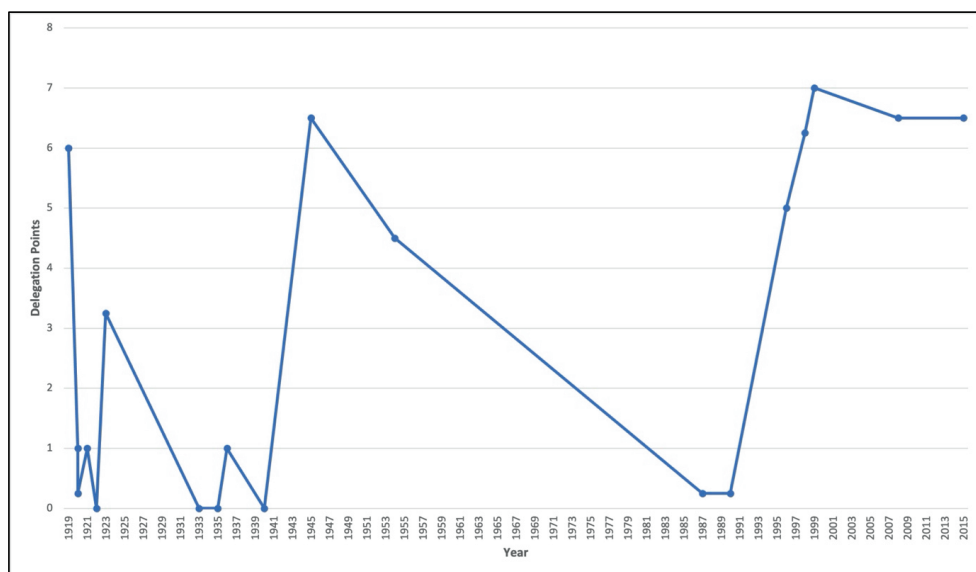


Source: Author's graphing and calculations with Microsoft Excel

⁴⁶⁹ For example, Japan went to war with several of the 1920 Spitsbergen Treaty signatories, but the war was not in any way linked to disputes over Spitsbergen or the Arctic Ocean. Similarly, some of the Lausanne Agreement of the (Bosporus) Straits/Montreux Agreement signatories went to war, but it was not over the straits and did not involve Turkiye.

Of the nine successful agreements, seven were implemented by or significantly included an IO. Indeed, the only nonfully successful agreement that had third-party IO involvement is the Minsk agreements. The dataset also shows increasing delegation over time, though the correlation coefficient of 0.296 is weak (see Figure 6). Three out of ten agreements incorporated an IO prior to World War II, while seven out of nine incorporated an IO after World War II, suggesting that incorporation of IOs in CAC agreements conforms with the general trend of the increasing number of IOs.⁴⁷⁰ A total of ten agreements substantially incorporated an IO, leaving nine that did not. Out of the four failed CAC agreements, three did not incorporate an IO.

Figure 6: Extent of delegation to Conventional Arms Control (CAC) agreement executors over time



Source: Author's calculations and graphing with Microsoft Excel

Overall Delegation Score Implications

Overall, the interwar agreements scored low in delegation, with the marked exception of the post-World War I interallied commissions. For example, the three sets of naval agreements had low delegation scores because agreement executors were not formed to oversee the agreements.

⁴⁷⁰ Inken von Borzyskowski and Felicity Vabulas, "Hello, Goodbye: When Do States Withdraw from International Organizations?," *The Review of International Organizations* 14, no. 2 (2019): 335–66, <https://doi.org/10.1007/s11558-019-09352-2>.

The agreements concerning the Turkish Straits included an assessment and monitoring commission, but it did not have any inspection functions. After World War II, delegation to CAC agreement executors was significantly higher, with only the INF⁴⁷¹ and CFE Treaties scoring low (0.25). The high delegation scores were mostly due to a combination of governance and staff independence, monitoring and inspection authority, and third-party state involvement.

The highest delegation scoring CAC agreement with 7.0 points was the agreement that ended the 1999 Kosovo conflict that created the NATO-led Kosovo Force (KFOR) and the Joint Implementation Commission (JIC), which is composed of KFOR and Serbian representatives to oversee agreement implementation.⁴⁷² The KFOR mission has been successful; violence between Serbia and Kosovo has not returned between the governments, nor have KFOR/NATO and Serbian forces clashed. Indeed, NATO and Serbia enjoy a positive relationship, although recent instability between ethnic Serbs in Kosovo and the Kosovar government could undermine the 1999 agreement.⁴⁷³

Following this with a score of 6.5 are three agreements (or sets of agreements): the post-World War II agreements, the 2008 cease-fire agreement between Georgia and Russia, and the 2014–2015 Minsk agreements. After World War II, the Allied Control Councils and Commissions (ACC s) were created when each Axis nation surrendered and were charged with overseeing the occupation of defeated Axis powers. These scored high in delegation points in part due to their broad enforcement authority, which was granted to the agreement executors in the agreements and backed up by substantial military capabilities. This was in contrast to the post-World War I interallied commissions, for example, which could not enforce compliance but had to appeal to national governments and the Conference of Ambassadors when compliance issues arose. Assessing the ACC s, which had absolute control in each occupied state and the post-World War II agreements, however, is more complicated. Some of the defeated Axis states rapidly switched to the Allied side, making disarmament or arms control

⁴⁷¹ The Intermediate-Range Nuclear Forces (INF) Treaty is a nuclear weapons-related treaty, but the prohibitions included conventional land-based missiles of certain ranges.

⁴⁷² Drew Balstad, "Joint Implementation Commission Monitors Boundary Lines," U.S. Army, May 3, 2010, https://www.army.mil/article/38400/joint_implementation_commission_monitors_boundary_lines.

⁴⁷³ EWB, "Romano: Cooperation between Serbia and NATO Closer That It Seem," *European Western Balkans* (blog), January 15, 2024, <https://europeanwesternbalkans.com/2024/01/15/romano-cooperation-between-serbia-and-nato-closer-that-it-seem/>; Mila Manojlovic and Andy Heil, "Serbia's Vucic Weighs A Return To Military Conscription, Stirring Anger To His Left And Right," *Radio Free Europe/Radio Liberty*, January 11, 2024, sec. Serbia, <https://www.rferl.org/a/serbia-conscription-vucic-anger-modernizing-military/32770746.html>; "Mission of The Republic of Serbia to the NATO," accessed August 13, 2023, <http://www.nato-brussels.mfa.gov.rs/index.php>; NATO, "Relations with Serbia," NATO, May 23, 2022, https://www.nato.int/cps/en/natohq/topics_50100.htm; RFE/RL Balkan Service, "NATO To Send More Troops To Kosovo As U.S. Says Pristina Suspended From Military Exercises," *RadioFreeEurope/RadioLiberty*, May 30, 2023, <https://www.rferl.org/a/kosovo-violence-serbs-kfor-borrell/32434719.html>.

irrelevant. To the extent to which the agreements and any CAC measures, including disarmament and demobilization, were intended to prevent any defeated Axis state from waging war against the Allies again, the agreements were successful.

The Minsk agreements and Six Point Peace Plan that terminated the 2008 Russia-Georgia conflict have many similarities. Both agreements were supported by third-party states, and both had international implementing bodies supported by third-party states; in the case of Georgia it was the European Union's Monitoring Mission in Georgia (EUMM),⁴⁷⁴ and for Ukraine it was the OSCE's Special Monitoring Mission (SMM).⁴⁷⁵

Interestingly, the three second-to-top-scoring agreements have three different outcomes. As previously noted, the World War II agreement outcomes were somewhat successful due to Cold War complexities. The Minsk agreements were a failure, while peace in Georgia has held even though the territorial issues remain unresolved.

Four agreements scored zero in delegation, primarily because they did not create or involve an agreement executor. All monitoring, verification, enforcement, and management activities were conducted by states parties if they were done at all. Of these, three of the agreements were unsuccessful and one was partially successful. Three interwar agreements with a low delegation score of one were successful, indicating that low delegation—at least during the interwar years—did not necessarily result in failure. These three agreements were focused on geographic demilitarization and not intended to balance military power, and they were not primarily between rival states.

The cases do not offer a clear and consistent reason why high or low delegation was chosen. Observing that the selected delegation level was done on a case-by-case basis is of limited, theoretical value, but this seems to be the case. The notion of internationalism was firmly established with the creation of the League of Nations shortly after World War I's termination, and several CAC agreements incorporate a role for it or they involve other forms of delegation.⁴⁷⁶ At the same time, interwar agreements also incorporated minimal to no delegation. It is not the case that approaches became more harmonious over time either, except perhaps in the post-Cold War period. During the Cold War, two of the agreements had low

⁴⁷⁴ "The European Union Monitoring Mission In Georgia (Fact Sheet)" (European Commission, EUMM, n.d.), <https://www.eumm.eu>.

⁴⁷⁵ OSCE, *A Peaceful Presence - The First Five Years of the OSCE Special Monitoring Mission to Ukraine* (Vienna: OSCE Conflict Prevention Centre, 2021).

⁴⁷⁶ Niels Van Willigen, "Dutch Foreign Policy: Staying the Course Amid a Changing World," in *Foreign Policy Change in Europe Since 1991*, ed. Jeroen K. Joly and Tim Haesebrouck (Cham: Springer International Publishing, 2021), 205–31, https://doi.org/10.1007/978-3-030-68218-7_9. Van Willigen discusses in detail the relationship between liberal internationalist views common after World War One, international institutionalism, and arms control.

delegation, but then following the Cold War agreements shifted more consistently to higher delegation. Although if the 1999 Adapted CFE Treaty had entered into force, it would have retained the CFE Treaty's approach of low delegation. The consistently higher delegation for agreements in the post-Cold War period could be due to the general increase in multilateral cooperation that flourished in the absence of great-power competition.⁴⁷⁷

Third-Party State Involvement

Almost all the fully successful agreements had third-party state involvement, whether as signatories or implementers.

The 1920 Spitsbergen Treaty signatory countries included South Africa, Japan, and New Zealand—none of which were directly implicated in Norway's small island chain. The Åland Island Convention signatories included France and the United Kingdom, neither of which were Baltic Sea states and the agreement assigned the League of Nations' Council, which was composed of national representatives, the role of adjudicating any disputes. The 1923 Lausanne Treaty/1936 Montreux Convention for the Straits signatories included Japan, which had no interests in operating its navy in the Black Sea or Eastern Mediterranean.

The 1998 Belfast Agreement, also known as the Good Friday Agreement, which was signed between Ireland and the United Kingdom and required a reduction of British armed forces from Northern Ireland, saw substantial participation from the United States, both in getting the concerned parties together and implementing the agreement.⁴⁷⁸ The UK and Ireland also appointed former senior US, South African, and Finnish officials in a nonofficial capacity as members of commissions involved in Northern Ireland's demilitarization.⁴⁷⁹

All of the agreements that were unsuccessful or partly successful lacked third-party state involvement; and the only agreements that were unsuccessful despite third-party state involvement were the Minsk agreements.

⁴⁷⁷ Will Moreland, "The Purpose of Multilateralism: A Framework for Democracies in a Geopolitically Competitive World" (Washington, DC: Brookings, September 2019).

⁴⁷⁸ "US Involvement in the Northern Irish Peace Process and the Good Friday Agreement" (Center Forward, August 2019). The efforts to establish peace in Northern Ireland resulted in the creation of two international organizations: the Independent Monitoring Commission (IMC) and the Independent International Commission on Decommissioning (IICD).

⁴⁷⁹ Former deputy director of the Central Intelligence Agency (CIA) Dick Kerr was on the Independent Monitoring Commission. Independent Monitoring Commission 2007. The three commissioners on the Independent International Commission on Decommissioning were from Canada, Finland, and the United States; while two agents appointed by the UK and Ireland were former South African president Cyril Ramaphosa and former president of Finland Martti Ahtisaari. US and Canadian explosives experts assisted the IICD with ordnance disposal, while the US government retains records of decommissioned arms available to the UK and Ireland only by joint, written request.

For several of the variables, there was no clear relationship with success. For example, high, medium, or low levels of agent resources resulted in successful, somewhat successful, and failed agreements with approximately the same frequency. Similarly, possession of enforcement authorization does not reveal any clear trends, although only three agreement bodies had enforcement authorization, all three of which were the result of a state surrendering to international coalitions (World War I, World War II, and the 1999 Kosovo conflict wherein KFOR was authorized by the agreement to use military force against the former Yugoslavia).⁴⁸⁰ Only two agreement bodies had any mandate revision authority: the post-World War II ACCs because of the absolute power assumed by the victors over the vanquished, and the OSCE SMM in Ukraine that was able to adjust its mandate to deal with unexpected contingencies such as the shutdown of Malaysian Airlines Flight MH17.⁴⁸¹

There may be several reasons why third-party involvement may be such a significant variable of CAC agreement success. First, third-parties as signatories may increase the diplomatic cost of violating an agreement. When one or several third parties sign an agreement, the primary states parties commit themselves not just to the adversary or rival, but also to these third parties. In short, in return for the third party's diplomatic blessing on the agreement, the primary states parties are promising to fulfill the agreement. One can imagine that a state party may violate an agreement with a rival because the relative gains are worth it. For example, a state may violate or withdraw from an arms control agreement when doing so grants the state a significant military or political advantage or if there is a general downturn in relations. The cost may be that the rival may be more reluctant to engage in future agreements, or that relations will deteriorate—neither of which may be a major consideration if relations are already poor. However, there could be much more severe diplomatic consequences in violating the trust of a third party. These might include their reluctance to support the state's diplomatic initiatives in the future or, even more threatening, it might push the third party into the rival's camp.

Third parties as implementors can significantly impact implementation, as third parties may serve as important holders of information, may be viewed as neutral executors by all parties, and may resolve implementation disputes. The question of whether or not IOs promote peace posed by Charles Boehmer, Erik Gartzke, and Timothy Nordstrom is partly answered in

⁴⁸⁰ "Violation of any of the provisions ... re subject to military action by the international security force ("KFOR"), including the use of necessary force." NATO, "Military Technical Agreement between the International Security Force ('KFOR') and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia," June 9, 1999, <https://www.nato.int/kosovo/docu/a990609a.htm>.

⁴⁸¹ OSCE, *A Peaceful Presence - The First Five Years of the OSCE Special Monitoring Mission to Ukraine*.

the affirmative by the CAC dataset.⁴⁸² Again, emphasizing that CAC agreements have succeeded without an IO's involvement, and failed spectacularly despite an IO's best efforts, this chapter has demonstrated that most successful CAC agreements significantly involved an IO, while most unsuccessful ones did not. This dataset also demonstrates that IOs have had an important role in "high politics" and military security, contrary to suggestions by others such as Kenneth W. Abbot, Tana Johnson, Sarah E. Kreps, and David A. Lake.⁴⁸³

Conclusion

Using a unique dataset of nineteen CAC agreements, in this chapter I have assessed how delegation and agreement success may be related. I have done so by identifying the agreement executors created, if any, and measuring the extent to which states delegated authority to the executors. I do not suggest that delegation or lack therein will prevent or cause war, respectively; or result in arms control agreement success or failure, respectively. My hypothesis that high levels of delegation is correlated with agreement success was not strongly supported, with a correlation coefficient of just 0.12.

Nonetheless, the dataset analysis provides a few interesting insights, although it cannot establish causation. First, agreements with third-party state involvement in the form of being a cosigner to an agreement or an active party to implementation likely contribute to agreement success. There was third-party state involvement in eight of the nine successful agreements, and the Minsk agreements are the only failed agreements with third-party involvement.

This dataset has also shown that signed agreements that entered into force focused on or with CAC are rarely a complete failure, no matter what the delegation approach. This is not an insignificant finding given skepticism about CAC agreements.⁴⁸⁴ Indeed, only three agreements lasted less than five years: the 1935 Anglo-German Naval Agreement, which was respected by both sides until Germany's denunciation of the agreement in 1939;⁴⁸⁵ the 1940

⁴⁸² Charles Boehmer, Erik Gartzke, and Timothy Nordstrom, "Do Intergovernmental Organizations Promote Peace?," *World Politics* 57, no. 1 (October 2004): 1–38, <https://doi.org/10.1353/wp.2005.0008>.

⁴⁸³ Abbott and Snidal, "Hard and Soft Law in International Governance"; Tana Johnson, *Organizational Progeny: Why Governments Are Losing Control over the Proliferating Structures of Global Governance* (Oxford: Oxford University Press, 2014), <https://doi.org/10.1093/acprof:oso/9780198717799.001.0001>; Kreps, "The Institutional Design of Arms Control Agreements"; Lake, "Beyond Anarchy: The Importance of Security Institutions."

⁴⁸⁴ Graef and Miller paint a generally bleak picture of arms control, which is not entirely accurate when all CAC agreements are taken into account. Graef, "Beyond Stability"; Miller, *Hard Times for Arms Control What Can Be Done?*

⁴⁸⁵ "Once the agreement was conceded, it was more or less faithfully observed until its denunciation in April 1939." D. C. Watt, "The Anglo-German Naval Agreement of 1935: An Interim Judgment," *The Journal of Modern History* 28, no. 2 (June 1956): 160, <https://doi.org/10.1086/237885>.

Moscow Treaty between Finland and the Soviet Union, which was rendered void by the Continuation War's outbreak within a year; and the Minsk agreements, which were never successfully implemented and then were fully nullified by Russia's invasion of Ukraine.

CAC agreements have probably succeeded or failed for any number of reasons that go far beyond the extent to which an agreement executor was created and authority was delegated. Agreements' causes of success, which in many cases is defined as whether or not states parties went to war with one another, is beyond this chapter's scope. The dataset does show that even when two agreements are remarkably similar, in circumstance or delegation, the outcomes can still be different. There were substantial delegation and geopolitical parallels between the Georgia Six-Point Peace Plan and the Minsk agreements, but another Georgia and Russia conflict has not erupted while Ukraine finds itself at war with Russia today.

These findings are not insignificant given that, for example, as Jane Eugenia Vaynman notes, arms control agreements are quite "varied ... in form."⁴⁸⁶ Richard Dean Burns and Donald Urquidi state in their assessment of interwar arms control agreements that "drawing conclusions from arms control and disarmament agreements as varied as these under study is a hazardous undertaking. Those historical "lessons" which are easily identifiable have long been obvious to even the most casual student of arms control, while those which are mere elusive are, unfortunately, conditioned by uniquenesses which inhibit generalization."⁴⁸⁷ Yet by using the sum scoring methodology and identifying common variables across CAC agreements, in this chapter I have suggested some findings concerning delegation and third-party involvement (state and IO) and their relationships to treaty success.

CAC agreements are written with specific details about their implementation in legally binding text, and states parties need to determine their own implementation delegation preferences and then agree on the approach. A future NATO-Russia CAC agreement might incorporate a minimally delegated authority such as the CFE's JCG, delegate toward an existing body such as the OSCE, or create an entirely new agreement body with substantial delegation.⁴⁸⁸ The nineteen cases used in this study serve as examples and templates for future approaches to CAC agreement implementation delegation.

This chapter reveals original and interesting insights about delegation to CAC agreement bodies, including IOs, but leaves several areas of research. First, my use of a sum score methodology has not assessed the multicausal pathways that may lead to success or

⁴⁸⁶ Vaynman, *Enemies in Agreement: Domestic Politics, Uncertainty, and Cooperation between Adversaries*, 1.

⁴⁸⁷ Burns and Urquidi, *Disarmament in Perspective: Volume 4: Conclusions*, 4:1.

⁴⁸⁸ Lippert, "A European Military Balance Organization and Dynamic Conventional Arms Control."

failure, with each variable a condition. Thus, a qualitative comparative analysis (QCA) using this dataset may provide additional insights about delegation and CAC agreement success. QCA can assess individual dependent variables (conditions) and their relationship with the outcomes (through calculations of necessity) and multicausal relationships in which a combination of conditions may have a relationship with a particular outcome.

Second, this chapter has focused on delegation, but other aspects of CAC agreements and their relationship to agreement outcomes of success, partial success, or failure may be of interest. These could include whether or not the agreement was between great-power peer competitors, involved detailed quantitative limits, involved a specific IO, or involved a broad or narrow geographic limitation. Here again, a QCA approach assessing these conditions could provide new insights. Other correlational studies might look at the extent or scale of CAC measures; that is, a study might attempt to measure how substantial the levels of limits and restrictions are as an independent variable and analyze this with agreement outcome as the dependent variable. These may offer complementary or new insights to agreement outcomes if, as I suggest in this study, delegation has a weak relationship with agreement outcome.

The Russo-Ukraine War emphasizes the importance of designing and maintaining CAC agreements. While several NATO-Russia CAC agreements have collapsed, there will likely be some kind of agreement to prevent another conflict that may be even costlier than the one in progress. Whether an agreement is part of a significant all-aspects agreement in the vein of a Concert of Europe⁴⁸⁹ or whether it is narrower with a focus on military forces, thinking about what kind of forces need to be controlled at what levels and if and how implementation should be delegated to third-party bodies such as an IO should commence well before the guns cease firing.

⁴⁸⁹ See, for example, Jervis and Kupchan, who have suggested that broad peace agreements establish relatively stable political and economic relations and military balances follow major European conflicts. Jervis, "From Balance to Concert: A Study of International Security Cooperation"; Kupchan, "Concerts, Collective Security, and the Future of Europe."

Chapter 6: Conventional Arms Control Agreements in Europe: Conditions of Success and Failure⁴⁹⁰

Introduction

Under what conditions are adversarial conventional arms control (CAC) agreements⁴⁹¹ in Europe successful or unsuccessful? This research question, largely neglected in the scholarly literature, is of paramount importance for several reasons. First, the current Russo-Ukraine War is due in large part to the failure of CAC agreements, with the failure coming from a combination of insufficient existing agreements and the inability to revise them, and failure to establish new agreements – both pathways that Russia sought from the end of the Cold War through the start of the Russo-Ukraine War.⁴⁹² Second, when success contributes to preventing wars and agreement failure contributes to conflict, answering this research question contributes to causes-of-war scholarship.⁴⁹³

While the definition of conventional arms⁴⁹⁴ is broadly accepted, arms control has different meanings in different contexts. Larsen defines arms control as “any agreement among states to regulate some aspect of their military capability or potential’.⁴⁹⁵ Kühn uses the term “cooperative arms control’ between adversaries, but includes confidence and security building measures (CSBMs) in his definition, which this chapter excludes.⁴⁹⁶ This study focuses on CAC agreements in Europe which incorporate a legally binding limitation on some aspect(s) of military capabilities and are an agreement between rivals or geopolitical competitors. This excludes agreements such as export controls, non-proliferation of weapons of mass destruction and universal, humanitarian restrictions.⁴⁹⁷

⁴⁹⁰ This article was published as: Lippert, William. “Conventional Arms Control Agreements in Europe: Conditions of Success and Failure.” *Central European Journal of International and Security Studies* 18, no. 3 (September 27, 2024): 5–37. <https://doi.org/10.51870/WGUO2938..>

⁴⁹¹ Unless otherwise stated, all mentions of CAC in this chapter refer to adversarial agreements.

⁴⁹² William Lippert, “How Conventional Arms Control Failures Caused the Russo-Ukraine War,” *Defense & Security Analysis*, January 17, 2024, 1–23, <https://doi.org/10.1080/14751798.2024.2300889>.

⁴⁹³ James D Fearon, “Rationalist Explanations for War,” *International Organization* 49, no. 3 (Summer 1995): 379–414; Jervis, “Arms Control, Stability, and Causes of War,” Winter 1991; Jervis, *Perception and Misperception in International Politics*; Lebow, *Why Nations Fight*; John A. Vasquez, “Distinguishing Rivals That Go to War from Those That Do Not: A Quantitative Comparative Case Study of the Two Paths to War,” *International Studies Quarterly* 40, no. 4 (December 1996): 531, <https://doi.org/10.2307/2600890>.

⁴⁹⁴ “Conventional Arms.”

⁴⁹⁵ *Arms Control: Cooperative Security in a Changing Environment*, 1.

⁴⁹⁶ *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁴⁹⁷ Examples of these include the Wassenaar Arrangement, Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Anti-Personnel Landmines Convention, respectively.

With a great power rivalry now settling upon Europe and with the goal of assisting practitioners in mitigating this and to increase scholars' understanding of peace and security in Europe, this study focuses on CAC in Europe because of its "specific European historical-political setting."⁴⁹⁸ This chapter is relevant to scholars because it attempts to answer questions that are rarely asked: when is a CAC agreement successful, and what conditions lead to success or failure?

For this study, Europe is broadly defined as a space composed of states from the North Atlantic to the Urals. It thus includes Russia, but excludes, for example, Central Asia. Moreover, this chapter includes NATO and all its members (including the US and Canada) as European actors due to the high level of involvement in European security. In particular, the US has been critical for influencing security in Europe since WWI.⁴⁹⁹

This chapter uses a unique set of 22 CAC agreements from the end of WWI to the present, many of which are typically not considered in the existing arms control literature. Table 10 (see the section on research design and dataset below) includes all of these agreements as well as their long and abbreviated names. The 22 CAC agreements are analysed with a Qualitative Comparative Analysis (QCA)⁵⁰⁰ with four conditions⁵⁰¹: delegation, national limitations, geographic demilitarisation and great power rivalry involvement, to assess multicausal pathways and success or failure of CAC agreements. This research method provides insights into how the conditions may interact with one another and lead to agreement success or failure.

This study's agreements are focused on Europe for several reasons. First, the overlapping system of organisations such as the Organization for Security and Cooperation (OSCE), the European Union (EU) and NATO that are likely to have roles in any post-war CAC agreement share similar cultures and common history which excludes states and institutions outside of Europe.⁵⁰² Second, even CAC agreements which are products of UN support, such as the United Nations Peacekeeping Force in Cyprus (UNFICYP) and the

⁴⁹⁸ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020, 224:33.

⁴⁹⁹ This differs from Kühn's *The Rise and Fall of Cooperative Arms Control in Europe*, 2020. definition of Europe, which includes all OSCE members. This study does not include, for example, agreements between Armenia and Azerbaijan as their dispute is regional and the states straddle west Asia and southeast Europe. For the most part their conflict does not involve core European interests. This contrasts with the Russo-Georgian conflict which involved at least one clearly European state (Russia), and some have suggested it involved broader European issues such as NATO and EU membership.

⁵⁰⁰ While some scholars specify whether a crisp-set (cs) or fuzzy-set (fs) QCA method is used, this chapter drops the description as csQCA is another form of fsQCA.

⁵⁰¹ In QCA, what is commonly referred to as an independent variable in correlational studies is called a condition, due to the Boolean set-based rather than correlational nature of the analysis.

⁵⁰² Sommerer and Tallberg, "Diffusion Across International Organizations."

establishment of the Kosovo Force (KFOR) which was one of the two parties of the 1999 Kosovo agreement, were established or supported by the United Nations Security Council (UNSC) whose Permanent 5 are composed of three European powers and the US. Prior to the United Nations (UN), the League of Nations, which was dominated by European states, was involved in several of the interwar CAC agreements, such as the Åland Islands Convention and the Lausanne Convention for the Straits. Third, several CAC agreements in Europe are interconnected.⁵⁰³ For example, the London Naval Treaties were based on the Washington Naval Treaties accomplishments; the Conventional Armed Forces in Europe (CFE) Treaty unwound because the 1999 Adapted CFE (A/CFE) Treaty did not enter into force; the 1990 Final Settlement for Germany specifically references the then-forthcoming CFE Treaty; and the Balkans CAC agreement is based on the CFE Treaty. Many European CAC agreements are either modelled after previous agreements, or formally connected. Treaties from other global regions are not included in this dataset because they have minimal or no connection to European institutions, European CAC histories and experiences, and there is a comparative dearth of such agreements.

This study's set-theoretic-based QCA analysis of the 22-CAC case dataset has attempted to identify which combinations of conditions may be more likely to lead to CAC agreement success or failure. The study supports two of the hypotheses: first, that the combination of great power rivalries and quantitative limits on states' national military capabilities are a pathway to agreement failure; and second, that the *absence* of delegation to international organisations and agreement executors in combination with the presence of great power rivalries may lead to agreement failure. The study did not uphold the hypotheses that success pathways included the combination of delegation to agreement executors with geographic demilitarisation; or the delegation to agreement executors amidst great power rivalries although these combinations do appear in the data.

This chapter begins with an introduction, and then offers a discussion of the purposes and characteristics of CAC agreements. It then delves into greater detail about how great powers impact CAC agreements and three important aspects of CAC agreements. Thereafter, the study's QCA methodology is presented and discussed, followed by an overview of the research design which presents how the concepts of delegation, national limitations, geographic demilitarisation and great power rivalries are calibrated and analysed with QCA. This leads to

⁵⁰³ Ian Anthony and Angela Kane, "The Role of Conventional Arms Control in Light of Pressing Security Challenges," Special Sessions (IISS, November 3, 2016); van Ham, *Modernizing Conventional Arms Control in the Euro-Atlantic Region*.

a discussion of the calculated results from the perspectives of agreement success and absence of agreement success.⁵⁰⁴ The results are then interpreted and analysed, followed by a conclusion to summarise the chapter.

Conventional Arms Control Agreements: Approaches and Conditions

Adversarial CAC agreements' goals are to formally stabilise relationships with specific and detailed limitations which fix the status quo whether between states' national military capabilities or in a specific, geographic area with the agreements enforced through some level of monitoring, verification and dispute resolution.⁵⁰⁵ While CAC agreements may result in a reduction in the relative military balance, it never reverses it. In stabilising military rivalries (or at least attempting to do so), states seek to improve their diplomatic relations because the agreements reduce dispute causes and sources of tension such as fears of surprise attacks and contests over strategic, geographic locations.⁵⁰⁶ The alternatives to CAC agreements include arms racing, deepening competition and conflict.

In addition to the status quo, deterrence is an underlying factor for CAC. States or alliances seek to retain or improve their deterrence (if they possess it) and can do so at a lower cost with CAC. In relationships in which there is parity or near parity, CAC agreements will preserve deterrence while reducing "offensive" threats. However, in cases in which only one side has deterrence, such as a greatly imbalanced relationship in peacetime or following a major military victor/defeat, the strong party will seek to retain their deterrence by imposing limits on the defeated party.

Conventional Arms Control: Agreement Success

This study's QCA outcome or dependent variable is the presence or failure. Scholars are far from unanimous in viewing CAC or arms control agreements more generally as beneficial or positive. Fatton⁵⁰⁷ considers them broadly impotent in resolving existing adversarial relations

⁵⁰⁴ For brevity and readability, hereafter 'absence of success' is shortened to 'failure'.

⁵⁰⁵ Burns and Urquidi, *Disarmament in Perspective: Volume 4: Conclusions*; Hastedt and Eksterowicz, "Conventional Arms Control."

⁵⁰⁶ Freedman, "Arms Control: Thirty Years On"; Lachowski, "Half-Century of Arms Control: A Tentative Score Sheet."

⁵⁰⁷ "The Impotence of Conventional Arms Control."

and Gray⁵⁰⁸ does not believe that they contribute to peace and that they have a poor record of accomplishment. Indeed, he goes further to state that arms control efforts can even be counter-productive, especially for democracies that might disarm themselves in the face of predatory states.⁵⁰⁹ Kühn⁵¹⁰ and Graef⁵¹¹ view them as potentially more beneficial but note a significant downturn in their utility and effectiveness in the past few decades.⁵¹² Schofield is less critical of arms control but observes that they do a poor job at addressing deeper problems, particularly contests over the balance of power and adapting to changes in the balance of power which may be resolved through conflict.⁵¹³

Tanner is very sceptical of post-conflict arms control based on his analysis of case studies, stating that “in asymmetrical outcomes, the chances for lasting arms agreements are almost nil”. One reason he identifies is the “absence of normative consensus among the parties engaged in the construction of post-war structure.”⁵¹⁴ Here he is referring to the lack of a consensus of how post-conflict arms control should be approached and that each new post-conflict arms control regime is started from scratch, and he also assesses that post-conflict arms control agreements are more focused on ending the war than creating a stable post-war regime. At the same time, Tanner’s sweeping scepticism of post-conflict CAC agreements may be unwarranted, as he may be basing his analysis on a small case selection.

Armistices and ceasefires are generally narrower agreements to terminate a conflict intended to create breathing room for a broader, longer-lasting peace. As such, CAC agreements related to armistices are intended to prevent a resumption of conflict, including accidental, by decreasing the opportunities for attacks and the exchange of fire. Fortna also states that narrow cease-fire agreements and agreements that only deal with arms control “do not help maintain the peace”.⁵¹⁵ Rather, broader measures including third-party guarantees, peacekeeping and intensified diplomatic efforts contribute to a more durable peace.

Studying CAC agreements and their success or failure is an approach, and arguably an underused one, to understand the causes of war. While other approaches, as Fortna phrases it, struggle to determine when leaders “go to peace”,⁵¹⁶ CAC agreements offer an insightful method of seeing when leaders go to peace (or stay at peace) – as these agreements are often

⁵⁰⁸ “Arms Control Does Not Control Arms.”

⁵⁰⁹ Jervis, “Arms Control, Stability, and Causes of War,” Winter 1991.

⁵¹⁰ *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁵¹¹ “Beyond Stability.”

⁵¹² Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020; Graef, “Beyond Stability.”

⁵¹³ “Arms Control Failure and the Balance of Power.”

⁵¹⁴ Tanner, “Postwar Arms Control,” 40.

⁵¹⁵ *Peace Time*, 210.

⁵¹⁶ 39.

specifically intended to maintain or establish peace – or states abandon the agreements and go to war.

Overall, the scholarship on CAC agreements is more negative than positive in judging its outcome. CAC agreements attempt to lock a status quo into place, but struggle to evolve when the status quo changes. For this reason, states withdraw or defect to change the status quo when they are dissatisfied – especially when defeated states believe that they can overturn the conditions of defeat – or because the status quo changed due to other reasons. At the same time, and here the scholarship is underwhelming, states in CAC agreements may largely be satisfied with the status quo and retain the agreements. They may either feel that the present agreement is sufficient and satisfies their security needs, or that even if it is insufficient, attempts to change the status quo may not end in their favour.⁵¹⁷ Nonetheless, though most scholars are sceptical of CAC agreement outcomes, none have attempted to explain under what combination of conditions they fail.

Great Powers

Rivalries and conflict in Europe have, at least since the beginning of the twentieth century, involved great powers. On the one hand, great powers compete across a range of issues and geographic space and possess a broader and more substantial range of military capabilities. As a result, they may be more likely to clash and conflict.⁵¹⁸

Yet great powers may pursue CAC agreements for several reasons even while they aim to retain deterrence. Great power rivals find themselves in perpetual, long-term competitions defined in part by perceptions of zero-sum stakes. Thus, they are continuously concerned with relative gains and losses, complicating cooperation. At the same time, cooperation – as arms control scholars have continuously noted in prisoner dilemma models – can result in net gains for both.⁵¹⁹ The challenge, however, is assessing that an adversary will comply with any agreement and that for both sides cooperation outweighs defection. As Downs et al note, “the long-run advantages of cooperation ... [may] pale before the benefits of victory or the cost of defeat.”⁵²⁰

⁵¹⁷ Bull, “Arms Control and World Order”; Schofield, “Arms Control Failure and the Balance of Power.”

⁵¹⁸ Lynch III and Hoffman, “Chapter 2: Past Eras of Great Power Competition.”

⁵¹⁹ Downs, Rocke, and Siverson, “Arms Races and Cooperation”; Fearon, “Bargaining, Enforcement, and International Cooperation”; Kydd, “Arms Races and Arms Control.”

⁵²⁰ Downs, Rocke, and Barsom, “Is the Good News about Compliance Good News about Cooperation?”

Nonetheless, great powers have a self-interest in peacetime CAC to not just preserve resources through reduced expenditures but in preventing conflicts whose outcomes are not guaranteed to improve their standing and the status quo. When great powers are victorious in a conflict – whether against other great powers or not – they have an interest in locking in their superiority and preventing defeated states from seeking revenge.⁵²¹

The impact of great power rivalries or their absence on CAC agreements is not discussed in detail in the existing literature. Rather, most of the CAC or general adversarial arms control in Europe literature focuses on great power rivalries whether between the US/NATO and Russia/Soviet Union/Warsaw Pact, or prior to the Cold War, between great powers such as the UK, France and Germany.

While CAC agreements may even substantially limit great powers' military capability, enough capability may remain – especially when limits are even – for one side to concentrate enough forces to attack.⁵²² This threat alone may weaken CAC agreements over time, especially if diplomatic relations have not improved even while the agreement itself is technically respected. Similarly, changes in technology, increases in military capabilities even in treaty limited equipment (TLE), within legal limits, can result in perceived or actual changes in the military balance.⁵²³ Great powers may be more able to take advantage of opportunities to increase their relative military strength of TLE due to possessing greater resources compared to non-great powers.

These issues undermine efforts to mitigate the security dilemma as great powers are more likely to have larger militaries with a greater variety of capabilities, making assessment of comparative strengths and weaknesses difficult, even with the transparency and controls offered by CAC.⁵²⁴

Unless a CAC agreement as well as other policies result in resolving the rivalry between great powers, they are likely to still seek to prevail in the rivalry despite the negative impact on the stability offered by CAC agreements⁵²⁵ which will lead to, among other outcomes, violating or renouncing the CAC agreement. With multi-domain, rivalry-driven competition, rivals are compelled to pursue gains in zero-sum competitions due to the phenomenon of

⁵²¹ Lebow, *Why Nations Fight*.

⁵²² Biddle et al., *Defense at Low Force Levels: The Effect of Force to Space Ratios on Conventional Combat Dynamics*.

⁵²³ Lippert, "Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation."

⁵²⁴ Jeffrey M Kaplow and Erik Gartzke, "The Determinants of Uncertainty in International Relations," *International Studies Quarterly* 65, no. 2 (June 2021): 306–19, <https://doi.org/10.1093/isq/sqab004>; Lebow, *Why Nations Fight*.

⁵²⁵ Mazarr et al., *Stabilizing Great-Power Rivalries*, 2021, 37.

cumulative, relative gains.⁵²⁶ A party that sees its relative strength decreasing due to the other's relative gains may be more likely to abandon CAC agreements even when they are being fully respected. One of Russia's concerns, for example, with the CAC regime that was designed and implemented prior to NATO expansion, was the loss of what they considered to be "indivisible security" – NATO's gains in military capability was Russia's loss.⁵²⁷

Assessing the differences in rivalries and conflicts between great power and non-great power adversaries or rivals is beyond this study's scope,⁵²⁸ but I offer a few observations on why great power rivalries may impact the success or failure of CAC agreements. First, great powers may have more venues to compete and assess their relative strengths and weaknesses. As Jervis notes, "Any [great power] that has interests throughout the world cannot avoid possessing the power to menace others."⁵²⁹ As to the extent to which a CAC is intended to address the military balance and offer avenues for improving diplomatic relations, this may be more difficult between great powers. For example, restrictions on naval forces in the interwar years did little to alleviate issues of land power competition or attempts to broadly expand territory even if not at the cost of other great powers. Moreover, competing great powers may still engage in indirect conflict through proxy wars, which non-great powers may be less able to wage.

National Limitations

One of the methods to stabilise security relationships between rivals, whether great powers or not, is to set limitations on equipment quantity in national inventories. Reducing the quantity and/or capabilities of conventional weapons can halt arms racing either in those weapon classes or overall,⁵³⁰ and may decrease the likelihood of surprise attacks when the TLE focus on

⁵²⁶ Mathews III, "Current Gains and Future Outcomes: When Cumulative Relative Gains Matter."

⁵²⁷ Artem Kvartalnov, "Indivisible Security and Collective Security Concepts: Implications for Russia's Relations with the West," *Central European Journal of International and Security Studies* 15, no. 3 (September 17, 2021): 4–29, <https://doi.org/10.51870/CEJISS.A150301>.

⁵²⁸ Interstate adversarial relationships may be categorised into great power vs great power, great power vs non-great power, and non-great power vs non-great power. Mazaar makes the case that an adversarial relationship between a great power and non-great power is not a rivalry, because the non-great power cannot actually compete with the great power. Rivalries and adversarial relationships differ substantially from competitive states which might compete in a number of areas, especially economic, and may have been rivals, but do not view one another as a physical security threat Mazaar et al., *Stabilizing Great-Power Rivalries*, 2021, 9..

⁵²⁹ *Perception and Misperception in International Politics*, 64.

⁵³⁰ Downs, Roche, and Siverson, "Arms Races and Cooperation."

perceived offensive weapons.⁵³¹ The limits are in part based on the notion that an attacking force can gain a decisive advantage by amassing a high ratio, sometimes defined as three-to-one,⁵³² of forces against an adversary's defences. In a mutually balanced agreement, by limiting offensive capabilities while leaving defensive capabilities in place, both sides retain deterrence as neither can amass sufficient forces to conduct a successful surprise attack.⁵³³

In discriminatory CAC agreements, usually the outcome of a conflict in which one side is a clear victor, the victor may impose limits to ensure their deterrence by both limiting a rival's offensive capabilities, but also by limiting defensive capabilities (deterrence inhibition) so that the victor may successfully attack to enforce terms of the agreement or otherwise contribute to deterrence by ensuring the victor's ability to increase the costs of the defeated state must pay for attacking.⁵³⁴

There are several challenges with national limitations. First, no agreement can control every aspect of a state's military capabilities. Thus, states may successfully shift their resources to compensate for limitations into different capabilities or capabilities not initially conceived when agreements were made.⁵³⁵ Second, national limitation agreements struggle to adjust with changes to the geopolitical status quo, especially alterations in alliance structures and memberships. This was especially true with the CFE Treaty when first the Warsaw Pact dissolved and then several of its members joined NATO.

This would suggest that while great powers may agree to CAC with national limitations, changes over time will disrupt the balance even when all parties are compliant, resulting in states seeking to defect from the agreement. The hypothesis would thus be:

H1: Great power and national limits is a pathway to agreement failure.

⁵³¹ Leah, "Deterrence and Arms Control in a Second Conventional Age"; Webster, "Piecing Together the Interwar Disarmament Puzzle."

⁵³² Robert L Helmbold, *Probability Of Victory in Land Combat As Related To Force Ratio* (Santa Monica, CA: RAND Corporation, 1969).

⁵³³ NATO, "The Alliance's Comprehensive Concept of Arms Control and Disarmament Adopted by the Heads of State and Government at the Meeting of the North Atlantic Council," NATO, May 29, 1989, https://www.nato.int/cps/en/natohq/official_texts_23553.htm; Snyder, "Limiting Offensive Conventional Forces."

⁵³⁴ Haffa, "The Future of Conventional Deterrence."

⁵³⁵ Lippert, "A European Military Balance Organization and Dynamic Conventional Arms Control"; Lippert, "Military Balancing for Future Conventional Arms Control Agreements in Europe."

Demilitarisation

Another method to stabilise rival security relationships is by limiting military capability in a specific geographic area such as a strip of land along a border or a key geographic feature. Geographic demilitarisation agreements may be made during a time of peace in order to mitigate the security dilemma wherein states do not need to possess the geographic area for their security but their security becomes threatened if a rival possesses it.⁵³⁶ Chillaud, when speaking of northern Europe, referred to demilitarisation agreements as an attempt to “exempt” areas “from the risks and penalties of interstate warfare”.⁵³⁷ Examples of these include Norway’s Spitsbergen Islands and the Turkish Straits.

More commonly, however, demilitarisation agreements are the product of conflicts. When conflicts terminate, even temporarily, rivals may agree to a demilitarised area or buffer zone to separate the forces and/or limit certain types of weapons within that area “designed to reduce the risk of or minimise territorial disputes by preventing direct contact between hostile armies.”⁵³⁸ Sometimes these areas have a third-party presence, such as international peacekeepers, to monitor compliance and record violations.

Because of their narrow scope, demilitarisation may not resolve underlying causes of rivalries because it only resolves a small portion of a rivalry’s causes. Most notably it does not substantially decrease the capability of a state to launch a surprise attack as overall capabilities are untouched and thus free to increase without limits. On the other hand, demilitarisation may increase the political cost of defection, especially when third parties including great powers serve as guarantors and/or implementors of demilitarisation agreements. Moreover, demilitarisation agreements can stabilise rivalries if states are satisfied that the status quo is better than continuing a conflict but the inability to come to an agreement on issues such as national boundaries prevents a permanent agreement.

⁵³⁶ Schelling, “A Framework for the Evaluation of Arms-Control Proposals.”

⁵³⁷ “Territorial Disarmament in Northern Europe: The Epilogue of a Success Story?,” SIPRI Policy Paper (Stockholm: Stockholm International Peace Research Institute (SIPRI), August 2006), v.

⁵³⁸ Chillaud, 6.

Implementation and Delegation

The method of CAC implementation is one of an agreement's more important characteristics. In and of itself, the method of implementation does not reflect the type of rivalry nor the type of agreement, so that implementation approaches are independent of other agreement traits.

Delegation of authority within a CAC agreement is the extent to which states delegate or share formulation and implementation of a CAC with a third-party state or states or an international body. Delegation is by its nature a surrender of state sovereignty, as a state is entrusting important matters of state security and even existence to another entity. An agreement which lacks any delegation, such as the interwar naval agreements, means that no implementation body is formed, and that states themselves perform every aspect of monitoring, verification and enforcement.

Some agreements create a weak, coordinative body that merely serves as a meeting forum where technical and administrative matters might be discussed, such as the CFE Treaty's Joint Consultative Group (JCG). Still other agreements might have a highly empowered body in which state parties have delegated a substantial amount of authority and responsibility to the treaty executor to include permanent monitoring and verification staff in the area of application, inspection authority and even enforcement authority. Agreement executors with high delegation include the OSCE's Special Monitoring Mission (SMM) in Ukraine and the Allied Control Commissions established in each defeated Axis country during or following WWII.

High implementation delegation to an agreement executor increases the likelihood of agreement success in several ways.⁵³⁹ First, agreement executors may neutrally conduct activities so that their assessments are perceived as valid not just by the main state parties concerned but by the broader international community, including great powers who may have direct interests – including as formal agreement supporters – in the agreement's success. Second, agreement executors may serve as arbiters of disputes. Third, agreement executors help regularise and normalise positive exchanges and compliance.⁵⁴⁰ Lastly, defection from an agreement in which there is high delegation may impose higher diplomatic costs than an agreement lacking any third-party participation.⁵⁴¹

⁵³⁹ Lippert, "Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation."

⁵⁴⁰ Fearon, "Cooperation, Conflict, and the Costs of Anarchy."

⁵⁴¹ Fortna, *Peace Time*; Werner and Yuen, "Making and Keeping Peace."

Delegation may be especially important to demilitarisation agreements because when, in the case of certain geographic features, states are primarily concerned that their rivals do not possess an area, an agreement executor might objectively and credibly enforce this. In the case of a conflict buffer zone, an agreement executor can maintain a neutral presence and manage the area, raising the cost of violations or defections due to physical presence. This suggests the following hypothesis:

H₂: Delegation and demilitarisation is a pathway to agreement success.

Great powers may be especially concerned with cheating, believing that their rivals may seek to obtain relative advantages despite agreements. A treaty executor with high delegation may offset fears of and discourage cheating and defection but lacking high delegation, agreements are more likely to fail. These analyses lead to the following hypotheses:

H₃: The presence of delegation and great power rivalry is a pathway to agreement success.

H₄: The absence of delegation and the presence of great power rivalry is a pathway to agreement failure.

QCA as a Research Method: General Remarks

The CAC dataset is analysed using QCA, a research methodology used to understand and establish set-theoretic connections between the outcome (success) and causal conditions. As Schneider and Wagemann state, “Set-theoretic methods operate on membership scores of elements in sets; causal relations are modelled as subset or superset relations. ... Set theory can be useful for concept formation, the creation of typologies, and causal analysis.”⁵⁴² Set theory is an appropriate approach for studying CAC agreement success because this approach focuses on considering the conditions as unique sets and identifying and analysing to what extent the conditions form sets that are members – or not – of agreement success and its absence (the two possible outcomes). Although QCA is applied extensively in social sciences including international security, it has never been used to assess arms control agreement success.

Truth tables are the foundation of QCA analysis, as they establish the sets and subsets of cases to be analysed and are the “central features of causal complexity.”⁵⁴³ Truth tables are

⁵⁴² *Set-Theoretic Methods for the Social Sciences*, 8.

⁵⁴³ Schneider and Wagemann, 9.

composed of the cases, conditions and outcomes and are created through logical minimisation. The conditions (in QCA methodology) are the study's dependent variables, and as QCA's goal is to identify pathways through the derivation of the total number of possible conditions, it is counterproductive to have too many conditions as this may expand the number of combinations and pathways, reducing resulting insights.⁵⁴⁴

In a data table, each case is scored for each condition and outcome with a figure between 0.0 and 1.0, which determines to what extent a case is a member of a condition with 1.0 being fully in and 0.0 being fully out, but QCA calculations do not permit the assignment of a 0.5 value as this does not identify if a value is more in or out of a set. In QCA, calibration is the act of assigning a value to each case's condition. This calibration can be quantitatively determined, for example by determining that values under a certain range equate to 0.0, then up to a certain range 0.3, in the next range 0.6, and then 1.0; or it can be based on subjective knowledge and judgment when the condition is not quantifiably based (such as level of treaty compliance) although either approach incorporates subjectivity. Conditions may also be limited to a binary option of present (1) or absent (0) when there is no apparent or theoretically comprehensible reason to apply a scale (for example, Böller, when assessing the impact of US presidents on arms control, used binary conditions such as Republican/Democrat and Pre/Post-Cold War⁵⁴⁵).

The outcome is also a set so that the truth table which is generated by the data table states to what extent each case, with each combination of conditions, is a member of which outcome. Thus, QCA allows one to know through a transparent and computer calculated method which case is a member of which condition(s) and outcome(s). This is an insight that a correlational calculation does not offer, as these are bivariate in nature.

QCA is ideally suited for mid-sized case sample sizes and between four to eight conditions.⁵⁴⁶ This method is ideal for understanding and comparing CAC agreements due to the number of cases (22) and their conditions. Equifinality can explain how different combinations of conditions can result in the same outcome. Moreover, QCA enables analysis of sufficiency and necessity. "[A] condition is sufficient if, whenever the condition is present, the outcome is also present. ... A condition is necessary, if, whenever the outcome is present, the condition is also present."⁵⁴⁷ A theoretical example of sufficiency might be that whenever

⁵⁴⁴ Fadi Hirzalla, "Qualitative Comparative Analysis (QCA)," n.d., sec. 2.2, <https://www.coursera.org/learn/qualitative-comparative-analysis>.

⁵⁴⁵ "Brakeman or Booster?"

⁵⁴⁶ Hirzalla, "Qualitative Comparative Analysis (QCA)," sec. 2.2.

⁵⁴⁷ Schneider and Wagemann, *Set-Theoretic Methods for the Social Sciences*, 76.

US military bases are present in other states, these states always vote pro-US in the UN – but countries without US military bases also vote pro-US. A necessary condition would mean that every state that voted pro-US in the UN also had a US military base but no states without a US base voted pro-US.

Conjunctural causation is another advantage of QCA as it “draws our attention to the fact that conditions do not necessarily exert their impact on the outcome in isolation from one another, but sometimes have to be combined in order to reveal causal patterns.”⁵⁴⁸

Unlike some other methodologies, QCA identifies pathways to outcomes that offer insights into multi-conditional causations in a way that correlational studies do not through analytical interpretation through set relations. QCA seeks to identify commonalities based on condition combinations between cases in a transparent and substantively plausible approach through the generation of outcome configurations, which differs from other methods. However, like other methods, erroneous findings and conclusions can be derived when there are errors in variables (conditions) or data is misinterpreted – including erroneous attribution of relationships to causality. This is where, as with other methodologies, theoretical knowledge is necessary to interpret data findings.⁵⁴⁹

Specialised software or software packages complex assist in the Boolean calculations used to ascertain set membership and pathways. The software calculates consistency, which “expresses the percentage of cases’ set-membership scores,” and coverage, which “assess[es] the relation in size between the condition set and the outcome set.”⁵⁵⁰

Research Design and Operationalisation

The following section briefly describes how this study calculated the four conditions and CAC agreement outcome.

⁵⁴⁸ Schneider and Wagemann, 90.

⁵⁴⁹ Roel Rutten, “Uncertainty, Possibility, and Causal Power in QCA,” *Sociological Methods & Research* 52, no. 4 (November 2023): 1707–36, <https://doi.org/10.1177/00491241211031268>.

⁵⁵⁰ Schneider and Wagemann, *Set-Theoretic Methods for the Social Sciences*, 324–25.

Dataset

All of this study's agreements are characterised by mutually agreed, legally binding controls on conventional arms with varying levels of specificity and cover the period from the end of WWI to the 2017 Minsk Agreements (the most recent CAC agreement in Europe at the time of writing). The purpose of *adversarial* CAC agreements (this study's focus) is to stabilise rival relationships rather than deal with other security challenges such as proliferation or the effects of conflict. All of this study's agreements were intended to stabilise relationships by ending or preventing conflict in Europe. Some of these agreements brought an end to combat operations, whether permanent peace agreements or ceasefires while others attempted to remove sources of potential conflict, whether geographic demilitarisation or perceptions of an unstable military balance. Both these types of agreements are included in the same dataset because states seeking to stabilise relationships or terminate conflicts may select from any of the three approaches (conditions), and the presence or absence of a great power rivalry may impact many agreements' aspects of agreements (and the likelihood of their passage).

The 22 CAC agreements, of which 13 are successful, four are unsuccessful and five are partially successful, in this study's dataset fall into two sets of broad categories. First, there are balancing agreements and geographic demilitarisation agreements with minimal overlap across the two (see Table 10). Second, there are post-conflict peace agreements, peace-time balancing agreements, armistices, peacetime geographic demilitarisation agreements and some agreements which fall into an "other" category. This category's set of agreements have some overlap as, for example, a peace-time balancing agreement can also include geographic demilitarisation. This study analyses the agreements from the perspective of both categories.

Table 10: CAC agreement QCA dataset

Agreement	Abbreviation	Year	Balancing (B) or Demilitarization (D)	Context Category
1. Post World War One Peace Treaties	WWI	1919	B	Post-conflict
2. The Svalbard (Spitsbergen) Treaty	Spitsbergen	1920	D	Peacetime demilitarization
3. Finnish-Russian Dorpat/Tartu Agreement	Tartu	1920	B	Discriminatory peacetime
4. Åland Island convention	Åland	1921	D	Peacetime demilitarization
5. Washington Naval Treaty	WashNav	1922	B	Peacetime balancing
6. Lausanne Agreements of 1923	Lausanne	1923	D	Peacetime demilitarization
7. London Naval Treaties	LondonNav	1930, 1936	B	Peacetime balancing
8. Anglo-German Naval Treaty	Anglo-German	1935	B	Peacetime balancing
9. Montreux Convention of the Straits	Montreux	1936	D	Peacetime demilitarization
10. The Moscow Treaty (Finland and Russia) of 1940	Moscow1940	1940	B	Post-conflict
11. Post-World War Two agreements	WWII	1945	B	Post-conflict
12. WEU Protocol for the establishment of the Agency for the Control of Armaments	WEU	1954	B	Post-conflict/ peacetime balancing
13. UNSC Cyprus Resolutions, peacekeeping force, and buffer zone creation	Cyprus	1964/1974	D	Cease-fire demilitarization
14. INF Treaty	INF	1987	B	Peacetime balancing
15. Final Settlement for Germany	Germany1990	1990	B,D	Post-conflict/ demilitarization
16. CFE Treaty	CFE	1990	B	Peacetime balancing
17. Agreement on the principles for a peaceful settlement of the armed conflict in the Dniester region of the Republic of Moldova	Transdnistria	1992	D	Cease-fire demilitarization
18. Subregional Arms Control (Balkans)	Balkans	1996	B	Post-conflict balancing
19. Belfast Agreement	Belfast	1998	D	Cease-fire demilitarization
20. Military Technical Agreement between the	Kosovo	1999	B, D	Cease-fire demilitarization

International Security Force ('KFOR') and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia				
21. Six-Point Peace Plan for Georgia	Georgia	2008	D	Cease-fire demilitarization
22. Minsk Agreements	Minsk	2015	D	Cease-fire demilitarization

Source: Author's research and analysis

CAC Agreement Success (Outcome)

This outcome assesses to what extent a CAC agreement was successful, calibrated along a score of 0 to 1 (inclusive).⁵⁵¹ While some agreements have been abject failures, lasting less than 10 years and ending when conflict broke out between state parties, and others are successful enough that they are still in place after almost 100 years, many fall in between. They have lasted over 15 years, but then failed because of conflict between state parties; or they have been terminated due to disputes between state parties who, however, did not go to war against one another. Some agreements may be successful only because they are relatively new, and insufficient time has passed for relations between state parties to deteriorate to the point that the agreements are renounced or the states go to war with one another. Some agreements are, or were, successful except that the state parties went to war with one another, but not over the issue that the agreement addressed. Other agreements such as the post-WWII Two peace agreements signed between 1943 and 1949 (inclusive) were successful for reasons mostly unrelated to CAC. Similarly, agreements are rarely complete failures. Several agreements endured for at least two decades, though eventually the state parties went to war despite the controls put in place by the agreements.

This chapter calibrates success based on several factors such as number of years in effect, if the agreement is still being implemented, and if state parties went to war and why.

⁵⁵¹ For more details, see Table C 1.

Delegation

In a study of delegation to CAC agreement executors using a sum-score methodology, the level of delegation was determined by nine different variables which were added up.⁵⁵² The total number of points determined the level of delegation. This study uses the sums to determine presence or absence of delegation from a possible low of zero to a high of nine. The calibration for the QCA delegation score is based on the delegation's sum-score.⁵⁵³

Nation-wide Specific Limitations

CAC agreements which incorporate specific, quantitative nation-wide limitations on weapon systems, personnel or other military capabilities are considered in this set (1), while agreements that have no such controls are considered outside of this set (0).⁵⁵⁴ The calibration of set membership is straightforward as the inclusion or exclusion of nation-wide military limits is binary amongst the cases.

Geographic Demilitarisation

CAC agreements containing geographic demilitarisation, defined by limits or prohibitions on military capabilities within a narrow, specific geographic area, is considered in this set (1), while agreements that lack any geographic demilitarisation are considered outside of this set (0).⁵⁵⁵ The calibration of set membership is straightforward as the inclusion or exclusion of demilitarised areas is binary amongst the cases.

Great Power Rivalry

The calibration for the presence (1) or absence (0) of a great power rivalry first requires the assessment that more than one state party is a great power and then that they have a rivalry either at the time of the agreement's signature or during its entry into force. There is no standard

⁵⁵² Lippert, "Delegation to Treaty Bodies and International Organizations for Conventional Arms Control Agreements in Europe: A Sum Score Evaluation."

⁵⁵³ For more details, see Table C 2.

⁵⁵⁴ For more details, see Table C 3.

⁵⁵⁵ For more details, see Table C 4.

definition of a great power, but this chapter uses three subjective measures. First, as Mazarr et al. state, great powers are competitive across a “global dimension.”⁵⁵⁶ Second, the Correlates for the Study of War Composite Indicator of National Capability (CINC)⁵⁵⁷ offers an annual scoring and ranking from the late 18th century to the present so that, in this study’s assessment, states in the top fifteen percent can be considered great powers. Lastly, a judgment on whether or not a state is or was a great power is based on historical context. For example, this study does not count interwar Netherlands as a great power despite its possession of colonies worldwide, in part because of its weak national military that was demonstrably and decisively defeated in just four days in 1940.

Rivalry was determined by a combination of historical study, including prior and future conflict, statements made by leaders at that time, a general assessment of diplomatic relations at the time of treaty signature, and an overall assessment of the level and type of strategic competition between great power signatories.⁵⁵⁸ The calibration for each condition and outcome (success) are shown in Table 11.

⁵⁵⁶ *Stabilizing Great-Power Rivalries*, 2021, 5.

⁵⁵⁷ Greig and Enterline, “Correlates of War Database, National Material Capabilities (v6.0).”

⁵⁵⁸ For more details, see Table C 5.

Table 11: Agreement dataset and QCA calibrated values

Short Name	Success	Del	NatLim	Demil	Grtpwr
WWI	0.4	1	1	1	1
Spitsbergen	1	0	0	1	1
Tartu	0.4	0	0	1	0
Åland	1	0	0	1	1
WashNav	0.4	0	1	1	1
Lausanne	1	0.4	0	1	1
LondonNav	0	0	1	0	1
Anglo-German	0	0	1	0	1
Montreux	1	0	0	1	1
Moscow1940	0	0	0	1	0
WWII	1	1	1	1	1
WEU	1	0.7	0	0	0
Cyprus	1	1	0	1	0
INF	0.6	0	1	0	1
Germany1990	1	0	1	1	1
CFE	0.4	0	1	0	1
Transdnistria	1	1	0	1	0
Balkans	1	0.7	1	0	0
Belfast	1	1	0	1	0
Kosovo	1	1	0	1	1
Georgia	1	1	0	1	1
Minsk	0	1	0	1	1

Source: Author's research and analysis

Analytical Results

The fsQCA software (fsQCA software version 4.0 for Mac⁵⁵⁹) calculated three different sets of pathways for each outcome: the complex, intermediate and parsimonious (simple) solution. This study focuses on the intermediate solution, in line with Schneider and Wagemann's

⁵⁵⁹ Ragin and Davey, "Fuzzy-Set/Qualitative Comparative Analysis 4.0 for Mac."

recommendation that the intermediate solution provides better insights than the other two solutions (see the appendix C information for the complex and parsimonious solutions).⁵⁶⁰

One row in both the success and failure truth table is fully contradictory – that is, the exact same conditions result in different outcomes. To an extent, this should be resolved by reassessing their calibration, adding conditions or removing the cases.⁵⁶¹ However, neither approach seems applicable to the dataset and theoretical approach. Rather, the contradiction provides insights in and of itself. Each truth table also has rows in which the same conditions appear to have different outcomes, but this is due to the system simplifying truth table scores to 0 or 1 even if the condition value was between these values.

The following two subsections present the results of the analyses for CAC agreements' outcome.

Agreement Success

The dataset contains 13 fully successful agreements. The calculations of necessary conditions were all below 0.9, indicating that none of the conditions were necessary for the outcome (success).⁵⁶² Table 12 shows the truth table rows for agreement success, with rows 1–4 showing success and 6–9 showing failure. Row 5 is a logical contradiction where the exact same conditions result in both success and failure. This row contains the Kosovo, Georgia and Minsk Agreements which were characterised by the equal values (fully present) of delegation, the absence of national limits, the presence of demilitarisation and the presence of great power rivalry.

⁵⁶⁰ *Set-Theoretic Methods for the Social Sciences*, 175, 278.

⁵⁶¹ Hirzalla, "Qualitative Comparative Analysis (QCA)," sec. 3.3; Schneider and Wagemann, *Set-Theoretic Methods for the Social Sciences*, chap. 5.

⁵⁶² Schneider and Wagemann, *Set-Theoretic Methods for the Social Sciences*, 278.

Table 12: Truth table for “Success”

Conditions						Outcome	Consistency			Cases
Row	Del	NatLim	Demil	Grtpwr	Number of cases	Success	raw consist.	PRI consist.	SYM consist.	
1	0	0	1	1	4	1	1	1	1	Spitsbergen, Åland, Lausanne, Montreux
2	1	0	1	0	3	1	1	1	1	Cyprus, Transdnistria, Belfast
3	1	0	0	0	1	1	1	1	1	WEU
4	1	1	0	0	1	1	1	1	1	Balkans
5	1	0	1	1	3	0	0.705882	0.705882	2	Kosovo, Georgia, Minsk
6	0	1	1	1	2	0	0.7	0.625	0.833333	WashNav, Germany1990
7	1	1	1	1	2	0	0.7	0.625	0.833333	WWI, WWII
8	0	1	0	1	4	0	0.25	0.0625	0.0833334	LondonNav, Anglo-German, INF, CFE
9	0	0	1	0	2	0	0.2	0	0	Tartu, Moscow1940

Note: Del = delegation; NatLim = National Limitations; Demil = Demilitarized areas; Grtpwr = Great power rivalry; Success = CAC agreement success.

Source: Calculations from fsQCA software

The intermediate solution for agreement success is composed of three pathways and is presented in Table 13. It has a consistency of 1.0 for a coverage of 0.53 – meaning that half of the success coverage cases are covered in the three pathways, and that all the cases that are in the pathways have full success. The pathways are:

- Presence of delegation, absence of geographic demilitarisation and absence of great power rivalries; this applies to the Western European Union (WEU) and Balkans agreements;
- Presence of delegation, absence of national limits and absence of great power rivalries; this applies to the Cyprus, Transdnistria, Belfast and WEU cases.
- Absence of delegation, absence of national limits, presence of demilitarisation and presence of great power rivalries; this applies to the Spitsbergen, Åland, Montreux and Lausanne cases.

Table 13: Intermediate solution for “Success”

Solution Formula	raw coverage	unique coverage	consistency	Cases
1. <u>Del*~Demil*~Grtpwr</u>	0.0921053	0.0460526	1	WEU (0.7,1), Balkans (0.7,1)
2. <u>Del*~NatLim*~Grtpwr</u>	0.243421	0.197368	1	Cyprus (1,1), Transdnistria (1,1), Belfast (1,1), WEU (0.7,1)
3. <u>~Del*~NatLim*Demil*Grtpwr</u>	0.236842	0.236842	1	Spitsbergen (1,1), Åland (1,1), Montreux (1,1), Lausanne (0.6,1)
solution coverage: 0.526316				
solution consistency: 1				

Source: Analysis output from fsQCA software

Absence of Agreement Success

The dataset contains four agreements where success is fully absent. The calculations of necessary conditions were all below 0.9, indicating that none of the conditions were necessary for the outcome's absence (failure). The absence of delegation appears in both pathways, reflecting its high consistency (0.76) with failure. Table 14 shows the truth table rows for the absence of agreement success, with rows 1–2 showing failure, 3–9 showing the absence of failure (meaning that the outcome was more than 0) and row 5 containing a logical contradiction where the exact same conditions result in both success (1) and failure (0).

Table 14: Truth table for “Absence of Success

Row	Conditions					number	Outcome ~Success	Consistency			Cases
	Del	NatLim	Demil	GrtPwr				raw consist.	PRI consist.	SYM consist.	
1	0	0	1	0		2	1	0.8	0.75	1	Tartu, Moscow1940
2	0	1	0	1		4	1	0.75	0.6875	0.916667	LondonNav, Anglo-German, INF, CFE
3	0	1	1	1		2	0	0.3	0.125	0.166667	WashNav, Germany1990
4	1	1	1	1		2	0	0.3	0.125	0.166667	WWI, WWII
5	1	0	1	1		3	0	0.294118	0.294118	0.294118	Kosovo, Georgia, Minsk
6	0	0	1	1		4	0	0	0	0	Spitsbergen, Åland, Lausanne, Montreux
7	1	0	1	0		3	0	0	0	0	Cyprus, Transnistria, Belfast
8	1	0	0	0		1	0	0	0	0	WEU
9	1	1	0	0		1	0	0	0	0	Balkans

Source: Calculations from fsQCA software

The intermediate solution is presented in Table 15. The coverage is 0.67, meaning that the two causal paths, or formulas, for the intermediate solutions cover just over two-thirds of failure outcomes. The solution consistency is 0.77, meaning that the agreements included in the pathways that are mostly scored as failure (0).

The first pathway combines the absence of delegation, the absence of national limitations, the presence of geographic demilitarisation and the absence of great power rivalry, which are covered by the Tartu and Moscow agreements. The second pathway combines the absence of delegation, the presence of national limits, the absence of geographic demilitarisation and the presence of great power rivalry, which is covered by the by the London Naval Agreements, the Anglo-German Naval Agreement, the Intermediate-Range Nuclear Forces (INF) Treaty and the CFE Treaty.

Table 15: Intermediate solution for “Absence of Success”

	raw coverage	unique coverage	consistency	Cases
4. ~Del*~NatLim*Demil*~Grtpwr	0.235294	0.235294	0.8	Tartu, Moscow1940
5. ~Del*NatLim*~Demil*Grtpwr	0.441176	0.441176	0.75	LondonNav, Anglo-German, INF, CFE

solution coverage: 0.676471

solution consistency: 0.766667

Source: Analysis output from fsQCA software

Interpretation

Great Power Rivalries

Five out of 19 agreements in this dataset do not involve a great power rivalry but were instead between regional rivals or former rivals. Contrary to theory-based expectations, the presence of great power rivalries seems to about equally contribute to agreement success and its absence. For both success and failure, the presence of great power has high consistency, though low coverage for failure (meaning that of the cases with great power rivalry presence, there is a somewhat low failure (0.35). This is partly due to great power rivalries being present in 15 out of the 22 agreements. This lack of a clear and consistent relationship between great power rivalry and success exists throughout the dataset’s time period, including the post-Cold War period where some of the successful agreements have involved the Russia–NATO rivalry.

Great power rivalry is present in one of the three pathways for success, with the pathway covering the Spitsbergen, Åland, Lausanne and Montreux agreements. Although not contained in this pathway, the post–Cold War Kosovo and Georgia agreements include great power rivals.

Two of the pathways for success contain the absence of great power rivalry, and include four cases: the WEU, Cyprus, Transdnistria, Balkan and Belfast agreements. Each agreement is successful to date for several reasons, but the absence of great power rivalries may have contributed to success by reducing perceptions of zero-sum competitions and the costs of relative gains and losses. Indeed, the absence of great power rivalries may have made cooperation much easier from the prisoner’s dilemma perspective; parties could easily see the benefits of cooperation, but unlike other prisoner dilemmas, the benefits of defection may have been very low, if any at all.

Great power rivalry presence appears in one of the two pathways for failure, with a coverage of 0.44 and consistency of 0.75. All the agreements in this solution were peacetime, military capabilities balancing agreements: the London Naval Agreements, the Anglo-German Agreement, the INF Treaty and the CFE Treaty. This suggests that such agreements between great powers are unlikely to succeed, especially when they lack delegation to an agreement executor and lack demilitarisation. Comparing two pathways for success and failure, success is characterised by the absence of national limits and the presence of demilitarisation while failure is characterised by the presence of national limits and the absence of demilitarisation. While this might suggest that great power rivals should, then, strive for demilitarisation instead of national limits, the problem with this interpretation is that great power rivals compete over a broad geography. It is unlikely that a limited, geographic demilitarisation would substantially reduce their rivalry.

National Limits and Geographic Demilitarisation

The results suggest that national limits are detrimental to agreement success while demilitarisation is sufficient for agreement success although its absence does not have a major impact. The intermediate solutions success includes two pathways with the absence of national limitations but does not contain any pathway that includes the presence of national limitations. In contrast, failure contains both the presence and absence of national limits its two pathways. As a necessary condition for success national limits have a consistency of 0.32 while the absence of national limits has a consistency of 0.53. Successful agreement cases with the absence of national limits but with a great power rivalry include four interwar agreements, Kosovo, and Georgia, with Minsk having failed.

Demilitarisation and its absence are in two of the three pathways for success, suggesting that its impact on agreement success is influenced by other conditions. The presence and absence of geographic demilitarisation also appear in the two pathways for failure. Geographic demilitarisation for agreement success has a consistency of 0.8 and a coverage of 0.77, suggesting that its presence may be important to success.

Delegation

Most of the successful agreements had delegation (0.84 necessary condition coverage), although the absence of delegation only had a necessary condition coverage of 0.43, meaning that almost the same number of cases without delegation succeeded as failed.

Three of the four intermediate solutions include delegation with a total raw coverage of 0.59. Similarly, the lack of delegation appears in both intermediate solutions for absence of agreement success with a total coverage of 0.34. Though the consistency of delegation presence as a necessary condition for success is only 0.54, its absence as a necessary condition has a higher consistency at 0.76. The four cases – Spitsbergen, Åland Islands, Lausanne and Montreux – in which delegation was absent but had successful agreements all entered into force during the interwar period when delegation to treaty executors was on average lower than after WWII. Three of the agreements are still in effect, with the Lausanne Agreements having been superseded by the Montreux Convention. These four agreements significantly decrease the extent to which the dataset and pathways connect delegation and agreement success.

Assessing the Hypothesised Pathways

H₁, which proposes that the presence of great power and national limits are a pathway for agreement failure is supported in pathway 5 which consists of both interwar and Cold War balancing agreements. Similarly, H₄, which proposes that the absence of delegation and the presence of great power rivalry is a pathway to failure is reflected in this pathway.

H₂, which proposes that the presence of delegation and demilitarisation are a pathway to agreement success, was not included in any of the solutions. Rather, pathway 3 has the absence of delegation with demilitarisation and great power rivalry – though these agreements were all made prior to WWII and thus do not reflect the post-WWII US–Soviet/Russia rivalry. Nonetheless, three cases do meet this pathway: Cyprus, Transnistria and Belfast.

H₃, which proposes that the presence of delegation and great power rivalries is a pathway to success does not appear in the success pathways, but is nonetheless composed of three cases (WWII, Kosovo and Georgia).

Contradictory Row

There is a contradictory row containing the Kosovo, Georgia and Minsk agreements. Both are characterised by full delegation, demilitarisation and great power rivalry but not national limits. In the case of Kosovo, delegation is to NATO, geographic demilitarisation was along the former Yugoslav of the Kosovo-Yugoslav border (Serb/Yugoslav forces were subject to various restrictions and prohibitions), and the great power rivalry was between the US/NATO and Russia. For the Minsk agreements, the delegation was to the OSCE's SMM, the geographic demilitarisation was along the line of contact and applied to both sides, and the great power rivalry was also between the US/NATO and Russia. In Georgia, delegation is to the EU Monitoring Mission (EUMM), although it mostly operates on the "Georgia" side of the current border. The demilitarisation conditions for Georgia's Six-Point Peace Plan (which, compared to other CAC agreements, is exceptionally brief) are vague, but state that Georgian forces were to return to their garrisons and that Russian forces were to return to pre-conflict levels and positions.

Though the three agreements share the same rivalry, the Kosovo agreement has not been impacted by the rivalry while that concerning Georgia is stable, although disputes at many levels persist. In contrast, the Minsk agreements failed in large part due to great power rivalry. Explaining why one out of these three has failed, or how two out of three have succeeded, is difficult and may come down to the particulars of each case. One possible reason is that Russia does not view the Kosovo agreement as giving the US a decisive relative advantage, while in Georgia the more contentious ceasefire may reflect Russia's perception of Georgia remaining outside of the EU and NATO as important, but not critical. In Ukraine's case, Russia may simply have viewed any loss of influence or control in Ukraine as too threatening to its core security interests.⁵⁶³

Another explanation may be that peace and stability in the Western Balkans may benefit Russia for any number of reasons and Russia is largely satisfied with the status quo in Georgia as it controls the territory that it seeks, and has no desire to invade, occupy and/or annex Georgia. Russia and the US/NATO view Ukraine as a critical, strategic state with clear, relative gains and losses to either side depending on the outcome.

⁵⁶³ Christopher Layne and Benjamin Schwarz, "The American Origins of the Russo-Ukrainian War," *The American Conservative*, October 16, 2023, <https://www.theamericanconservative.com/the-american-origins-of-the-russo-ukrainian-war/>.

Confounding comparisons of the three cases is that while NATO decisively defeated Yugoslavia in Kosovo, thus reducing the likelihood of Yugoslavia or Russia contesting the agreement, Russia held advantages in both Ukraine and Georgia – but only in Ukraine did it undermine and then defect from the CAC agreement with the outbreak of general conventional conflict in 2022.

This contradictory row emphasises that other unique factors, which may not have applicability in other CAC agreements, can supersede the four conditions set forth in this study.

Agreement Types

As previously noted, this study's agreement dataset can also be analysed by agreement categories, and here QCA offers several insights. For the intermediate solution for success, there is a mix of post-conflict, cease-fire and peacetime agreements. Pathway 1 only applies to balancing agreements while pathway 3 applies only to demilitarisation. Pathway 1 is characterised by delegation, absence of demilitarisation and absence of great power rivalry while pathway 3 is the opposite in these three conditions. This suggests that high delegation is not necessary for demilitarisation agreements even when great power rivalries are involved, which is contrary to the theory which holds that neutral party executors serve as moderators of great power rivalries and contribute to agreement success. At the same time, high delegation may play an important role in non-great power rivalries for balancing agreements, whether it is because the treaty executors have more tools and diplomatic strength to encourage compliance compared to treaty executors of balancing agreements between great power rivals. The only cases which included the combination of delegation, national limits and great power rivalry presence are the post-WWI and WWII peace agreements – one of which succeeded and the other which is not considered a success. Most of the balancing agreements, characterised by low delegation and national limits, were not fully successful (pathway 5).

Pathway 4 only concerns the bilateral relationship between Russia and Finland, with the Tartu agreement effectively locking in an imbalance (Russia's superiority) through demilitarisation that did not follow a conflict – a unique case in the dataset. The second agreement concerns the short-lived peace agreement between the two countries following the Winter War, which might generally characterise post-conflict agreements in which there is a clear and much more powerful victor.

Pathway 5 for agreement failure are all peacetime balancing agreements between great powers, emphasising the challenges these types of agreements face when they aim to limit national capabilities without delegation.

Generating separate truth tables and analysing the data for balancing and demilitarisation agreements separately offers limited insights because of the smaller dataset and the reduced variety of conditions.⁵⁶⁴ Balancing agreements are characterised by a high consistency (0.9) absence of delegation, with a relatively high coverage of 0.6. A simpler pathway for success was produced for the demilitarisation dataset that included the absence of delegation which (compared to pathway 3) contained the 1990 Germany agreement (which also contains national limitation). This pathway again emphasises that absence of delegation can still characterise successful agreements.

Conclusion

Under what conditions are CAC agreements in Europe successful or unsuccessful? This study applied QCA to understand what combinations of conditions contribute to and may cause success or failure. Its results support the hypotheses that the combination of great power rivalries and quantitative limits on states' national military capabilities such as capital ships, tanks and combat aircraft are a pathway to agreement failure. Likewise, the *absence* of delegation to international organisations and agreement executors such as the UN and OSCE can lead to agreement failure when great power rivalries are involved. Although the combination of delegation to agreement executors with geographic demilitarisation, such as the creation of buffer zones and limitation of military capabilities within a specific geographic area such as an island, and delegation to treaty executors with great power rivalries were hypothesised to be pathways for success, these did not appear in the solutions generated by the fsQCA software although they did appear as combinations in the truth table for success.

No intermediate solution pathway has high coverage and high consistency and no single condition is necessary for any outcome. The presence of contradictory outcomes despite the same conditions for the Kosovo, Georgia and Minsk agreements emphasises that the same conditions can have different outcomes. However, several combinations of conditions also have the same outcome for more than one case, suggesting that equal combinations of conditions

⁵⁶⁴ Hirzalla, "Qualitative Comparative Analysis (QCA)," sec. 2.2.

may lead to the same outcome in the future. This is an important discovery because states are more likely to want CAC agreements to succeed than fail.⁵⁶⁵

This study is somewhat optimistic about CAC in general, but less optimistic about NATO–Russia efforts to address military balances through CAC due to failure of great power rivalry agreements with national limitations – the precise kinds of agreements that both NATO and Russia seek. The good news for peace is that even between great power rivals, CAC agreements can succeed and lead to a broader, stable peace. And although efforts to impose CAC on defeated states following WWI failed with the outbreak of the next world war, WWII never saw a return of the Central European powers against their east and west neighbours. Many factors contributed to this, and one of them may have been moral disarmament – or the removal of the desire or ambition to go to war, especially world war. This concept, developed between the world wars, seems to have worked well after WWII. CAC likely contributed to stabilising the peace in a number of ways and may be an important step in the process, but the internalised aversion to major European continental wars runs beyond CAC agreements.⁵⁶⁶

This chapter raises additional areas of research. First, it has selected four independent conditions. However, CAC agreements may have other conditions or variables which might be worth considering, or otherwise state parties' characteristics. These might include assessing differences in national military capabilities, the state of relations or global economic conditions at the time of signature and in the following years. Other conditions or outcomes might consider changes that the agreements incorporated or compelled, such as alterations in the military balance, changes in levels of stability and improvements in diplomatic relations. Different conditions might offer additional insights, including QCA analyses which include some of the conditions used in this study and conditions that this study excluded.

Second, this study has used a very specific dataset. Additional cases could be added, either broadening the cases geographically, historically by including earlier agreements, and/or to include other types of agreements including nuclear agreements. However, if the outcome of success or failure of an agreement is largely defined by whether conflict occurs between state parties, cases would need to have a relationship with conflict causation. In general, this

⁵⁶⁵ This is due to the phenomenon of mutual benefits obtained through CAC agreements, which may include economic savings, improving diplomatic relations, decreased threat of surprise attack and domestic satisfaction – benefits encapsulated in the resolution of the prisoner's dilemma. However, for some CAC agreements, especially ones in which a defeated state has CAC imposed, the states may seek to violate and escape from the agreement, as was the case during the interwar period.

⁵⁶⁶ Barros, "Disarmament as a Weapon"; Goldblat, *Arms Control: The New Guide to Negotiations and Agreements*, 27–28; Henderson, "Conference for the Reduction and Limitation of Armaments: Preliminary Report of the Work of the Conference," chap. 12.

would exclude, for example, universal, humanitarian agreements such as the anti-personnel landmine treaty.

The 22 cases in this dataset suggest that the variation in CAC agreement conditions and outcomes are due in part to the variable situations in which they are created. Moreover, their relative infrequency may mean that the institutional knowledge which resides with those who crafted one agreement necessarily carries on to the next.⁵⁶⁷

The Russo-Ukraine War is the largest and most tragic conflict to befall Europe since WWII and was caused in significant part by the failure of CAC in Europe. However, CAC remains relevant today even while the war rages. A ceasefire might see the creation of a buffer zone, while a longer-term end to the conflict might include national limitations either limited to Ukraine or more broadly across Europe. This chapter has attempted to suggest how different CAC conditions might interact to stabilise peace successfully, and how some combinations of conditions may be more likely to fail than others.

⁵⁶⁷ For example, a Europe-wide CAC has not been drafted and signed since the 1999 Adapted Conventional Armed Forces in Europe Treaty (A/CFE) which never entered into force.

From conventional arms control to war

What role did conventional arms control (CAC) agreements, their failures, and the failure to update or replace them, play in Russia's decision to invade Ukraine? Throughout the fall and into the winter of 2021, Russian forces massed along Ukraine's borders along Crimea, separatist eastern Ukraine, and north along the Belarussian border.⁵⁶⁹ Whilst Russia denied it intended to invade Ukraine, it delivered two separate proposals to the North Atlantic Treaty Organization (NATO) and the United States (US) in December 2021. While falling short of ultimata⁵⁷⁰ - namely because Russia was not threatening an invasion - they nonetheless took on the character of ultimata, especially in demanding various measures in the areas of arms control and security. It is uncertain if the proposals were serious, or their expected rejection was merely a Russian justification for the forthcoming invasion⁵⁷¹ (which they denied they intended, somewhat complicating the recipients' considerations of the demands). In any case, both the US and NATO spurned most of the proposals' central elements including rescinding NATO's open-door policy, or "the presence of nuclear weapons, troops or conventional arms in NATO countries"⁵⁷² in January 2022, although offering to continue discussions to develop "reciprocal agreements," co-operation in areas of confidence and security building measures (CSBMs), and controls on land-based missiles.⁵⁷³ On 24 February 2022, Russia launched its large-scale "special military operation."⁵⁷⁴

There were many reasons why Russia invaded Ukraine, many of which were intertwined such as Ukraine's sudden change of government in the Maidan Revolution of

⁵⁶⁸ This chapter is based on the article by Lippert, William. "How Conventional Arms Control Failures Caused the Russo-Ukraine War." *Defense & Security Analysis*, January 17, 2024, 1–23. <https://doi.org/10.1080/14751798.2024.2300889>. It was published online on 17 January 2024.

⁵⁶⁹ Becky Sullivan, "Russia's at War with Ukraine. Here's How We Got Here," *NPR*, February 24, 2022, <https://www.npr.org/2022/02/12/1080205477/history-ukraine-russia>.

⁵⁷⁰ In contrast, for example, the US issued a clear ultimatum to Baghdad prior to its invasion of Iraq in 2003.

⁵⁷¹ Steven Pifer, "Russia's Draft Agreements with NATO and the United States: Intended for Rejection?," *Brookings* (blog), December 21, 2021, <https://www.brookings.edu/blog/order-from-chaos/2021/12/21/russias-draft-agreements-with-nato-and-the-united-states-intended-for-rejection/>.

⁵⁷² Michael Crowley and David E. Sanger, "U.S. and NATO Respond to Putin's Demands as Ukraine Tensions Mount," *New York Times*, January 27, 2022.

⁵⁷³ Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis."

⁵⁷⁴ Andrew Osborn and Polina Nikolskaya, "Russia's Putin Authorises 'special Military Operation' against Ukraine," *Reuters*, February 24, 2022, sec. Europe, <https://www.reuters.com/world/europe/russias-putin-authorises-military-operations-donbass-domestic-media-2022-02-24/>.

2014,⁵⁷⁵ and Ukraine's gravitation towards the European Union (EU) and NATO.⁵⁷⁶ Russian President Putin, for example, viewed Ukraine as artificially separated from Russia.⁵⁷⁷ Nonetheless, Russia's invasion of Ukraine soon after the US and NATO did not accept Moscow's proposals suggests a close linkage between the two. At the end of January 2022, Putin emphasised that the US and NATO had not addressed Russia's three principle demands, all of which concerned NATO and its military capabilities.⁵⁷⁸ In a speech days after the invasion's launch, Putin stated, "the old treaties and agreements are no longer effective. Entreaties and requests do not help."⁵⁷⁹

By using a process tracing and counterfactual mixed methodology, this chapter makes the argument that the Russo-Ukraine War is in large part a result of failures of European conventional arms control (CAC) agreement proposals - what Kühn refers to as the decay of the co-operative arms control regime in Europe.⁵⁸⁰ This degradation of agreements began with the Conventional Armed Forces in Europe (CFE) Treaty's decay and culminated in the US and NATO refusing to accept Russia's December 2021 demands. From the end of the Cold War through the Russo-Ukraine War, this chapter will argue that Russia has been seeking to obtain a symmetric balance of conventional military capabilities and power⁵⁸¹ with NATO to ensure its security principally through CAC agreements. This chapter also considers the Russo-Ukraine War in the context of broader war causation international relations (IR) theories, and suggests refinements based on the war's specific causes.

Causes of war and Putin's motivations

The literature on war causation is rich and a focus of IR theory. At a systemic level, some of

⁵⁷⁵ Russia referred to the Maidan Revolution as an 'anti-constitutional coup d'état'. Vladimir Putin, "English Translation of the 2015 Russian National Security Strategy," Russia Matters, December 2015, <https://www.russiamatters.org/node/21421>.

⁵⁷⁶ Steven Pifer, "Ukraine: Looking Forward, Five Years after the Maidan Revolution," *Brookings* (blog), February 22, 2022, <https://www.brookings.edu/blog/order-from-chaos/2019/02/22/ukraine-looking-forward-five-years-after-the-maidan-revolution/>.

⁵⁷⁷ Vladimir Putin, "On the Historical Unity of Russians and Ukrainians," President of Russia, July 12, 2021, <http://en.kremlin.ru/events/president/news/66181>.

⁵⁷⁸ Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis."

⁵⁷⁹ Vladimir Putin, "Transcript of Vladimir Putin's Televised Address on Ukraine," *Bloomberg.Com*, February 24, 2022, <https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24>.

⁵⁸⁰ Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁵⁸¹ This is distinct from the strategic nuclear balance, which still holds due to bilateral agreements between the US and Russia. For brevity, conventional military power and capabilities balance will be shortened to military balance. The strategic nuclear balance and tactical nuclear weapons are outside the scope of this chapter as they do not normally fall under CAC agreements and assessments of the conventional military balance. Moreover, up until November 2022, New START was still in effect.

these include the nature of the anarchic system⁵⁸² or misperception.⁵⁸³ Refining the causes further, scholars have noted standing, security, revenge, and interest;⁵⁸⁴ territory, dominance, hostile nationalisms and other ideologies;⁵⁸⁵ or commitment problems, uncertainty and incentives to misrepresent, and divisibility problems.⁵⁸⁶ Other contributors to war, especially when an adversarial relationship exists, include offensive dominance;⁵⁸⁷ territorial proximity;⁵⁸⁸ optimism in victory, first move advantage; state's belief that its relative power is declining, compelling it to attack others to halt the trend;⁵⁸⁹ arms racing;⁵⁹⁰ and arms control failure.⁵⁹¹ This chapter proposes that arms racing and arms control failure are the Russo-Ukraine War's main causes.

While these general causes for war are valid and insightful, they are largely too broad to determine which specific policies compelled Russia to invade Ukraine - which because of the system of governance in Russia fundamentally means: why did Putin decide to invade Ukraine? Understanding the main policy motivations for the invasion is important for preventing a future conflict with Russia. There are many challenges to identifying all of Putin's motivations, and then determining which weighed the most in his decision. The challenges are due to two main factors: first, in the course of over twenty years; and especially in the last five, Putin has bombarded the public and diplomatic space with many complaints and concerns which can be assessed as invasion motivations. Second, especially given the contemporaneity of the invasion, objective insights from Putin and his leadership and archival information is unavailable. This leaves public documentation as the primary source to determine motivations, complemented by scholarly and expert analysis.

Putin's motivations for invading Ukraine fall into three general categories: responding to the adversarial relationship with the US and NATO; resolving Ukraine-specific issues; and threats to Putin's rule in Russia. These three categories, however, are intertwined. For example, a

⁵⁸² Kenneth N. Waltz, *Theory of International Politics*, Addison-Wesley Series in Political Science (Reading, Mass.: Addison-Wesley Pub. Co., 1979).

⁵⁸³ Jervis, "Arms Control, Stability, and Causes of War," Winter 1991.

⁵⁸⁴ Lebow, *Why Nations Fight*.

⁵⁸⁵ Jervis, "Arms Control, Stability, and Causes of War," Winter 1991.

⁵⁸⁶ Fearon, "Rationalist Explanations for War."

⁵⁸⁷ Blagden, "When Does Competition Become Conflict?"

⁵⁸⁸ Vasquez, "Distinguishing Rivals That Go to War from Those That Do Not."

⁵⁸⁹ Van Evera, *Causes of War*.

⁵⁹⁰ Gibler, Rider, and Hutchison, "Taking Arms Against a Sea of Troubles: Conventional Arms Races During Periods of Rivalry"; Glaser, "When Are Arms Races Dangerous? Rational versus Suboptimal Arming"; Rider, Findley, and Diehl, "Just Part of the Game?"

⁵⁹¹ Jervis, "Arms Control, Stability, and Causes of War," Winter 1991.

strong US/NATO could threaten Putin's rule by facilitating regime change, as it did in Libya.⁵⁹² Specific Ukrainian issues, such as the maintenance of a pro-West government in Kyiv which brought the country closer to NATO and its prosperity might have encouraged anti-Putin elements in Russia. Thus, changing Kyiv's government, or annexing the country in entirety, would (in Putin's view) address many of his concerns. Nonetheless, questions might be more specifically posed about what exactly in the rivalry with US/NATO did Putin find unacceptable? What issues within Ukraine did Putin wish to change? What specific policies did Putin feel might have undermined his rule? Table 16 below suggests a list of motivations with selected sources and suggests the broader category of issues that they fall into.

⁵⁹² "Russia Military Power Report: Building a Military to Support Great Power Aspirations" (US Defense Intelligence Agency (DIA), 2017).

Table 16: Putin's war motivations

Motivation	Category	Sources
Changing Kyiv government	Internal Ukrainian issues, US/NATO Competition, Strengthening Putin's Rule	• Putin's February 2022 Televised Address on Ukraine⁵⁹³ • Putin February 2023 Annual Address to Russia⁵⁹⁴ • Myerson and Borer, "Perspectives on Ukraine and the Russian Invasion"⁵⁹⁵
Respond to NATO Expansion, and prevent further expansion (including Ukraine)	US/NATO Competition	• Putin's February 2022 Televised Address on Ukraine⁵⁹⁶ • Russian December 2021 proposals to the US and NATO • Mearsheimer, "The Causes and Consequences of the Ukraine War." • Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis."⁵⁹⁷
Russia-NATO Balance of forces	US/NATO Competition	• Putin's February 2022 Televised Address on Ukraine⁵⁹⁸ • Russian December 2021 proposals to the US and NATO • Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis."⁵⁹⁹
Maintenance of Russia as a Great Power (Indivisible security)	US/NATO Competition	• Malmlöf et al., <i>Russia's War Against Ukraine and the West: The First Year</i>.⁶⁰⁰ • Likhotal, "The Root Causes of the Russian Invasion of Ukraine."⁶⁰¹ • Putin February 2023 Annual Address to Russia⁶⁰² • Russian December 2021 proposals to the US and NATO • Lebow, "International Relations Theory and the Ukrainian War."⁶⁰³
Prevent NATO from attacking Russia	US/NATO Competition	• Mearsheimer, "The Causes and Consequences of the Ukraine War."

⁵⁹³ Vladimir Putin, "Transcript of Vladimir Putin's Televised Address on Ukraine," *Bloomberg.Com*, February 24, 2022, <https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24>.

⁵⁹⁴ Vladimir Putin, "Putin Gives Annual Address to Russia Transcript," *Rev* (blog), February 21, 2023, <https://www.rev.com/blog/transcripts/putin-gives-annual-address-to-russia-transcript>.

⁵⁹⁵ Roger B. Myerson and Douglas Borer, "Perspectives on Ukraine and the Russian Invasion - Global ECCO - Naval Postgraduate School," Global ECCO, January 7, 2023, <https://nps.edu/web/ecco/w/perspectives-on-ukraine-and-the-russian-invasion>.

⁵⁹⁶ Putin, "Transcript."

⁵⁹⁷ Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis."

⁵⁹⁸ Vladimir Putin, "Transcript of Vladimir Putin's Televised Address on Ukraine," *Bloomberg.Com*, February 24, 2022, <https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24>.

⁵⁹⁹ Cameron, "After U.S. & NATO Reject Russia's Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis."

⁶⁰⁰ Tomas Malmlöf et al., *Russia's War Against Ukraine and the West: The First Year* (FOI, 2023).

⁶⁰¹ Alexander Likhotal, "The Root Causes of the Russian Invasion of Ukraine," *Cadmus Journal* Report on War in Ukraine (July 2022): 1–10.

⁶⁰² Putin, "Putin Gives Annual Address to Russia Transcript."

⁶⁰³ Richard Ned Lebow, "International Relations Theory and the Ukrainian War," *Analyse & Kritik* 44, no. 1 (2022): 111–35, <https://doi.org/10.1515/auk-2022-2021>.

Motivation	Category	Sources
		• Putin February 2023 Annual Address to Russia⁶⁰⁴ • Cameron, “After U.S. & NATO Reject Russia’s Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis.”⁶⁰⁵
Protect Putin’s rule in Russia (Domino theory)	US/NATO Competition	• Malmlöf et al., <i>Russia’s War Against Ukraine and the West: The First Year</i>.⁶⁰⁶ • Lebow, “International Relations Theory and the Ukrainian War.”⁶⁰⁷
Pre-emption of an attack against Russia (including Crimea and eastern Ukraine) by Ukrainian armed forces	Ukraine-specific Issues	• Putin’s February 2022 Televised Address on Ukraine⁶⁰⁸ • Putin February 2023 Annual Address to Russia⁶⁰⁹
Protect Russians in Ukraine (Donbass, Luhansk, and Crimea)	Ukraine-specific Issues	• Putin’s February 2022 Televised Address on Ukraine⁶¹⁰ • Putin February 2023 Annual Address to Russia⁶¹¹
Combat Ukrainian “fascism”	Ukraine-specific Issues	• Putin February 2023 Annual Address to Russia⁶¹²
Fear of democratization	Ukraine-specific Issues	• Dickinson, “How Putin’s fear of democracy convinced him to invade Ukraine.”⁶¹³ • Lebow, “International Relations Theory and the Ukrainian War.”⁶¹⁴
Territorial expansion	Strengthening Putin’s Rule	• Bostock, “Putin Undermined His Own Rationale for Invading Ukraine, Saying That the War Is to Expand Russian Territory.”⁶¹⁵
Rallying around the flag / shoring up domestic support	Strengthening Putin’s Rule	• Greene and Robertson, “Putin’s Rule Depends on Creating Foreign Enemies — and Domestic ‘Traitors.’”⁶¹⁶
Illegitimacy of Ukrainian Statehood	Strengthening Putin’s Rule	• Putin, “On the Historical Unity of Russians and Ukrainians.”⁶¹⁷

⁶⁰⁴ Putin, “Putin Gives Annual Address to Russia Transcript.”

⁶⁰⁵ Cameron, “After U.S. & NATO Reject Russia’s Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis.”

⁶⁰⁶ Malmlöf et al., *Russia’s War Against Ukraine and the West: The First Year*.

⁶⁰⁷ Lebow, “International Relations Theory and the Ukrainian War.”

⁶⁰⁸ Vladimir Putin, “Transcript of Vladimir Putin’s Televised Address on Ukraine,” *Bloomberg.Com*, February 24, 2022, <https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24>.

⁶⁰⁹ Putin, “Putin Gives Annual Address to Russia Transcript.”

⁶¹⁰ Vladimir Putin, “Transcript of Vladimir Putin’s Televised Address on Ukraine,” *Bloomberg.Com*, February 24, 2022, <https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24>.

⁶¹¹ Putin, “Putin Gives Annual Address to Russia Transcript.”

⁶¹² Putin.

⁶¹³ Peter Dickinson, “How Putin’s Fear of Democracy Convinced Him to Invade Ukraine,” *Atlantic Council* (blog), March 6, 2023, <https://www.atlanticcouncil.org/blogs/ukrainealert/how-putins-fear-of-democracy-convinced-him-to-invade-ukraine/>.

⁶¹⁴ Lebow, “International Relations Theory and the Ukrainian War.”

⁶¹⁵ Bill Bostock, “Putin Undermined His Own Rationale for Invading Ukraine, Saying That the War Is to Expand Russian Territory,” *Business Insider*, accessed July 15, 2023, <https://www.businessinsider.com/putin-says-ukraine-war-seize-land-russia-undermines-rationale-2022-6>.

⁶¹⁶ Samuel A. Greene and Graeme B. Robertson, “Putin’s Rule Depends on Creating Foreign Enemies — and Domestic ‘Traitors,’” *Washington Post*, February 24, 2022, <https://www.washingtonpost.com/outlook/2022/02/24/putin-ukraine-invasion-domestic-support-strategy/>.

⁶¹⁷ Putin, “On the Historical Unity of Russians and Ukrainians.”

Motivation	Category	Sources
		• Knispel, “Fact-Checking Putin’s Claims That Ukraine and Russia Are ‘One People.’”⁶¹⁸

Source: Author’s research and analysis

Process tracing and counterfactual methodology

According to Collier,⁶¹⁹ ‘process tracing is “a fundamental tool of qualitative analysis” based on qualitative data for within-case analysis. The data is composed of events “over time” to establish a “causal inference.”’⁶²⁰ Four tests can be applied to each possible causal inference to ascertain the likelihood that the cause is properly identified. The methodology and this case, however, cannot decisively eliminate any cause, nor unequivocally establish each cause’s weight. It does not consider, though does not discount, other reasons which remain unknown due to Russian document secrecy, or that their only proof lies primarily within Putin’s own mind and private discussions.

Counterfactual methodology is imprecise at best given the impossibility of knowing with any certainty how events would alternatively play out in different circumstances. Nonetheless as Levy⁶²¹ states, “Counterfactuals play an essential role in common historiographical debates about whether a particular outcome was inevitable, or contingent. The most effective way of supporting an argument that an outcome was contingent is to demonstrate that a slight change could easily have led to a different outcome.” Or, in this case study, that CAC failure caused the Russo-Ukraine War, and that the war would not have occurred in the absence of CAC failures (in other words, if a comprehensive Europe-wide CAC agreement between Russia and NATO that met Moscow’s demands had been signed and entered into force, Russia would not have invaded Ukraine).

Military balance and indivisible security

There are two interconnected concepts which drove Russia’s quest for a satisfactory European CAC architecture: a stable or favourable military balance and indivisible security. The military balance is roughly and subjectively determined by assessing factors such as the quality,

⁶¹⁸ Sandra Knispel, “Fact-Checking Putin’s Claims That Ukraine and Russia Are ‘One People,’” *University of Rochester News Center* (blog), March 3, 2022, <https://www.rochester.edu/newscenter/ukraine-history-fact-checking-putin-513812/>.

⁶¹⁹ Collier, “Understanding Process Tracing,” 823–30.

⁶²⁰ Collier, 824.

⁶²¹ Levy, “Counterfactuals and Case Studies,” 630.

quantity, disposition, firepower, and mobility of military forces between Russia and NATO. Assessing and comparing military forces to include their quantity, quality, command and control, deployability, and mobilisation times, which is at the heart of assessing the military balance, is at best an estimative process due to unknowns especially related to combat performance,⁶²² yet nations such as Russia must still assess the military balance, especially with NATO, to determine their strengths and weaknesses⁶²³ in order to prioritise defence acquisition, strategy, and other defence and national security policies.

Indivisible security, in Russia's view, refers to the notion that states who may have an adversarial or rival relationship should not increase their security at the cost of the other, with security primarily being defined by military capability.⁶²⁴ The concept of indivisible security has evolved over time, and was first articulated in the 1975 Helsinki Final Act accepted by all members of the OSCE (which includes Russia and all NATO members). The question of indivisible security in Europe has been a recurring theme in Russia's complaints about the post-Cold War order. And while security can be interpreted to incorporate any number of areas including energy, economics, and transnational crime, Russia's own statements and CAC proposals indicate that they define security predominately in terms of the military balance. Russia stated that indivisible security is one of its main goals in the Kremlin's national security strategies of 2009,⁶²⁵ 2015,⁶²⁶ and 2021.

As the military balance has increasingly shifted in favour of NATO, especially with NATO expansion, from the mid-1990s to the present, Russia has viewed its security situation in increasingly unfavourable terms. That is, with each increase in NATO military capability, Russia perceived that its capability comparatively decreased despite increased spending and

⁶²² Bastian Giegerich and James Hackett, *Military Capabilities in Europe: A Framework for Assessing the Qualitative Dimension* (The International Institute for Strategic Studies (IISS), 2022); Peter Roberts and Sidharth Kaushal, "Strategic Net Assessment: Opportunities and Pitfalls," *The RUSI Journal* 163, no. 6 (December 2018): 66–76, <https://doi.org/10.1080/03071847.2018.1562025>; Thomas M Skypek, "Evaluating Military Balances Through the Lens of Net Assessment: History and Application," *Journal of Military and Strategic Studies* 12, no. 2 (Winter 2010): 25; James A Zanella, *Combat Power Analysis Is Combat Power Density* (Fort Leavenworth, Kansas: United States Army Command and General Staff College, 2012).

⁶²³ Reach, Kilambi, and Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means*.

⁶²⁴ Marc Perrin de Brichambaut, "The Indivisibility of Euro-Atlantic Security" (OSCE, February 4, 2010); Alexander Graef and Ulrich Kühn, "A Letter from Moscow: (In)Divisible Security and Helsinki 2.0," War on the Rocks, February 14, 2022, <https://warontherocks.com/2022/02/a-letter-from-moscow-indivisible-security-and-helsinki-2-0/>; Kwartalnov, "Indivisible Security and Collective Security Concepts."

⁶²⁵ Vladimir Putin, "National Security Strategy of the Russian Federation to 2020," Embassy of the Russian Federation in the Kingdom of Thailand, May 12, 2009, <https://thailand.mid.ru/en/national-security-strategy-of-the-russian-federation>.

⁶²⁶ Putin, "English Translation of the 2015 Russian National Security Strategy."

other defence reforms which were another means to address the military imbalance.⁶²⁷ One of Russia's principle means of redressing the growing military imbalance was through CAC, which arguably started successfully with the 1991 CFE Treaty. However, the balance continuously shifted against Russia as NATO expanded territorially and in terms of military capabilities, and without a sufficient CAC mechanism to replace the Cold War-era agreement. With Russia's attempts to resolve the imbalance through CAC having failed, they resorted to invading Ukraine. Had Russia successfully defeated Ukraine, the military balance would have been immediately altered with the Ukrainian military's capabilities firmly in Russia's hands, and Ukrainian satellite state status, or outright annexation would have given Russia more ways to threaten NATO such as new invasion routes, the ability to hold more NATO capitals and other targets at risk of missile and air attacks, and control of more Black Sea coastline. Moscow and the West faced an indivisibility, or zero-sum, problem with Ukraine.

CAC essentials

This chapter defines adversarial CAC as an attempt to establish and fix a certain distribution (equal or unequal) of conventional military power between two or more states through a formal agreement(s). CAC agreements often commence with states' considerations of the security dilemma, deterrence, and the offense-defence balance. In brief, the security dilemma exists when a state; or group of states establish a certain military posture for defence, but at the risk of making adversaries or potential adversaries feel threatened by this military posture. If the dilemma is not resolved, an arms race can ensue in which neither side feels secure which can eventually lead to conflict.⁶²⁸ Deterrence is the maintenance of a military force and other tools of national power to disincentivise an adversary from attacking by making them determine that such an attack will either not result in obtaining the desired political-military goals, or obtaining such goals is too costly.⁶²⁹ The offense-defence balance (ODB) is a key driver of the security dilemma and deterrence, and refers to whether and which weapon systems provide an offensive or defensive advantage. This is critical because, in principle, a force posture with a strong defence advantage will deter, especially if the opponent lacks any offensive advantage, but not provoke an adversary into arms racing, or attacking.⁶³⁰ ODB theory is key to determining which

⁶²⁷ Konrad Muzyka, *Russian Forces in the Western Military District*, CNA Occasional Paper (Arlington, VA: CNA, 2021); Susanne Oxenstierna et al., *Russian Military Capability in a Ten-Year Perspective - 2019* (FOI, 2019); Clint Reach et al., *Competing with Russia Militarily: Implications of Conventional and Nuclear Conflicts*, Perspective (Santa Monica, CA: RAND Corporation, 2021), <https://doi.org/10.7249/PE330>.

⁶²⁸ Taliaferro, "Security Seeking under Anarchy."

⁶²⁹ Haffa, "The Future of Conventional Deterrence"; Mazarr, Chan, et al., *What Deters and Why*.

⁶³⁰ Haffa, "The Future of Conventional Deterrence."

weapons systems might or might not be limited or prohibited in a CAC treaty.

To summarise from Russia's perspective, the military balance which is strongly in NATO's favour gives Russia a sense of insecurity, and NATO expansion and growing military capability since the mid-1990s has come at the cost of Russia's security despite legally and politically binding agreements (discussed below) that Europe would be guided by the notion of indivisible security. The military imbalance is due NATO's failure to mitigate the security dilemma (their attempts to maintain a sufficient defence is viewed by Russia as threatening), undermines Russia's ability to deter a NATO surprise attack, and is based on NATO's possession of "offensive" weapons. Eliminating the threat of a surprise attack is one of the key goals of European CAC agreements since 1990.⁶³¹ CAC is a means of addressing concerns about the military balance⁶³² and a successful CAC agreement would, Russia hoped, reduce or curtailed NATO's capabilities; a point specifically made by Putin in 2014,⁶³³ but their failure compelled Moscow to find other means to obtain security.

Russia's failed quest for security through conventional arms control

Russia's first major success in obtaining "indivisible" security was with the signing and then entry into force of the CFE Treaty.⁶³⁴ Signed in 1990 while there was still a Soviet Union and Warsaw Treaty Organization (WTO, commonly referred to as the Warsaw Pact), the treaty was history's largest and most complex CAC agreement and entered into force at the start of the post-Cold War era in 1992.⁶³⁵ The treaty's purposes included reducing the likelihood of a surprise attack by significantly reducing and limiting five major areas of weapons: tanks, armoured combat vehicles, artillery pieces, combat aircraft, and attack helicopters (collectively referred to as Treaty Limited Equipment (TLE))⁶³⁶ to equal numbers between NATO and (former) WTO members. The treaty also included, especially in conjunction with the Open

⁶³¹ "Treaty On Conventional Armed Forces In Europe"; "Agreement On Adaptation Of The Treaty On Conventional Armed Forces In Europe" (Istanbul, November 19, 1999). Both state that signatories are committed to 'eliminating, as a matter of high priority, the capability for launching surprise attack and for initiating large-scale offensive action in Europe'. When surprise attacks may be successful for either side, the 'first move' advantage creates instability.

⁶³² Müller and Albert, "Whose Balance?" Muller and Albert argue that arms control agreements are 'associational balancing' processes, in which parties 'agree on a joint mechanism for creating and maintaining a certain distribution of power that they consider to be in balance', p. 112.

⁶³³ Vladimir Putin, "Meeting of the Valdai International Discussion Club," President of Russia, October 24, 2014, <http://en.kremlin.ru/events/president/news/copy/46860>.

⁶³⁴ "Treaty On Conventional Armed Forces In Europe."

⁶³⁵ "CFE Chronology: Conventional Forces in Europe Treaty," accessed April 4, 2022, <https://nuke.fas.org/control/cfe/chron.htm>.

⁶³⁶ The CFE Treaty also limits armoured vehicle launched bridges to 740 per group of state parties (bloc), though the A/CFE does not uphold these limits and only requires that their numbers within the AoA be reported.

Skies Treaty (OST), unprecedented monitoring and verification measures.

From the Soviet Union and then Russia's perspective, the treaty attempted to resolve the security dilemma by limiting surprise-attack facilitating offensive weapons, establishing a system of geographic zonal restrictions which reduced the number of opposing forces near the common NATO-WTO borders, and promoting deterrence by not limiting defensive weapons, and not controlling strategic reserves (forces far from the common border areas, including in North America and east of the Urals). Whilst there is no explicit mention of indivisible security, the text in the preamble states that the treaty's main purpose was:

... establishing a secure and stable balance of conventional armed forces in Europe at lower levels than heretofore, of eliminating disparities prejudicial to stability and security and of eliminating, as a matter of high priority, the capability for launching surprise attack and for initiating large-scale offensive action in Europe.

Thus, the CFE Treaty created the precedent of, and a model for, indivisible security through conventional military force balancing.

The CFE Treaty was amended in 1992 to limit military personnel (referred to as CFE 1-A,⁶³⁷ which is politically rather than legally binding)⁶³⁸ and shifting to a nation-based system instead of the bloc-based system originally set out in the CFE Treaty. The treaty gave Russia the largest number of personnel, at 1,450,000, and at the same time excluded personnel outside of the area of application (AoA).⁶³⁹ At this time, while WTO had dissolved, NATO was later to expand eastward. By most signatories accepting mutual limits,⁶⁴⁰ the concept of indivisible security was upheld and there were no changes to Russia's deterrence.

By the mid-1990s, Russia confronted not only a strengthening Western alliance, but also uprisings in the Caucasus. Zonal limits legally limited Russia's ability to respond both to the violence in its south as well its ability to move forces within its territory even for deterrence; limits which had been set when the USSR had existed. After two years of negotiations, the CFE Flank Agreement⁶⁴¹ was signed in May 1996 and entered into force in May 1997. The new

⁶³⁷ "Concluding Act Of The Negotiation On Personnel Strength Of Conventional Armed Forces In Europe."

⁶³⁸ "Concluding Act Of The Negotiation On Personnel Strength Of Conventional Armed Forces In Europe."

⁶³⁹ The AoA was referred to as the Atlantic to the Urals (ATTU) and covers the area from Europe's Atlantic coast to the Urals (west to east), and Norway to Türkiye (north to south). Thus, it excludes north America (Canada and the US), all of Russia east of the Urals, and any military forces deployed or based in areas outside of the AoA.

⁶⁴⁰ Armenia, Azerbaijan, and Moldova did not commit to limits, but their omission was unlikely viewed as threatening to Russia.

⁶⁴¹ "Final Document Of The First Conference To Review The Operation Of The Treaty On Conventional Armed Forces In Europe And The Concluding Act Of The Negotiation On Personnel Strength" (Vienna, May 31, 1996).

agreement improved Russia's sense of security, upholding their notion of indivisible security and increasing their ability to deter threats. From Russia's perspective, the security dilemma remained mitigated as the agreement did not in any way change NATO members' TLE limits. Both sides retained their ability to defend without increasing NATO's ability to attack.

With NATO expansion on the horizon,⁶⁴² Russia and NATO signed the Founding Act in May 1997, just weeks after the CFE Flank Agreement entered into force. The Founding Act⁶⁴³ committed NATO to abstain from "permanent stationing of substantial military forces" in central and eastern Europe while Russia would "exercise similar constraint ... in Europe."⁶⁴⁴ Whilst the definition of permanent and substantial would later become a source of disagreement, the Founding Act once again reiterated the concept of indivisible security,⁶⁴⁵ and this agreement was a mutual attempt at retaining the military balance despite forthcoming NATO expansion. The Founding Act also emphasised key areas of agreement to adapt the CFE Treaty. The promise of not positioning NATO forces, other than those native to each member state, not only preserved Russia's deterrence, it also gave Russian an offensive advantage as it could, theoretically, mass forces within CFE limits at a much higher ratio than any of its western neighbours who would be constrained by the Founding Act from having comparable forces on their own territory. While this offensive advantage created a security dilemma it was, at least for the time being, in Russia's favour; that is, NATO's future expansion would not threaten Russia while Russia would be in a better position to threaten NATO. NATO expansion was neither Russia's preference, nor was it in their interests,⁶⁴⁶ but the Founding Act at least upheld the notion of indivisible security with NATO promising, implicitly, not to increase NATO's offensive military capabilities in ways that would threaten Russia.

With the WTO's demise, NATO's expansion, and other eastern European countries gravitating towards the West, all CFE Treaty parties agreed to revisit the treaty, adapting it to the new geopolitical situation in Europe. In November 1999, the Adapted CFE Treaty

⁶⁴² States that were not a NATO member were considered for membership throughout 1996 and 1997, with accession talks beginning with Czech Republic, Hungary, and Poland in July 1997.

⁶⁴³ "Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation," May 27, 1997.

⁶⁴⁴ "Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation," art. IV.

⁶⁴⁵ Article I states: 'Proceeding from the principle that the security of all states in the EuroAtlantic community is indivisible...'

⁶⁴⁶ "NATO Expansion: What Yeltsin Heard," National Security Archives, March 16, 2018, <https://nsarchive.gwu.edu/briefing-book/russia-programs/2018-03-16/nato-expansion-what-yeltsin-heard>.

(A/CFE)⁶⁴⁷ was signed by thirty countries which included all of the original CFE signatories, plus former USSR states at the Organisation of Security and Co-operation in Europe (OSCE) Summit in Istanbul, Türkiye. At the same time, the Charter for European Security was signed by all 54 members of the OSCE.

As with the CFE Treaty, the A/CFE Treaty was a broad, complicated treaty meant to limit the number of conventional weapons in Europe. It dropped the geographic zonal system in favour of limits set for each state party, with one limit applying to the TLE the state party could have on its own territory from its own forces, and an additional limit on the amount of foreign TLE on their national territory (national and territorial ceilings, respectively). The A/CFE's treaty retained the five categories of TLE, though territorial ceilings only applied to tanks, armoured combat vehicles, and artillery because attack helicopters and combat aircraft were considered too mobile for effective monitoring and verification. Russia was apportioned by far the largest amount of TLE for any country⁶⁴⁸ - and as with the CFE Treaty, it could still hold uncounted equipment outside of the AoA east of the Urals. One of the key elements of the A/CFE was its articles permitting other states to join the treaty - an issue of high significance to Russia as the Baltic States had not joined the CFE Treaty.⁶⁴⁹

The A/CFE Treaty was a new mechanism for Russia to prohibit NATO from building up forces along Russia's borders, especially if and when the Baltic states joined the treaty.⁶⁵⁰ The expected limitations on national and NATO forces in the Baltic states⁶⁵¹ coupled with agreed limits in existing state parties such as Norway and Türkiye retained Moscow's perception of security through deterrence. Just as importantly, the A/CFE Treaty was an honest attempt on the part of NATO to respond to Russia's genuine concerns about alliance expansion by retaining the CFE's central elements, but adjusting the limits to reflect the changed

⁶⁴⁷ "Agreement On Adaptation Of The Treaty On Conventional Armed Forces In Europe." One senior Russian official stated that the CFE Treaty would 'vanish' as soon as any Eastern European country joined NATO, Michael Sheehan and Rosemary Durward, "Conventional Arms Control and Security in Europe," *Defense Analysis* 12, no. 1 (1996): 5–22, <https://doi.org/10.1080/07430179608405678>.

⁶⁴⁸ For example, Russia's TLE for tanks was 6350, with the next largest holding allocated to Germany at 3444.

⁶⁴⁹ One of President Putin's justifications for suspending the CFE Treaty was that it did not include the Baltic states, thus there were no treaty limits on the size or composition of NATO forces in those countries.

"Information on the Decree "On Suspending the Russian Federation's Participation in the Treaty on Conventional Armed Forces in Europe and Related International Agreements"," Office of the President of Russia, January 14, 2007, <http://en.kremlin.ru/supplement/3327>.

⁶⁵⁰ Mark R. Wilcox, "Russia and the Treaty on Conventional Armed Forces in Europe (CFE Treaty)—A Paradigm Change?," *The Journal of Slavic Military Studies* 24, no. 4 (2011): 567–81, <https://doi.org/10.1080/13518046.2011.624456>.

⁶⁵¹ The TLE for the Baltic states could not be set until they applied and acceded to join the treaty.

geopolitical situation.⁶⁵² The new system of national and territorial TLE limits, as well as the potential to include new signatories, upheld the concept of indivisible security by locking in a relatively even military balance and with all state parties accepting limitations, monitoring, and verification.

The 1999 Charter for European Security⁶⁵³ was more of a political declaration without specific CAC measures, but made two critical statements that reinforced Russia's existing vision for Russian and European security in a continent of growing NATO military power (which had recently been demonstrated in the NATO campaign against the Former-Yugoslavia in support of separatist Kosovo⁶⁵⁴). First, the charter expressed support for "the formation of a common and indivisible security space." Second, signatories agreed that they would "not strengthen their security at the expense of the security of other States." Taken together, these two statements reinforced Russia's view that NATO expansion should not change the military balance and result in a net loss of Russia's military power.

By 2007, the security and geopolitical situation in Europe had changed significantly since 1992. Putin had been in power since 2000, NATO had added 10 new members including the three Baltic states, and against Russia's wishes the US had invaded Iraq, changed its government, and occupied the country.⁶⁵⁵ In the area of CAC, ratification of the A/CFE had been stalled since its signature in 1999 mainly due to disputes over Russia's continued military presence in Georgia and Moldova against their governments' will.⁶⁵⁶ In January 2007, the Kremlin announced it was "suspending" its participation in the CFE Treaty due to "exceptional circumstances," giving six reasons including the absence of the Baltic states from the treaty and a significantly increased military capability on the part of NATO due to expansion.⁶⁵⁷

⁶⁵² Jeffrey D McCausland, "NATO and Russian Approaches To Adapting the CFE Treaty," Arms Control Association, Undated, <https://www.armscontrol.org/act/1997-08/features/nato-russian-approaches-adapting-cfe-treaty>.

⁶⁵³ OSCE, "Istanbul Document 1999," November 19, 1999, sec. Charter for European Security.

⁶⁵⁴ Russia expressed its disapproval of NATO use of force 'beyond the zone of its responsibility without the sanction of the UN Security Council' in "National Security Concept of the Russian Federation," December 17, 1999, <https://nuke.fas.org/guide/russia/doctrine/gazeta012400.htm>. President Putin used the example of the Kosovo conflict when he justified the invasion of Ukraine, wherein he stated that Russia's adversaries failed to consider 'the interests of all states' when, among several military actions, they conducted 'a bloody military operation was waged against Belgrade, without the UN Security Council's sanction but with combat aircraft and missiles used in the heart of Europe'. Putin, "Transcript."

⁶⁵⁵ Thomas Ambrosio, "The Russo-American Dispute over the Invasion of Iraq: International Status and the Role of Positional Goods," *Europe-Asia Studies* 57, no. 8 (December 2005): 1189–1210, <https://doi.org/10.1080/09668130500351357>. Putin raised the issue of the US 2003 invasion of Iraq in his speech justifying Russia's invasion of Ukraine. Putin, "Transcript."

⁶⁵⁶ "Russia Suspends Participation In CFE Treaty," *Radio Free Europe/Radio Liberty*, December 12, 2007, <https://www.rferl.org/a/1079256.html>.

⁶⁵⁷ "Information on the Decree "On Suspending the Russian Federation's Participation in the Treaty on Conventional Armed Forces in Europe and Related International Agreements".

Putin's statement specifically refers to the CFE Treaty's establishment of a military balance and Russia's view that this had been undermined with NATO expansion and failure to implement the A/CFE Treaty. In other words, Russia made the case that the A/CFE's non-implementation had resulted in a security environment where NATO's gains were at the cost of Russia's relative military power (contrary to the agreements of indivisible security). Though Russia did not explicitly express concerns about its deterrence, its objections to increased NATO military power and US military presence in former WTO countries, Putin's demand that NATO lower TLE limits collectively, abolish flank restrictions within Russia, and agree on the definition of "substantial combat forces," suggest that Moscow saw its conventional deterrence eroding.

In 2009, Russia proposed the European Security Treaty (EST)⁶⁵⁸ in another attempt to address NATO's clear military and political superiority (NATO had just welcomed its latest members, Albania and Croatia, months before the EST proposal was released).⁶⁵⁹ Once again, Russia insisted on indivisible security, with the proposal stating that "Parties shall co-operate with each other on the basis of the principles of indivisible, equal and undiminished security."⁶⁶⁰ And that "A Party to the Treaty shall not undertake, participate in or support any actions or activities affecting significantly security of any other Party or Parties to the Treaty."⁶⁶¹ Though the proposal does not offer any specific CAC measures, it does state that, "A Party to the Treaty shall not allow the use of its territory and shall not use the territory of any other Party with the purpose of preparing or carrying out an armed attack against any other Party or Parties to the Treaty or any other actions affecting significantly security of any other Party or Parties to the Treaty."⁶⁶² While this is a vague sentence, Russia could subjectively interpret that any NATO military forces outside of their state of origin were prohibited because it affects Russia's security. Here again, Russia was attempting to create; or return to a military balance that was at least symmetric, if not in its favour. Permanently militarily handicapping eastern European countries would have helped Russia retain its deterrence. NATO countries largely rejected the proposal immediately due to the constraints it would place on the alliance.⁶⁶³

⁶⁵⁸ Dmitri Medvedev, "The Draft of the European Security Treaty," President of Russia, November 29, 2009, <http://en.kremlin.ru/events/president/news/6152>.

⁶⁵⁹ Patrick Nopens, *A New Security Architecture for Europe?: Russian Proposal and Western Reactions*, Security Policy Brief 3 (EGMONT Royal Institute for International Relations, 2009).

⁶⁶⁰ Medvedev, "The Draft of the European Security Treaty," art. 1.

⁶⁶¹ Medvedev, art. 2.1.

⁶⁶² Medvedev, art. 2.3.

⁶⁶³ Brad L Hull, *Russia's Proposal for a European Security Treaty: Origins and Prospects* (Monterey, California: Naval Postgraduate School, 2019); Ulrich Kühn, "Medvedev's Proposals for a New European

In 2014, Russia annexed Ukraine's Crimea and supported separatists in eastern Ukraine, removing much of the region from Kyiv's control. NATO's response included deploying rotational forces to eastern Europe, including the Baltic states.⁶⁶⁴ In 2015, Russia suspended its last vestige of CFE involvement when it withdrew from the treaty's Joint Consultative Group (JCG) in which they had remained after the 2007 suspension in order to retain some voice in the treaty's implementation, and as a means to continue pressing their goal of A/CFE implementation.⁶⁶⁵ This is not to say that Russia was determined to turn their backs on CAC, with Putin stating in its 2015 National Security Strategy that it sought the "improvement of the mechanisms of arms control specified by international treaties" with the US.⁶⁶⁶ Soon after, Putin stated in his 2016 *Foreign Policy Concept* that "the Russian Federation seeks to bring the conventional arms control regime in Europe in line with current realities."⁶⁶⁷

In the next blow to CAC in Europe, in August 2019, the US announced its withdrawal⁶⁶⁸ from the bilateral Intermediate-Range Nuclear Forces (INF) Treaty which had been signed by the US and USSR in 1987 and entered into force the following year. Though the treaty was focused on land-based shorter and intermediate range nuclear missiles, because it was difficult to differentiate conventional and nuclear missiles in this class, both types of missiles and their launchers were banned.⁶⁶⁹ The US withdrew because it suspected Russia of violating the treaty by attempting to develop a treaty-prohibited conventional land-based cruise missile system.⁶⁷⁰

Security Order: A Starting Point or the End of the Story?," *Connections: The Quarterly Journal* 9, no. 2 (Spring 2010): 1–16, <https://doi.org/10.11610/Connections.09.2.01>. Russia's goal to obtain what would be, in effect, a veto over NATO decision making is covered extensively in Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020. If Russia had been granted such authority either in the a NATO forum or in the OSCE (if NATO policy became subject to OSCE decision), Russia would have been able to manage the military balance in the absence of a formal CAC agreement. However, broader issues of security governance in Europe are beyond this chapter's scope.

⁶⁶⁴ Lanoszka, Alexander, Moens, Alexander, and Christian Leuprecht, eds., *Lessons from the Enhanced Forward Presence, 2017-2020*, NDC Research Papers Series 14 (Rome, Italy: NATO Defense College, 2020); Christian Leuprecht et al., "Leveraging the NATO Enhanced Forward Presence Two Years On," in *The Riga Conference Papers 2019: NATO at 70 in the Baltic Sea Region* (Riga: Latvia Institute of International Affairs, 2019), <https://www.liia.lv/en/publications/the-riga-conference-papers-2019-nato-at-70-in-the-baltic-sea-region-815>; Jüri Luik and Henrik Praks, *Boosting the Deterrent Effect of Allied Enhanced Forward Presence* (Tallinn, Estonia: International Centre for Defence and Security, 2017).

⁶⁶⁵ Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

⁶⁶⁶ Putin, "English Translation of the 2015 Russian National Security Strategy."

⁶⁶⁷ Vladimir Putin, "The Foreign Policy Concept of the Russian Federation," Embassy of the Russian Federation to the United Kingdom of Great Britain and Northern Ireland, November 30, 2016, https://www.rusemb.org.uk/rp_insight/.

⁶⁶⁸ Pompeo, "U.S. Withdrawal from the INF Treaty on August 2, 2019."

⁶⁶⁹ Davis, "Lessons of the INF Treaty."

⁶⁷⁰ "Russia's Violation of the Intermediate-Range Nuclear Forces (INF) Treaty," *United States Department of State* (blog), December 4, 2018, <https://2017-2021.state.gov/russias-violation-of-the-intermediate-range-nuclear-forces-inf-treaty/>; "9M729 (SSC-8)," Missile Threat CSIS Missile Defense Project, March 31, 2022, <https://missilethreat.csis.org/missile/ssc-8-novator-9m729/>.

As the agreement was bilateral, the US withdrawal automatically annulled the treaty.

Russia was likely developing the prohibited missile to obtain a new conventional military capability in order to counter NATO. As Kühn and Péczeli noted:

The assumption that Russia would need intermediate-range missiles primarily to counterbalance NATO's conventional superiority is not unfounded. In terms of the ability to project military power, Russia found itself in a comparative disadvantage at the end of the Cold War. While NATO extended its regional coverage, Russia lost many of its basing grounds and no longer had the capability to forward-deploy missiles in Europe.⁶⁷¹

The difference between NATO and Russian capabilities and requirements for land-based missiles is one of geography. A 500 km limit meant that Russia's land-based missiles would struggle to reach beyond eastern Germany, whilst NATO could hold all of Russia's important western areas such as Saint Petersburg, major Russian bases, and major units of Russia's most important Western Military District.⁶⁷² Longer range Russian missiles can target important ports, airbases, and most NATO member capitals. Russia's ability to target NATO transportation infrastructure is essential to delay and obstruct the inflow of reinforcements from North America.

The non-ultimatum ultimatums

From March 2021, Russia began massing troops along Ukraine's borders⁶⁷³ with close to 100,000 troops assembled by December 2021.⁶⁷⁴ On 17 December 2021, Russia delivered separate proposals to NATO and the US. They seemed then and appear now to be ultimatums, but lacking a concrete threat associated with their rejection, it is difficult to label them as such. The proposals were similar, but not identical, as discussed below.

The "Agreement on measures to ensure the security of The Russian Federation and

⁶⁷¹ Ulrich Kühn and Anna Péczeli, "Russia, NATO and the INF Treaty," *Strategic Studies Quarterly* 11, no. 1 (Spring 2017): 66–99.

⁶⁷² Muzyka, *Russian Forces in the Western Military District*. This Russian Order of Battle (OB) information predates the Russo-Ukraine War, and that in the near term Russian force strength, locations, and composition are in rapid flux due to losses and deployments.

⁶⁷³ Mykola Bielieskov, "The Russian and Ukrainian Spring 2021 War Scare" (Center for Strategic and International Studies (CSIS), September 2021).

⁶⁷⁴ Pavel Polityuk, "Ukraine Sees No Sign of Russia Withdrawing Troops from Border," Reuters, December 16, 2021, <https://www.reuters.com/world/europe/exclusive-ukraine-sees-no-sign-russia-withdrawing-troops-border-2021-12-15/>.

member States of the North Atlantic Treaty Organization”⁶⁷⁵ states “The Parties shall guide in their relations by the principles of cooperation, equal and indivisible security.” It then proposes several, specific CAC measures. Article 4 stated that NATO members “shall not deploy military forces and weaponry on the territory of any of the other States in Europe in addition to the forces stationed on that territory as of 27 May 1997.” This was essentially a ban on NATO forces deploying in any NATO member in central and eastern Europe. Article 7 further demands that, “The Parties that are member States of the North Atlantic Treaty Organization shall not conduct any military activity on the territory of Ukraine as well as other States in the Eastern Europe, in the South Caucasus and in Central Asia.” This broad and poorly defined ban (as which countries are part of each stated region are subjective) would be a significant restriction on NATO members.

As with past proposals and statements, Russia had raised the issue of indivisible security as a primary motivation and guide for CAC agreements and with this proposal they seem to seek to turn back the clock to 27 May 1997, the date of Founding Act’s signature with the implication that the changes in European security since that date have been to NATO’s benefit and Russia’s cost. “In the Russian view, NATO’s military activities in the Baltic region are not a response to a concrete Russian threat against the Baltic States, but are part of a larger strategy of confrontation with Russia intended to punish Russia for its actions in Ukraine.”⁶⁷⁶ As Piker notes, until the seizure of Crimea and conflict in Eastern Ukraine, “From 1997 to 2014, NATO deployed virtually no troops or equipment in new member states.”⁶⁷⁷ Putin had specifically objected to growing NATO military infrastructure near Russia.⁶⁷⁸

The broad prohibitions on NATO deployments and activities all around Russia’s borders, from Murmansk to Mongolia, would have greatly increased Russia’s deterrence as it would have been difficult for NATO to threaten Russia with any capability to attack, or counter-attack. This would also, from Russia’s perspective, mitigate the security dilemma as NATO member and other states’ bordering Russia would no longer threaten Russia with their force posture which would be more defensive in nature compared to one with a NATO presence. The offer of accepting limits on its own deployments within Russia indicates their appreciation of

⁶⁷⁵ Russian Foreign Ministry, “Agreement on Measures to Ensure the Security of The Russian Federation and Member States of the North Atlantic Treaty Organization - Министерство Иностранных Дел Российской Федерации (Draft Proposal),” Ministry of Foreign Affairs of the Russian Federation, December 17, 2021, https://mid.ru/ru/foreign_policy/rso/nato/1790803/?lang=en.

⁶⁷⁶ Richter, *Sub-Regional Arms Control for the Baltics: What Is Desirable? What Is Feasible?*

⁶⁷⁷ Pifer, “Russia’s Draft Agreements with NATO and the United States.”

⁶⁷⁸ “Meeting of Ambassadors and Permanent Representatives of Russia,” President of Russia, July 19, 2018, <http://en.kremlin.ru/events/president/news/58037>.

the security dilemma, as such restrictions would reduce, even if only marginally, the extent to which Russian forces threatened NATO member states. The inclusion of “intermediate and short-range missiles”⁶⁷⁹ suggest that despite Russia’s violation of the INF Treaty, they may have determined that such missiles are offensive in nature, offering a first-strike capability that could be especially effective against airbases, command and control centres, and key transportation infrastructure such as bridges to support a surprise attack by debilitating an unprepared defender. This proposal (along with the one to the US) is the first time that a new, specific weapon system was formally proposed for limiting since the TLE categories were agreed for the CFE Treaty. Though the term offensive is not used to describe the missiles, deterrence tends to be upheld or even increased and the security dilemma mitigated when offensive systems are limited while defensive systems are not, thus shifting the adversaries’ offense-defence balance towards the defence.

Simultaneously with the proposal to NATO, Russia proposed the “Treaty between The United States of America and the Russian Federation on security guarantees.”⁶⁸⁰ As with the proposal to NATO, the proposal to the US stated, “The Parties shall cooperate on the basis of principles of indivisible, equal and undiminished security.” This is further elaborated by stating that the US and Russia “shall not implement security measures adopted by each Party individually or in the framework of an international organization, military alliance or coalition that could undermine core security interests of the other Party.” Thereafter are several measures concerning US prohibitions of military activities and capabilities in non-NATO former Soviet states and mutual non-deployment of forces in foreign countries when they pose a threat to the other State party.

Russia also proposed that there be a mutual prohibition on “flying heavy bombers equipped for nuclear or non-nuclear armaments, or deploying surface warships of any type, including within the framework of international organisations, military alliances or coalitions, in the areas outside national airspace and national territorial waters respectively, from where

⁶⁷⁹ This chapter is assuming Russia meant ‘shorter-range’ missiles rather than ‘short’ range as both the INF Treaty and the December 2021 proposal to the US refer to shorter-range missiles; and banning short range missiles would not only be impractical and might have been counter to Russia’s interests as they tend to rely more on indirect fire compared to NATO forces, which rely on airpower for similar missions. Sebastien Roblin, “This Is How the Army Thinks Russia Would Wage War,” Asymmetric Warfare Group, April 9, 2019, <https://www.awg.army.mil/AWG-Contributions/AWG-Recruiting/Article-View/Article/1809312/this-is-how-the-army-thinks-russia-would-wage-war/https%3A%2F%2Fwww.awg.army.mil%2FAWG-Contributions%2FAWG-Recruiting%2FArticle-View%2FArticle%2F1809312%2Fthis-is-how-the-army-thinks-russia-would-wage-war%2F>.

⁶⁸⁰ Russian Foreign Ministry, “Treaty between The United States of America and the Russian Federation on Security Guarantees,” December 17, 2021.

they can attack targets in the territory of the other Party.” Lastly, article 6 states that neither side would deploy ground-launched shorter and intermediate-range missiles within range of one another’s territories.

Taken as a whole, such measures (if accepted by the US) could go far in addressing the military balance, essentially removing significant elements of US firepower from Europe. This rebalancing would go a long way in increasing Russia’s deterrence and partly resolving the security dilemma by keeping at bay US forces (which Russia views as threatening). Russia was essentially committing to not threaten US territory with shorter and intermediate-range missiles, heavy bombers, or naval vessels as long as the US did not do so; though the offer was a bit disingenuous given that Russia poses a minimal conventional threat to US territory.⁶⁸¹

Reflecting Moscow’s concern since the Cold War over certain weapons systems that were not controlled by the CFE Treaty, they proposed prohibiting heavy bomber or naval ships “outside national airspace and national territorial waters”⁶⁸² which would clearly give Russia a significant military advantage vis-a-vis the US, as Russia could hold at risk, or attack innumerable NATO targets from within its territory thanks to long-range weapons whilst the US would struggle to target any of western Russia and defend eastern Europe with comparable weapons.

That Russia would obtain a significant strategic advantage with such an arrangement does not negate the underlying notion that naval vessels and heavy bombers pose a particularly threatening first strike, or offensive, advantage. Indeed, both US military campaigns in Iraq opened with the use of naval and heavy bomber land attacks targeting leadership and other command and control assets; and the 1999 conflict between NATO and Yugoslavia was won with airpower alone.⁶⁸³ While either weapon category could have been included in A/CFE negotiations, the A/CFE was an adaptation of the CFE rather than a fresh new look at CAC in

⁶⁸¹ This is not to say that it poses no threat; submarines could launch land attack missiles at the US, and Russian strategic bombers could target parts of the US, especially Alaska and parts of northern US. However, both capabilities entail significant risk in comparison to the US, which can much more freely operate its naval forces in the Baltic Sea and to a lesser extent the Black Sea, and can fly its bombers out of innumerable bases within Europe close to Russia.

⁶⁸² The feasibility and unprecedented restriction on naval ships and combat aircraft not being permitted to operate in a large swathe of international waters, as this proposal would mandate, is beyond the scope of this chapter.

⁶⁸³ “Where Are the Shooters? A History of the Tomahawk in Combat,” The Sextant, accessed November 18, 2022, <https://usnhistory.navylive.dodlive.mil/Recent/Article-View/Article/2686271/where-are-the-shooters-a-history-of-the-tomahawk-in-combat/http%3A%2F%2Fusnhistory.navylive.dodlive.mil%2FRecent%2FArticle-View%2FArticle%2F2686271%2Fwhere-are-the-shooters-a-history-of-the-tomahawk-in-combat%2F>. This discusses the history of the sea-launched land attack history of the Tomahawk cruise missile. Grant provides a concise history of the B-2 bomber’s role in US strategic bombing campaigns from 1999 to 2019. Rebecca L. Grant, *B-2 Stealth Bomber at War* (Washington Security Forum, n.d.), <http://www.irisresearch.com/library/public/documents/B-2-Stealth-Bomber-at-War-2019.pdf>.

Europe; thus this is one reason why strategic bombers and naval vessels may have been left out even though the US had demonstrated both of their long-range offensive strike capabilities from 1990 through the Istanbul summit which had taken place shortly after the NATO-Yugoslavia conflict.

As important from a process tracing perspective of what was in the two proposals/ultimata was what was not. The proposal to NATO made no mention of Ukrainian domestic policies such as protection of Russian minorities, or demands to resolve the territorial disputes in eastern Ukraine (categorised as strengthening Putin's rule and Ukraine-specific issues in Table 16. The proposal to the US makes a general reference to non-interference in states' internal affairs, but otherwise no mention of Ukraine.

The US and NATO did not substantively accept the Russian proposals and Russia invaded Ukraine within a month. Though Putin's speech shortly after the invasion offered a large number of reasons for his decision, approximately the first third of his speech focused on military balancing issues with NATO and the US, including what he considered rejection of his December 2021 proposals.

Process tracing causal confirmation

Applying the pattern tracing methodology, the available information suggests that US- NATO competition was the invasion's overall, primary motivation. Specifically, that Putin's main complaint with NATO was related to its increasing military capabilities - a trend which Russia sought to reverse through conventional arms control. Again, this is not to say that other motivations were not relevant, because Russia invaded and sought to seize Ukraine, and not Moldova, Georgia, or Finland - to name countries that border Russia and have shown at some point in recent history pro-West/pro-NATO inclinations. The Russia-Ukraine-NATO relationships and dynamics were such that Putin likely felt that the one main issue - military imbalance due to CAC failure - with important secondary issues were collectively enough to compel him to invade Ukraine.

Process tracing suggests performing multiple tests on each hypothesised cause (see Table 16 for the causes). While almost all of the listed causes pass the "straw-in-the- wind" and "hoop" tests,⁶⁸⁴ based on their regular mention in Russian statements, the December 2021 "ultimata" to NATO and the US suggest that the CAC failure hypothesis is the only "smoking gun" cause, given that the demands made no substantive mention of the other causes. However,

⁶⁸⁴ Collier, "Understanding Process Tracing."

there is no “doubly decisive” evidence which confirms the CAC motivation and eliminates all others. This chapter can only generally establish relative causal weight in assessing that CAC failure was a predominant consideration, with other causes real but of lesser importance.

Counterfactual analysis

Implicit in the assessment that the failure of CAC in Europe was the key factor in Putin’s decision to invade Ukraine are several counterfactuals. First, that had a comprehensive CAC agreement been made with the US/NATO that addressed Russia’s concerns, Russia would not have invaded. Second, that if the other issues not related to the military balance and CAC had successfully been addressed, but the military balance continued to shift in NATO’s favour and no CAC agreement was made, Russia would still have invaded.

While counterfactuals are imperfect at best and chapter length only allows a brief discussion, several counterfactual outcomes support this chapter’s hypothesis. Concerning Ukraine-specific issues, were the Kyiv government less democratic, but still seeking to join NATO (expanding its military power), Russia might still have invaded. While some claim that Putin opposes democracy in Kyiv,⁶⁸⁵ there is no evidence that Putin opposes democracy *per se*, but Ukrainian policies contrary to Russia’s interests. It is not difficult to imagine that if a democratic Ukraine were closely aligned, if not allied, with Moscow, then Russia would not have invaded.

Permanent possession of eastern Ukraine and Crimea, and with that, further Russification, was possible without invasion, as Russia already had control of these territories. If these territories’ status and identity were Putin’s primary concern, then he could have recognised eastern Ukraine’s independence and then annexed them without invading Ukraine. Were the fate of eastern Ukraine Putin’s priority, recognising their independence and implementing a policy of Russification might have been sufficient, although changing the government in Kyiv improves such an effort’s likelihood of success. Were Russian fears limited to Kyiv’s policies towards eastern Ukraine and Crimea; including military action, Russia would have likely focused its rhetoric and ultimata solely on these issues. And had Kyiv acceded to Moscow’s limited demands, Russia may not have invaded.

The theory that Putin invaded because he viewed Ukraine, in effect, an artificial nation-state that should be part of Russia, ignores that this status would exist no matter who Ukraine’s

⁶⁸⁵ Dickinson, “How Putin’s Fear of Democracy Convinced Him to Invade Ukraine”; Lebow, “International Relations Theory and the Ukrainian War.”

president was, or what policies NATO pursued. And it is difficult to believe, especially given pre-2014 Russian-Ukrainian relations, that Russia would have invaded were the Kyiv government pro-Kremlin.

Another suggested causal category is strengthening of Putin's rule, yet the case for this is even weaker. Shoring up domestic support, or rallying around the flag, could have been accomplished by many means - space exploration, demonising domestic opponents including through "false flag" attacks,⁶⁸⁶ or engaging in minor, lower-risk military actions. Whilst Moscow assessed seizing Kyiv would be a quick and easy endeavour,⁶⁸⁷ with huge domestic support payoffs, there is no evidence that Putin felt he needed such a boost in support to strengthen his already fairly stable regime at the risk of the Western sanctions and other measures that had been communicated to him repeatedly.⁶⁸⁸

Concerning Russia's competition with the US and NATO, if Ukrainian membership in NATO were Russia's primary motivation; and not the overall and widening imbalance of military forces and capabilities between Russia and the alliance, Putin might have issued an ultimatum to Kyiv, or accepted Kyiv's offer of neutrality shortly after the war began.⁶⁸⁹

If the failure to reach a CAC agreement which altered the projected military balance were the war's central cause, what would have happened had NATO and Russia established a balanced CAC agreement which fixed either an evenly balanced ratio of forces (such as the CFE Treaty), or a ratio that was in NATO's favour, but not decisively so - and locked in the ratio (the 1921 Washington Naval Treaty accomplished such a feat between major naval powers)? It is difficult to know with certainty, but Russia's continuous complaints about NATO force presence near Russia, increasing military infrastructure, and assessments that its indivisible security was not being respected would not have been valid, or necessary. Put more simply, if Russia did not view NATO as threatening due to an acceptable military balance legally established by a CAC agreement, Russia would not have invaded Ukraine.

⁶⁸⁶ For example, Mike Eckel, "Two Decades On, Smoldering Questions About The Russian President's Vault To Power," *Radio Free Europe/Radio Liberty*, August 7, 2019, sec. Russia, <https://www.rferl.org/a/putin-russia-president-1999-chechnya-apartment-bombings/30097551.html>.

⁶⁸⁷ Mike Eckel, "Russian Officials Predicted A Quick Triumph In Ukraine. Did Bad Intelligence Skew Kremlin Decision-Making?," *Radio Free Europe/Radio Liberty*, March 11, 2022, sec. Russia, <https://www.rferl.org/a/russia-invasion-ukraine-intelligence-putin/31748594.html>.

⁶⁸⁸ Hui Min Neo and Anastasia Clark, "Western Allies Vow 'Swift, Deep Sanctions' If Russia Invades Ukraine," *The Moscow Times*, February 11, 2022, <https://www.themoscowtimes.com/2022/02/11/western-allies-vow-swift-deep-sanctions-if-russia-invades-ukraine-a76350>. It is unknown the full extent to which western allies had threatened Moscow, with what, and how seriously Putin took the threats.

⁶⁸⁹ Reuters, "As War Began, Putin Rejected a Ukraine Peace Deal Recommended by Aide," *Reuters*, September 14, 2022, sec. Asia Pacific, <https://www.reuters.com/world/asia-pacific/exclusive-war-began-putin-rejected-ukraine-peace-deal-recommended-by-his-aide-2022-09-14/>.

Conclusion: from war comes peace

This chapter has applied a pattern tracing and counterfactual mixed methodology to examine the Russo-Ukraine War as a case study of war causation and has presented the history of CAC in Europe from 1990 to present and shown how the USSR/Russia had established through the CFE Treaty what they considered a fair and reasonable military balance. They saw this erode, however, due to NATO expansion and growing NATO capability, despite pleas and agreements that the US and NATO cease violating the mutually-accepted ideal of indivisible security. This degradation of security decreased Russia's perceived deterrence against NATO.

The available information strongly suggests that CAC failure is the war's most significant cause. It is difficult to think while the tragedy of the Russo-Ukraine War continues to unfold that there may be a positive outcome from the conflict. One, however, may be that this conflict reveals the need for a comprehensive CAC agreement across Europe which establishes and preserves a certain military balance.

This chapter's case study has several theoretical implications. First, that CAC failure - whether it is the failure to come to an agreement when one, or several parties pursue them, or if an agreement collapses - can lead to war. Second, this implies that when CAC agreements are respected and in force, that conflict will not occur between parties. The current writer's research suggests there is some evidence for this, but further study is required.⁶⁹⁰

This case study contributes to causes of war theory-building, for example through Putin's issue with the declining of military power (van Evera) and Russia's standing (Lebow). The conflict supports the theory that arms racing is a cause of war, as NATO's increasing capability and forces increasing in eastern Europe (which was in reaction to Russia's increasingly capable forces in its west) compelled Putin to invade Ukraine after over a decade of Russian military quantitative and qualitative improvements. Lastly, this case supports Jervis' (1991) assessment that "arms control rests on the theory that wars can occur because states have failed to realize the cooperation which their interests actually entail." Russia had sought such co-operation, but failed.

Russia continuously attempted to address their concerns through CAC agreements. The A/CFE revised TLE limits, but did not enter into force. The 1999 Charter for European Security reiterated the commitment to indivisible security, while the 2009 Russia-proposed European

⁶⁹⁰ Out of 20 CAC agreements in Europe since World War One of various types but which focused on adversaries balancing forces, wars only occurred between the state parties in relation to the rivalries addressed by the agreements in less than five cases in which the agreements were still in effect (that is before expiration or withdrawals).

Security Treaty proposed limits on signatories hosting foreign military forces, or deploying their own forces in foreign states. The December 2021 Russian proposals offered more specific controls on military forces along the Russian-NATO borders, controls on naval ships and heavy bombers, and broad prohibitions on NATO military activity. With CAC efforts clearly having failed despite over 20 years of effort, Russia invaded Ukraine in an attempt to shift the military balance back towards its favour.⁶⁹¹

It is important to note that whilst this chapter has attempted to explain one of Russia's principle reasons for invading Ukraine, the explanation does not equate to agreeing with, or supporting the invasion from, either a moral or strategic perspective. Future historians with the benefit of hindsight may one day inform us if Russia's decision were wise or ill-conceived; or an unfortunate, only means to reverse the otherwise inevitable erosion of Moscow's military and national power.

Russia's quest for an acceptable military balance raises the question of when Russia - or any state - would know when they obtained their desired balance. This balance could be assessed by static force comparisons, modelling, and simulations, or other means. Further research should be done on how different measures of military capability can be applied to different CAC scenarios. While Russia's continuous proposals which dealt with "indivisible security" and CAC offer insights into what they might find acceptable, lacking a negotiated draft agreement since the A/CFE Treaty, it is not possible to know what balance Moscow would have accepted and how it would compare with their goals."⁶⁹²

Another area of research might address how European CAC agreements and their institutions can address significant changes in the geopolitical security environment, "extraordinary events", or "exceptional circumstances" in the CFE Treaty's language, without having to revise and renegotiate an agreement in full. What insights do previous CAC agreements offer in how they were implemented, such as delegation to third-party organisations, such as an Intergovernmental Organization (IGO).

To the extent that a future conflict between NATO and Russia could be due to one or both sides being dissatisfied with the military balance and its relation to concepts and practice

⁶⁹¹ While it is unclear at this time what Russia expected to gain from installing a government in Kyiv friendly to Moscow, Russia might have added Ukraine as a Belarus-like ally or annexed the country altogether and counted all of Ukraine's military assets on its side as well as the favourable geography in which Russia would suddenly be able to threaten southeast Poland, Slovakia, Hungary, Romania, and dominate the northern Black Sea.

⁶⁹² Arms control negotiations are complicated, with parties debating issues such as the area of application, which military systems to control, and exchanging demands and offering concessions throughout the negotiation period. Two studies offer examples of CAC arms control negotiations between NATO and WTO: Brayton, "MBFR and Conventional Forces Reductions in Europe"; Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

of indivisible security, and bearing in mind the potential for such a conflict to evolve into a nuclear war, a CAC agreement could prevent such a conflict from occurring. The Russo-Ukraine War reminds us of war's human, economic, environmental, and diplomatic costs. A NATO-Russia war would only increase these costs, likely tenfold, and thus should be prevented if possible.

Part III: The Impermanence of CAC Agreement Success and Failure

Chapter 8: Conclusion

When analyzing adversarial CAC arms control from the end of the First World War to the present, two insights stand out that are not often emphasized in the arms control literature. First, CAC agreements are more successful than critics imply or openly state. This may be because when agreements are successful, and especially when there is no discord or disputes over their implementation along with no need to enforce them due to full compliance by all state parties, they slip into the shadows of the mundane. Few discuss the 1920 Spitsbergen Treaty or the 1922 Åland Islands Convention because, ultimately, there is so little to discuss. They were remilitarized during the Second World War – but the treaties permitted such actions (not the least because most CAC agreements between rivals do not apply when those rivals are at war) – and when the conflict ended, they returned to their demilitarized status. The 1923 Lausanne Treaty and then the 1936 Montreux Convention for the Straits have similarly seen relatively little drama – in part because Türkiye has not been in a major interstate war since its independence, and no state has attempted to militarily force its way through the Straits. During World War Two, both the Allies and Axis attempted to circumvent or bend the treaty’s stipulations, however, the number of outright violations was minimal and they neither affected the war’s outcome nor did they compel Türkiye to take enforcing actions.⁶⁹³ While the Russo-Ukraine War rages, Türkiye has diligently enforced the Convention’s rules for all belligerents and non-Black Sea states and has even “warned” all Black Sea states and non-Black Sea states – thus all the world’s navies – not to permit nor send warships through the Straits.⁶⁹⁴

Even many agreements that failed were not complete failures. The Paris Peace treaties signed after World War One, for example, did not prevent the defeated Central Power states from engaging in wars of aggression just over 15 years after the treaties were signed – but those years were arguably sufficient time for states to have resolved differences and disagreements.

⁶⁹³ Süleyman Seydi and Steven Morewood, “Turkey’s Application of the Montreux Convention in the Second World War,” *Middle Eastern Studies* 41, no. 1 (2005): 79–101, <https://doi.org/10.1080/0026320042000322725>; Süleyman Seydi, *The Turkish Straits and the Great Powers: From the Montreux Convention to the Early Cold War, 1936-1947*, Analecta Isisiana: Ottoman and Turkish Studies (Piscataway, NJ: Gorgias Press, 2010), <https://doi.org/10.31826/9781463225506>.

⁶⁹⁴ Cornell Overfield, “Turkey Must Close the Turkish Straits Only to Russian and Ukrainian Warships,” *Lawfare*, March 5, 2022, <https://www.lawfaremedia.org/article/turkey-must-close-turkish-straits-only-russian-and-ukrainian-warships>. For some explanations of why Türkiye is placing such a broad ban on naval ships, including non-riparian NATO members, see for example Yücel Acer, *Russia’s Attack on Ukraine: The Montreux Convention and Türkiye*, vol. 100 (Newport, Rhode Island: Stockton Center for International Law, 2023); Daria Isachenko, *Turkey in the Black Sea Region: Ankara’s Reactions to the War in Ukraine against the Background of Regional Dynamics and Global Confrontation*, vol. SWP Research Paper 12 (Berlin: Stiftung Wissenschaft und Politik: German Institute for International and Security Affairs, 2023), <https://www.swp-berlin.org/10.18449/2023RP12/>.

The CFE Treaty was only suspended by NATO in November 2023, meaning that it had been implemented for at least 30 years. It had continued to function without Russian participation, which had been suspended in 2007.⁶⁹⁵ Though one might assess the CFE Treaty as a failure because of the Russo-Ukraine War, the surprise attack by NATO or the Warsaw Pact against the other, or some version of both in the following decades that it was meant to prevent still has not occurred.

Second, neither CAC agreement failure nor success are permanent. CAC agreements that have failed had been successful until they were not. Another way to state this is that for most agreements the state parties likely did not anticipate CAC agreement failure at the time of signature, or else it is unlikely an agreement would have been made. Even Weimar Germany had agreed to arms control based on the belief and tacit agreement that the Allies would also reduce their arms to a comparable level to Germany's limitations.⁶⁹⁶ Agreements that are at this time still in effect, whether it has been since the 1920 Spitsbergen Treaty or as recent as the Six Point Peace Agreement ending the conflict between Russia and Georgia can fail at any point in the future. Norway could remilitarize Spitsbergen, especially as competition in the Arctic increases.⁶⁹⁷ The conflict between Russia and Georgia could recur, for any number of reasons.

Yet failures are also temporary; or rather, even if agreements fail and rivals go to war, they may eventually end their rivalry and even become allies. Conflict between the German states and their neighbors stretch back hundreds of years, but after the failure of the 1919 Versailles Peace Treaty with the outbreak of World War Two and Germany's subsequent defeat, Germany accepted arms-controlling agreements immediately after World War Two and when it reunited. Since those agreements were made, Germany has not invaded its neighbors.⁶⁹⁸ Finland and Russia signed agreements in 1920, which held until the 1939-1940 Winter War. The Winter War ended with the 1940 Moscow Treaty but this was terminated by the Continuation War less than a year later. That war was officially terminated by the 1947 Treaty of Peace between the Allied and Associated Powers and Finland which set limits on Finland's

⁶⁹⁵ William Alberque, "NATO Allies Fully Suspend Implementation of the CFE Treaty," IISS, November 8, 2023, <https://www.iiss.org/online-analysis/online-analysis/2023/10/nato-allies-fully-suspend-implementation-of-the-cfe-treaty/#>.

⁶⁹⁶ Webster, "Piecing Together the Interwar Disarmament Puzzle."

⁶⁹⁷ Pär Gustafsson, "Russia's Ambitions in the Arctic Towards 2035" (Stockholm: FOI, October 2021).

⁶⁹⁸ Trachtenburg expressed fears about Germany's reunification and suggested that arms control measures should focus on preventing a German military revival. Trachtenburg, "The Past and Future of Arms Control," 215.

military. Finland and Russia have not gone to war since that agreement was signed – suggesting that in this relationship, “the third time’s a charm.”⁶⁹⁹

Peacetime CAC agreements, whether focused on balancing or geographic demilitarization, face substantial obstacles all along their life-cycle despite their advantages in potentially mitigating the security dilemma and resolving the prisoner’s dilemma. States may not even consider peacetime CAC if they do not see a reasonable way in which the security dilemma can be addressed while retaining deterrence. This could be due to many causes, including a lack of faith in a rival’s willingness to either negotiate or implement an agreement in good faith; or a recognition that, especially in a multipolar system, it is difficult to address one rivalry without impacting another. For example, the US’s perceived need for land-based medium-range missiles in the Pacific complicates any agreements with Russia to replace the INF Treaty or a conventional version of it.⁷⁰⁰

Once rivals accept the notion of a CAC agreement, the difficulty of negotiations comes to the fore. Areas of potential dispute are legion: weapon systems to include and exclude, the geographic areas covered or not, verification and monitoring measures, and dispute adjudication are just a few. Fearon, for example, emphasizes challenges related to hard bargaining and the “shadow of the future,” which he defines as states caring “sufficiently about future payoffs and expect that future interactions are likely enough for the threat of retaliation to deter cheating.”⁷⁰¹ Even if adversaries have sufficient trust in their rivals’ commitments, they still have other issues to confront in getting domestic constituencies to accept the agreement. This includes bureaucratic objections to an agreement, for example from uniformed military leaders or economic costs of implementation, such as dealing with equipment destruction or finding housing and jobs for demobilized soldiers.⁷⁰² And the US – which is central to many arms treaties – has the additional challenge of requiring treaties’ ratification by the US Senate; which is far from a given in the US political system.⁷⁰³

⁶⁹⁹ Finland renounced the treaty in September 1990, declaring them null and void. *The Effects Of Finland’s Possible NATO Membership: An Assessment* (Ministry for Foreign Affairs of Finland, 2016).

⁷⁰⁰ Ankit Panda, *Indo-Pacific Missile Arsenals: Avoiding Spirals and Mitigating Escalation Risks* (Washington, DC: Carnegie Endowment for International Peace, 2023).

⁷⁰¹ Fearon, “Bargaining, Enforcement, and International Cooperation,” 270.

⁷⁰² Evangelista, “Cooperation Theory and Disarmament Negotiations in the 1950s”; Schlickmaier, *Playing the Generals’ Game: Superpowers, Self-Limiting, and Strategic Emerging Technologies*.

⁷⁰³ See, for example, Ulrich Kühn, “The End of Conventional Arms Control and the Role of US Congress,” *Journal for Peace and Nuclear Disarmament* 2, no. 1 (2019): 253–73, <https://doi.org/10.1080/25751654.2019.1607993>.

Lastly, implementation issues can arise even when states have good compliance intentions.⁷⁰⁴

For post-conflict agreements, especially when there is a clear victor and vanquished, CAC agreements may be easier to arrive at because the vanquished likely has limited bargaining power. As Thucydides wrote in quoting the Athenians towards the Melians, “the strong do what they can and the weak suffer what they must.”⁷⁰⁵ However, the challenge then becomes the extent to which the defeated state is satisfied with the agreement at the time of signature and how long they stay satisfied, especially if they can increase their relative power *vis-a-vis* the victor in the following years. Victors also need to decide what kind of victory they want to impose, especially if they hope the defeated state will neither strive to seek revenge, overturn the victory, and/or turn the rivalry into a costly, long-term competition in other ways. CAC agreement conditions are an expression of how punitive victorious states aim to be and shape relations afterward.

This thesis has offered a theoretical framework to understand CAC agreements in three distinct but interconnected stages. The first stage, baseline, is the period in which states conceive of their need for a CAC agreement with an adversary. They consider what the status quo is in terms of the military balance and rivalry, how a CAC agreement might address their own need for deterrence, mitigate the security dilemma, and how the ODB might apply. In a peacetime agreement or during a conflict in which neither side has a mutually recognized decisive advantage, they are likely to consider an adversary’s perspective on these issues even if the stronger state has a stronger bargaining position, while in a post-conflict agreement with a clear victor, the victor’s assessment of these take precedence. During the negotiation stage, states bargain, disagree, and then (ideally) agree on a written text that contains details on issues such as (as applicable): military system limits, reductions, prohibitions, geographic demilitarization, treaty implementation bodies, and monitoring and verification procedures. In the third stage, implementation, the necessary changes to military forces and capabilities are made to comply with the agreements, with the execution ranging from being executed solely by state party national agencies to the full and deep involvement of a third-party treaty executor such as an IO.

⁷⁰⁴ Woolf, *Monitoring and Verification in Arms Control*.

⁷⁰⁵ Thucydides, *The History of the Peloponnesian War*, trans. Richard Crawley (Salt Lake City, UT: Project Gutenberg, 431AD).

Thesis Summary and Key Findings

Chapter 4 defined and assessed how stronger states assess the status quo just prior to an agreement, and if the agreement retains the status quo. The chapter conducted a typological analysis by considering three conditions as combinational determinants of states' decisions concerning how CAC agreements will affect the relative military balance with adversaries: the broad and regional geopolitical situation; whether the existing military balance is unstable and may lead to or continue arms racing or a surprise attack; and if the state faces substantial resource constraints that would make arms racing difficult to afford, or even compel states to reduce defense expenditures. The findings largely upheld the study's predictive model, and in 22 out of 29 cases, the status quo was retained. The study's hypothesis that resource considerations are a necessary but insufficient condition that determines whether CAC agreements retain or alter the military balance status quo was upheld.

Chapter 5 applies a sum-score methodology to rate the level of delegation to CAC treaty executors, using a dataset of 19 agreements. The delegation scores are then assessed for their correlation with CAC agreement success in three distinct ratings of unsuccessful, partially successful, and successful. Agreement success was determined by assessing agreement outcome during the CAC treaty executor's existence. This study suggested a weak correlation between delegation and agreement success, that third-party involvement by states is the most significant variable in success, and that delegation has on average increased over time.

Chapter 6 aims to identify the necessary and sufficient conditions as well as any conjunctural causes of conventional arms control success in Europe from the end of World War One to the present based on a dataset of 19 cases. It undertakes a deductive approach, applying arms control theory with hypotheses on the delegation of authority to treaty executors and great power rivalries which are tested with a QCA. It also seeks to abductively assess relationships between the presence or absence of national limits on military capabilities and geographic demilitarization and agreement success. This study's results suggest that delegation is sufficient but not necessary for success, and that its absence is sufficient for the absence of success. The absence of national limits is only slightly sufficient for success while geographic demilitarization has no causal relationship with success. Lastly, great power rivalries are not consistently sufficient for agreement failure, despite theoretical implications to the contrary. These findings emphasize the importance of delegation of authority to a treaty executor in any future NATO-Russia agreements. However, a continental-wide agreement's success would face

substantial headwinds especially if the goal is to establish a peacetime, CAC agreement similar to the Conventional Armed Forces in Europe Treaty.

Chapter 7 is a case study of Russia's CAC agreement perception and policies from the Cold War's end to the 2022 Ukraine invasion. This chapter uses a pattern tracing methodology complemented by a counterfactual analysis to demonstrate that Russia sought to address what they viewed as relatively increasing and threatening NATO military capability, in part due to membership expansion, through CAC. Russia attempted to adjust and update the CFE Treaty, as well as create new agreements. When it became apparent that the US and NATO would concede to the CAC controls or agreements demanded by Moscow, President Putin decided to invade Ukraine. This case suggests that the goal of obtaining a CAC agreement is in part the product of a dissatisfaction with the status quo, or a desire to lock in the status quo. Failure to reach an agreement can permit one party to begin to accrue potentially significant relative gains and advantages. As a result, the other side may see that a CAC agreement having failed, or not concluded, conflict is the best way to alter or forestall this change in relative power.

Research Questions Answered

This thesis posed an overarching research question and several sub-questions which were subsequently answered after careful study and analysis. The overarching research question was:

What explains the form that adversarial conventional arms control agreements assume and what determines their success?

Adversarial CAC agreements are established under a variety of conditions, but they almost always fall under the categories of peacetime or post-conflict agreements. They are created when states view cooperation as offering more benefits than competition or conflict but are bounded by perceptions of the status quo, deterrence, the security dilemma, and the ODB. Their success, which is generally defined as whether the state parties engage in conflict after the agreement enters into force, is determined in part by the extent to which the agreements delegate authority to agreement executors and the involvement of third-party states.

This led to four sub-questions:

Under what conditions do the more powerful states in an adversarial conventional arms control (CAC) agreement accept a reduction in their relative military power?

States considering CAC agreements determine the status quo as defined by some combination of the military balance, operational military situation especially in the case of conflicts in progress, strategic disposition of forces, deterrence, and the likely trajectory of the current military situation. Usually, the strongest states will seek to retain the status quo. The stronger state in any negotiation will seek to retain their superiority except in certain circumstances; while weaker states will accept their weaker position except in certain circumstances. Even if states accept a reduction in the difference in military capability, they will at most accept parity. Agreements, as measured by the quantitative conditions that they set, do not invert the military balance.

How is adversarial CAC agreement success and failure defined?

Adversarial CAC agreement and success and failure are generally defined by whether the primary state party rivals engage in conflict following the agreement's entry into force over the issues that the agreement was intended to address. For example, many of the 1936 Montreux Convention of the Straits state parties were at war with one another during World War Two – but Türkiye and its Straits were not linked to World War Two's causes (and the treaty remained in force during the war). If approximately fifteen years pass between the entry into force and conflict, the agreements can be considered a partial success. Additionally, agreements are only a partial success if state parties withdraw, but otherwise do not go to war with one another, during a period of tension and due to disputes about the agreement. The INF and CFE Treaties are examples of this.

What are the necessary and sufficient conditions for adversarial CAC agreement success or failure?

The QCA analysis suggests that while there are no necessary conditions, delegation is a sufficient condition for success, and that its absence is sufficient for the absence of success. The absence of national limits is a somewhat sufficient condition for success while geographic

demilitarization has no causal relationship with success. Lastly, great power rivalries are not sufficient for agreement failure despite theoretical implications to the contrary.

How is delegation to an agreement execution body defined and measured?

Delegation is composed of nine unidimensional variables based on the existence of an agreement executor and the duties, tasks, and responsibilities afforded it:

- Mandate modification;
- Governance independence;
- Staff independence;
- Assessment independence;
- Enforcement authority;
- Agent resources;
- Monitoring;
- Inspection;
- Third-party state involvement.

This thesis measured delegation by adding up the score or rating for each variable, coming to a total, real number with the maximum being nine for each agreement.

Scholarship and Practitioner Contribution

This thesis has attempted to contribute to CAC scholarship and offer insights for CAC practitioners and policy makers. On the one hand, as Burns and Urquidi noted about the interwar CAC agreements,⁷⁰⁶ formulating conclusions for the approximately three dozen adversarial CAC agreements assessed for this thesis as varied as these is an intellectual challenge. At the same time, the variety of agreements may offer a broader set of insights from different perspectives. As the QCA methodology emphasizes, cases need to have condition variability to obtain multicausal insights. Assessing and comparing different types of past agreements can also offer more examples to draw from in the future. Where previous

⁷⁰⁶ Burns and Urquidi, *Disarmament in Perspective: Volume 4: Conclusions*, 4:1.

scholarship has mostly taken a non-representative sample of CAC agreements from which to draw broad conclusions about CAC, this dissertation has analyzed all relevant CAC agreements together.

This thesis has attempted to contribute to scholarship and practice by posing and answering several research questions on CAC with the creation of an original CAC agreement dataset. It has offered measures of success to better understand CAC agreement performance and has emphasized the importance of the status quo, deterrence, the security dilemma, and ODB to CAC agreements. It has also demonstrated how a sum-score methodology and a QCA can be used to provide new insights into CAC based on historical cases.

The analysis here may offer practitioners insights in how to craft, negotiate, and implement future CAC agreements. In particular, this thesis has continuously raised two interconnected questions: how did CAC agreement failure contribute to Russia's decision to invade Ukraine in 2022, and what are the CAC considerations for a post-Russo-Ukraine War? A post-war CAC settlement might consider how to approach the force ratios, what military limits to incorporate and where, delegation to the agreement executor, and involvement of neutral states, especially from outside of Europe. At the same time, practitioners need to bear in mind that any agreement will reflect the military balance and geopolitical situation at the time of the agreement's signature – which itself is going to be determined by battlefield events.

Beyond the focused arms control and security literature addressed in chapter 3, including war causation and interstate bargaining literature, this dissertation offers additional insights into existing war and peace studies and works, whether they complement or contradict scholarly beliefs and proposals. As stated throughout, this dissertation's main contribution is through its medium-*n* empirical approach.

Although war and peace studies are substantial in volume and depth, making a comprehensive assessment of how this dissertation contributes to the existing scholarship impossible, a few observations can be made vis-à-vis some major works and schools of thought. First, this dissertation upholds notions that power is prime in international relations. CAC agreements are largely driven by and determined by power relationships; and when there was a great power imbalance in the adversarial relationship, it was clear that the stronger power set the scope of the terms even if some bargaining occurred. As previously mentioned, this is in line with the ancient Thucydidean adage that "the strong do what they can and the weak suffer what they must".⁷⁰⁷

⁷⁰⁷ Thucydides, *The History of the Peloponnesian War*.

As old as this work is, this central tenet has been upheld and elaborated on by numerous scholars, but has also seen some revision and caveat (if not rejection) by other scholars. This dissertation suggests that CAC both upholds the axiom and offers provisos. Morgenthau emphasizes that states act in the pursuit of power.⁷⁰⁸ This dissertation's datasets uphold this proposition only to an extent, because states clearly sacrificed some version of power – whether in the form of military capability as defined by quantitative holdings or based on military forces' geographic positions – for the benefit of peace and stability. One might argue that by avoiding a conflict, states retained a certain measure of power in peace that they might have otherwise lost in a conflict, but how such longer-term trade-offs figure into Morgenthau's notions of power pursuit is beyond this dissertation's scope. Another area in which this dissertation casts doubt upon the notion that states are purely power-seeking is in the repeated instances of state delegation to agreement executors. As discussed in chapter 5, states sacrifice authority, which is a form of power, to CAC agreement executors for various reasons – but mainly to improve an agreement's chances for success. Here again, states may in the longer term be gaining more power by sacrificing it in the shorter term, but it is not clear that this is in line with Morgenthau's theories.

Morgenthau and realism in general understate, if not altogether sideline, notions of morality and ideology. CAC agreements largely support this, even if the origins of conflicts the adversarial relationships upon which CAC agreements are based are ideological, the agreements themselves (at least within the narrow aspects of CAC, rather than issues of language, human rights, governance, etc. that may be in agreements that include CAC) are stripped of ideology. The reason is simple: a tank, combat aircraft, artillery system, naval combat vessel, and any other type of weapon systems are themselves free of ideology. Moreover, this dissertation's CAC agreement dataset shows that any combination of regime types can make CAC agreements: democratic and authoritarian governments; democratic and democratic; and authoritarian and authoritarian governments.

This dissertation also upholds Morgenthau and others' notion that – even today – the international system is inherently anarchic. CAC agreements are founded upon the notion that states are predominant in the international system; and that (adversarial) CAC agreements are between states, for states, and governed by states even if indirectly. Even if an agreement is significantly delegated to an agreement executor, the agreement executor themselves is dependent on states (although they may be other or more than those to whom the agreement

⁷⁰⁸ Morgenthau, *Politics among Nations : The Struggle for Power and Peace*.

applies). Although CAC agreement enforcement is beyond this dissertation's scope, a cursory assessment of the dataset and insights derived from CAC agreement failure again suggest the primacy of states and lack of a true, central authority.

Lastly, Morgenthau places an emphasis on power balancing in the international system. This dissertation's CAC dataset largely contradicts this. CAC agreements have generally sought to maintain the status quo, not change it to deal with a rising power. CAC agreements have largely locked in alliances – whether it was the Allies immediately after the two world wars (in terms of how the Allies together made agreements with the defeated Central Powers/Axis states) – or NATO and the Warsaw Pact. Power balancing suggests that states shift alliances to ensure that no one state is overly powerful. No CAC agreement seems to have this goal.

This dissertation's CAC agreement studies are in line with Waltz's *Theory of International Politics*⁷⁰⁹ systemic or international level of analysis. While not excluding individual or state levels of analysis, this dissertation emphasizes – as previously stated in line with Morgenthau's realism, the primacy of states in CAC agreements almost to the detriment of the other two levels of analysis. While case studies demonstrate that both domestic constituencies and leaders have important roles in all three stages of CAC, ultimately it is states that negotiate, sign, and implement agreements. And, supporting Waltz's premise, CAC agreements reflect structural realities of the international system – particularly the distribution of power and military capabilities.

Analysis of each CAC agreement's formation suggested rational decision-making and cost-benefit analysis supporting Waltz's belief that states are rational. Waltz's notion that states are motivated by defensive realism is somewhat upheld by this dissertation's CAC agreement dataset. Throughout the modern history of CAC, states have sought to stabilize adversarial relationships by limiting in some way military capability, in many cases to establish a situation in which states could defend themselves without threatening an adversary (thus mitigating the security dilemma). Even in instances where a CAC agreement was one-way, such as after a decisive military defeat, the victorious states often decreased their offensive capabilities through downsizing, demobilization, and redeployment. Thus, while their retention of offensive capabilities counters the notion of offensive realism, victorious states nonetheless often moved towards a defensive posture rather than retaining a heightened offensive posture.

⁷⁰⁹ Waltz, *Theory of International Politics*.

Mearsheimer's concept of offensive realism⁷¹⁰ is at odds with defensive realism, and this dissertation's dataset and analysis give more strength to the latter. CAC agreements are about stabilizing relationships, not enabling states to grow stronger and maximize their power. These agreements show, as Jervis amongst others emphasize, the value of cooperative security and how states can avoid competition and mitigate the security dilemma.

CAC is an important and relevant aspect of war and peace studies, and this dissertation's empirical findings can contribute to some of the major international relations schools of thought as well as offer deeper insights into interstate peace and conflict in Europe. Its contribution is specifically in offering an empirical approach to assessing when states go to war, how wars end, and how peace can be maintained. As the role of CAC in all of these may be underappreciated by many scholars, this dissertation seeks to increase scholarly awareness of CAC through its empirical analysis.

Research and Thesis Limitations

This thesis has attempted to be sufficiently comprehensive and thorough to answer the research questions presented in chapter 1, but there are several notable areas where time and resources induced some limitations.

In attempting to analyze 37 different CAC agreements, it was not possible to delve into all of them equally, primarily due to information availability. A more detailed research effort of some of the agreements might offer new insights, and may even compel a revision of the assessments, scores and calibration assigned in chapters 4, 5 and 6, respectively. The 37 CAC agreements included in the dataset are the result of study and research, but are also the result of subjective analytical decisions. The findings might be somewhat or even substantially altered if more agreements are included, even if they remain limited to CAC in Europe. The dataset might be broadened to include earlier centuries, perhaps going back to the foundation of the modern European sovereign nation-state following the 1648 Peace of Westphalia. Similarly, a study could broaden the geographic scope to include areas outside of Europe but between European great power rivals, especially related to colonial wars.

This dissertation has focused on CAC agreements relative to Europe, excluding agreements focused on other global regions. From a dataset perspective, it is unclear if

⁷¹⁰ John J. Mearsheimer, *The Tragedy of Great Power Politics*, Updated edition, 1 online resource. vols., Norton Series in World Politics (New York: W.W. Norton & Company, 2001).

including the rest of the world within the period of 1919-2015 would add a large number of agreements. Yet, the addition of even a handful might impact various quantitative calculations, such as those done for QCA. In more general terms, the inclusion of even a few additional cases may offer new insights if the cases' actual outcomes differ from expected outcomes – whether it is correlational (such as delegation extent) or more binary (such as status quo retention).

The quantitative and statistical approaches in this study necessarily incorporated subjective judgments and methodological choices such as the application of the scores between zero and one, inclusive, for each variable to measure delegation. Two approaches could have changed the delegation study's outcome. First, instead of zero to one, the scores could have been zero to ten, or even 100. A relatively narrow range of zero to one was selected, with most in-between scores being 0.25 or, more frequently, 0.5, because it was unclear that additional scores along this continuum had a firm basis based on the available information. Second, for the variables are all considered as equal in overall weight; they each have a maximum of 1.0. Weighting each variable differently could make some theoretical sense, but it then poses the question of how to comparatively weight them. A substantial theoretical and empirical study might have to made to establish a convincing weight to the variables.

QCA, as a set theory methodology, with a heavy emphasis on percentage of set inclusion or exclusion, is sensitive to the number of conditions and the number of cases. If, for example, each of the world war sets of agreements were considered separately – resulting in 10 agreements instead of two, this would probably impact how the software calculates coverage, necessity, and consistency for each condition and pathway solution. QCA methodology is also limited by the conditions that the study includes, in part due to the need to strive for condition independence, a restriction that does not apply as strictly to correlational studies.

As noted in the literature review, another limitation of this thesis is the reliance on English language sources. While some of the sources themselves consulted Russian (and other) language sources, the extent to which this thesis did not directly consult them may have underrepresented important information or perspectives. In particular, additional Russian perspectives on CAC in Europe might be identified with a better survey of Russian-language literature – although the core documents and statements were translated into English by the Russian government or other, professional organizations. Chapter 4 has attempted to discern the strongest state's perceptions of the geopolitical situation in Europe and within the states' immediate vicinity, their perception of the military balance stability, and perceptions of their

resource constraints (or lack therein). Chapter 7 focuses on Russia's perspectives on the military balance in Europe, Russian-NATO relations, and CAC perceptions. Again, important Russian statements, declarations, and documents were translated into English by the Russian government, news outlets, or other authoritative sources (that is, the author did not use translation software). Nonetheless, reliance on English-language sources of Russian primary material likely misses important information sources. These might include interviews of Russian officials in Russian (for example, on Russian television), reports and op-eds by Russian officials and experts, and Russian government reports that were not translated into English. It is very possible that additional information sources would strengthen rather than undercut Chapter 7's findings.

While English language literature covers these to some extent, there are noticeable gaps and further research in Bulgarian, Finnish, Greek, Swedish, and Turkish to name some of the languages in which there was minimal CAC agreement and historical background information might offer new insights and alter some of the truth table assessments.

Areas of Future Research

This thesis indicates a number of additional, inter-related areas of research to better understand CAC in Europe in the past, present, and future. CAC agreements are intended to deal with the military balance, either freezing it in time, or stabilizing it. A study could assess the comparative military balances between rivals who enter into a CAC agreement, measuring and assessing the relative balance from several years before the agreement's signature, at the time of signature, and for several years after the signature.⁷¹¹ This might answer three questions: 1) how representative of the previous military balance are CAC agreements? 2) How much do the military balances change over time, and what is the outcome of these shifts? And 3) Are there other relative and comparative factors that affect the success or failure of CAC agreements, such as population size, territorial expansion, or economic strength? This is an important question as some evidence suggests that major changes in the military balance both creates dissatisfaction with agreements, with states on the losing side of changing military balances viewing the agreements as anachronistic. If the agreement does not incorporate adaptability, at some point the changes in the military balance differences may become so great that the

⁷¹¹ An approach for continuously, quantitatively assessing the military balance for CAC purposes is discussed in: Lippert, "Military Balancing for Future Conventional Arms Control Agreements in Europe."

agreement is renounced and/or conflict results. At the same time CAC agreements' rigidity reduce opportunities for states to bend the rules, seek exceptions, or circumvent the agreement's goals.

This raises another area of research: adaptation in CAC agreements. While scholars have addressed the question treaty adaptability in general, little of the literature covers CAC agreement adaptation. How have, or can, CAC agreements incorporate adaptability? This might incorporate a combination of IO and CAC scholarship such as decision processes, treaty text, historical case studies, and principle-agent relationships. One approach might be to establish a dedicated, independent organization that assesses the military balance continuously and recommends force and agreement modifications as necessary.⁷¹²

As Coe and Vaynman ask, why are arms control agreements so rare?⁷¹³ Even while this dissertation suggests that other scholars of adversarial CAC agreements have undercounted their number, at under 40 they are still likely far less frequent than most other kinds of interstate agreements. This thesis has offered a few insights that might assist in exploring this question further. First, an assessment of rivalries and perceptions of deterrence, the security dilemma, and ODB at the time CAC negotiations begin might provide an answer.⁷¹⁴ For example, historical relationships might suggest that for many rivalries the security dilemma could not be mitigated so there was no CAC agreement. Instead, CAC agreements were only signed when it could be mitigated. This would support this thesis' proposal of the security dilemma being states' major consideration for CAC agreements.

Chapter 7 is a case study which assesses that one of the major reasons Putin decided to invade Ukraine was the breakdown of CAC. As a within-case study, its implications for other conflicts in Europe or elsewhere is uncertain but from this chapter a theory that CAC failure is a cause of conflict in Europe or elsewhere, from the 1919 to the present may be worth exploring. Such a study might be typological and predictive, as in chapter 4; or a QCA analysis as in chapter 6. It is almost certain at a very superficial and unrealistic level that many wars might have been prevented through CAC because if agreements drive armed forces so low, even to non-existence (i.e. states with no military capability), it would be very difficult to launch a war, especially over long distances. However, two more reasonable historical counterfactuals serve as examples where CAC might have prevented war. First, had the

⁷¹² Lippert, "A European Military Balance Organization and Dynamic Conventional Arms Control."

⁷¹³ Coe and Vaynman, "Why Arms Control Is So Rare."

⁷¹⁴ A similar question is posed by Vasquez; Vasquez, "Distinguishing Rivals That Go to War from Those That Do Not."

victorious World War 1 allies enforced CAC on Germany, even at the cost of invasion (not inconceivable as France and Belgium occupied the Ruhr (Germany) due to default reparation payments), Germany would unlikely have been able to engage in its wars of expansion that led to World War 2. Less conceivable but not impossible is the counterfactual that had Japan not had any aircraft carriers in its fleet, it would have been incapable of attacking Pearl Harbor, thus potentially keeping the war restricted to Japan and mainland Asia.⁷¹⁵

This thesis has proposed several theories of CAC such as retention of the status quo being the norm of a CAC agreement and causes of agreement success and failure, such as delegation to an agreement executor. However, this dissertation has focused on Europe. A comprehensive identification of CAC agreements in other parts of the world, whether in the same time period or further back, might allow an assessment to determine to what extent this dissertation's theories and findings apply outside of Europe and are applicable to current security rivalries outside of Europe.

Another area that this thesis suggests may require additional research is the phenomenon of cheating; how often intentional violations occur in CAC agreements, how significant are violations, and what the consequences are for agreement success, if it is possible to measure, for future agreements. It is clear that states intentionally violate CAC agreements; the defeated Central Powers following the First World War serve as an example. Some scholars argue that a cause of the Second World War was the failure of the victorious powers to enforce the CAC agreements imposed on the defeated states.⁷¹⁶ What may be worth understanding is for which kinds of CAC agreements is cheating most likely to occur and under what conditions.

This dissertation has not mentioned or discussed hybrid warfare,⁷¹⁷ but this is not to say that the topic is irrelevant. Rather, it offers complexities that could easily be a dissertation in its own right, even if they do not seem on their face interlinked because CAC is primarily concerned with conventional armies and their weapon systems in part. After all, these are, probably correctly, viewed as having the greatest capability to seize territory, inflict damage, and otherwise wage prolonged conflicts – at least in Europe. However, World War Two, for example, showed the value of at least guerrilla and partisan warfare – although few would

⁷¹⁵ In brief, a CAC agreement which has prohibited aircraft carriers in the Pacific by any power would have made it difficult for Japan to attack Pearl Harbor because US land-based aircraft in Hawaii would have likely deterred Japanese surface warfare ships such as battleships, due to surface ship's vulnerability to aircraft.

⁷¹⁶ Johnson, "How an International Order Died"; Webster, "From Versailles to Geneva."

⁷¹⁷ Williamson Murray and Peter R. Mansoor, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present* (Cambridge: Cambridge University Press, 2012), <https://doi.org/10.1017/CBO9781139199254>.

suggest that partisans alone would have succeeded without the actions of the massive, conventional forces.

Some CAC agreements in this dissertation have attempted to address some version of hybrid warfare. For example, the failed 2015 Minsk agreements called for the withdrawal of “foreign armed formations” and “mercenaries”⁷¹⁸ and the 1998 Belfast Agreement called for the disarming of paramilitary groups.⁷¹⁹ Nonetheless, most CAC agreements are concerned with uniformed soldiers and TLE such as capital ships, tanks, aircraft, and artillery. The 2022 outbreak of war in Ukraine (a CFE Treaty signatory) has largely upheld the primacy and importance of conventional forces. Nonetheless, not only was the crisis initiated in 2014 by hybrid warfare, but the threat of hybrid warfare might exist amidst any ceasefire or long-term peace agreement, and may continue to pose a threat to NATO states⁷²⁰ - especially those bordering Russia.⁷²¹

Hybrid warfare threats might be included in future CAC agreements, and a future study could assess to what extent CAC agreements have included hybrid warfare threats. This might be especially applicable to CAC agreements outside of Europe, where civil or combined civil and interstate conflicts have been more frequent since at least 1945 compared to Europe. A study of CAC agreements, whether in Europe or more broadly, might assess to what extent rival states that made a CAC agreement then employed hybrid warfare to undermine their rivals while remaining compliant with the CAC agreement. In certain situations with reduced or no military forces, hybrid warfare might be more effective and have a greater impact. For example, in a demilitarized area (whether an island or a buffer zone), hybrid warfare might be more difficult to counter in the absence of military forces.

CAC agreements often attempt to retain or improve deterrence (whether it is mutual or one-way). But how effective are they in deterring hybrid warfare? Interestingly, a cursory assessment of Russian hybrid warfare activities in Europe⁷²² seems to correspond with the

⁷¹⁸ “Minsk Agreements” (Minsk, February 12, 2015).

⁷¹⁹ “The Belfast Agreement: An Agreement Reached at the Multi-Party Talks on Northern Ireland” (Belfast, April 10, 1998), 20.

⁷²⁰ Charlie Edwards, “Russia’s Hybrid War in Europe Enters a Dangerous New Phase,” IISS, November 26, 2024, <https://www.iiss.org/online-analysis/online-analysis/2024/11/russias-hybrid-war-in-europe-enters-a-dangerous-new-phase/>.

⁷²¹ Matus Halas, “Proving a Negative: Why Deterrence Does Not Work in the Baltics,” *European Security* 28, no. 4 (2019): 431–48, <https://doi.org/10.1080/09662839.2019.1637855>; Piotr Szymański, “The Baltic States’ Territorial Defence Forces in the Face of Hybrid Threats,” *Commentary* (OSW Centre for Eastern Studies, March 19, 2015).

⁷²² Oscar Jonsson, “The Evolution of Russian Hybrid Warfare: EU/NATO,” CEPA, January 29, 2021, <https://cepa.org/the-evolution-of-russian-hybrid-warfare-eu-nato/>; Alina Polyakova and Mathieu Boulègue, “The Evolution of Hybrid Warfare: Conclusion,” CEPA: The Evolution of Russian Hybrid Warfare: Conclusion, January 29, 2021, <https://cepa.org/the-evolution-of-hybrid-warfare-conclusion/>.

timing and rate at which CAC deteriorated. This interrelationship is worth looking at in greater detail, especially if it has been replicated in other adversarial relationships.

The execution of hybrid warfare likely undermines trust between rivals. Hybrid warfare may function under the umbrella of plausible deniability, but its targets can usually identify the perpetrators with high confidence. Thus, do hybrid warfare campaigns undermine the trusting, cooperative relationships upon which CAC agreements are founded to such an extent that they are either stressed or fail altogether? Hybrid warfare is largely absent in discussions on CAC, but events in Ukraine in the past decade suggest the value of researching the issue further.

The Belfast Agreement was a combined interstate and intrastate agreement – putting it in a category of its own within this dissertation’s CAC agreement dataset. But the “Troubles” are hardly the only ethnicity-motivated intrastate or transnational conflict in Europe since 1918 or more broadly globally. Within Europe, to name a few, there have been conflicts at some level involving Basques (Spain), Corsicans (France), and ethnic Albanians (Yugoslavia). Outside of Europe, there have been many; one of which, the Israel-Palestine conflict, is worth noting because of the close intersection between insurgency and state rivalries. Future studies might attempt to identify when there has been an intersection between state rivalries, intrastate conflict, and interstate arms control agreements.

Lastly, the Russo-Ukrainian conflict – like many major conflicts – offers new insights about and introduces new methods of warfare. From an arms control perspective, there are several areas that require further study. First, TLE limitations in any agreement (such as the CFE Treaty) assume that it is difficult to efficiently restore into operation obsolete weapons, and not worth the effort because of their obsolescence. However, Russia reportedly refit main battle tanks in deep storage, including museum pieces, to fight in Ukraine.⁷²³ On the one hand, states might resist having such inoperable weapon systems counted against treaty limits; but on the other, the conflict demonstrates that such weapon systems count for more than nothing. Russia and Ukraine have converted non-weapon systems such as civilian or unarmed aircraft into uninhabited combat systems.⁷²⁴ The ease of which the conversion from non-weaponized to

⁷²³ Vasco Cotovio, Clare Sebastian, and Martin Bourke, “Russia Is Sending Museum Pieces into War, but Experts Say They May Still Be Effective,” CNN, May 8, 2023, <https://www.cnn.com/2023/05/08/europe/russia-t-55-tanks-ukraine-intl-cmd/index.html>; Mark Trevelyan and Greg Torode, “Russia Refits Old Tanks after Losing 3,000 in Ukraine - Research Centre,” *Reuters*, February 13, 2024, sec. Europe, <https://www.reuters.com/world/europe/russia-relying-old-stocks-after-losing-3000-tanks-ukraine-leading-military-2024-02-13/>.

⁷²⁴ “Ukraine Converted Light Aircraft Into Bomber Drones With a 600-Km Combat Radius For Attacks on Russia | Defense Express,” *Defense Express*, April 14, 2025, https://en.defence-ua.com/weapon_and_tech/ukraine Converted_light_aircraft_into_bomber_drones_with_a_600_km_combat_radius_for_attacks_on_russia-14176.html.

weaponized (especially as a one-way explosive laden vehicle) can be made, especially as vehicles increasingly assume remote and autonomous capabilities, may establish such vehicles as dual-use systems. However, including and/or counting these in any CAC agreement poses many challenges. Not only might a future study assess how new weapon systems being used in the Russo-Ukrainian conflict might impact future CAC agreements, a study might also analyze how new and emerging weapon systems in conflicts influenced subsequent CAC agreements.

Give Peace a Chance

Adversarial CAC is important as a manifestation of interstate rivalries, a barometer of peace and conflict, an extension of IR theory, and as an expression of military technology, strategies, and theories. CAC offers what many seek – albeit on their own terms: peace in their time. The history of CAC since the end of World War One has been a quest for peace. States have either sought to stabilize their military balances, remove the likelihood of successful surprise attacks, and/or remove areas of potential military dispute through CAC. Their efforts sometimes failed quickly, were sometimes successful for a decade or so, or endured decades and survive to this day. CAC, of course, is not the single cause of war, nor its single solution. CAC is unlikely to resolve rivalries in which one state or several are determined to engage in conflict for ideological or other reasons no matter what the outcome to themselves. Yet CAC can help turn rivals into allies, with one of the best examples predating World War One when the UK and France put aside their colonial differences through the Entente Cordiale, which placed restrictions on fortifying parts of North Africa, setting them up for an alliance that has lasted over 100 years after several hundred years of rivalry and conflict.⁷²⁵

There have been at least three attempts to leash the dogs of war in Europe, if not worldwide, through the establishment of global institutions and governance: the League of Nations,⁷²⁶ the UN, and the OSCE.⁷²⁷ This may suggest that even if conflict fails to cease, the

⁷²⁵ Douglas Johnson, Richard Mayne, and Robert Tombs, *Cross Channel Currents : 100 Years of the Entente Cordiale* (London: Routledge, 2004); Mazarr et al., *Stabilizing Great-Power Rivalries*, 2021, 48.

⁷²⁶ Webster, “The League of Nations, Disarmament and Internationalism.”

⁷²⁷ Edwin Bakker, “Editorial: Rethinking European Security, Principles & Practice,” *Security and Human Rights* 21, no. 1 (2010): 1–4, <https://doi.org/10.1163/187502310791306089>; Jelena Cupać, “Why the OSCE’s Forum Function Matters,” in *OSCE Insights 2022*, ed. Institute for Peace Research and Security Policy at the University of Hamburg (Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG, 2023), 1–6, <https://doi.org/10.5771/9783748933625-07>; Engvall, *OSCE and Military Confidence- Building in Conflicts*; Anastasia Prokhorova, *Reducing Military Risks through OSCE Instruments: Revisiting the OSCE Institutional*

desire to extinguish it through international institutions, multilateral agreements, and cooperative security persists and will likely continue to do so.

Today, a tragic and destructive war rages in Ukraine – the result in part of failed CAC regimes. How CAC history and experiences might apply to the situation in Ukraine is more complicated. The pro-Ukraine coalition is not at war with Russia, and at the time of this writing seems to go to great lengths to avoid a direct confrontation.⁷²⁸ Thus, a post-war CAC agreement template would not entirely apply. At the same time, a peace-time approach to CAC would be inappropriate because there is a conflict in Europe which is not only a contest of military power but may also reveal important insights about what military capabilities should be controlled. Thus, a post-Russo-Ukraine War CAC agreement may need to break new ground fusing the peace and post-conflict approaches, but at the same time be rooted in the history of CAC agreements in Europe. The EU Commission is likely to become an important player in future Europe-wide CAC negotiations and agreements, although it may struggle to deal with its diverse membership's security policies and values.⁷²⁹

Despite uncertainties about how the Russo-Ukraine War might end and what a post-conflict CAC regime(s) might look like due to geopolitical complexities, most conflicts in Europe since 1918 ended with a CAC agreement so it is not unreasonable to expect that a CAC agreement will accompany the end of the Russo-Ukraine War.⁷³⁰ This thesis has attempted to offer insights, an analytical framework, and present CAC agreements as examples of how to craft the CAC aspects of a post-war agreement. Crafting an enduring and successful agreement which will need to take into consideration all sides' interests – above all their perceptions of the status quo, deterrence, the security dilemma, and the ODB – will not be easy. If Russia is decisively defeated, the victors may be tempted to disarm the vanquished by the imposition of rigid and strict CAC limits. This approach, however, may offer short-term gains but see a repeat of Moscow's dissatisfaction with the military balance that began in the early 2000's and was

Process and Capacities, 15 (Geneva Centre for Security Policy (GCSP), 2021); Fred Tanner, "The OSCE and Peacekeeping: Track Record and Outlook," in *OSCE Insights 2021*, ed. Institute for Peace Research and Security Policy at the University of Hamburg (Nomos Verlagsgesellschaft mbH & Co. KG, 2021), 1–10, <https://doi.org/10.5771/9783748911456-04>.

⁷²⁸ Raphael S. Cohen and Gian Gentile, "Biden's Catch-22 in Ukraine," *RAND Commentary* (blog), May 20, 2024, <https://www.rand.org/pubs/commentary/2024/05/bidens-catch-22-in-ukraine.html>; Brett Samuels, "Biden: Direct Conflict between NATO and Russia Would Be 'World War III,'" Text, *The Hill* (blog), March 11, 2022, <https://thehill.com/policy/international/597842-biden-direct-conflict-between-nato-and-russia-would-be-world-war-iii/>.

⁷²⁹ Michal Onderco and Clara Portela, "External Drivers of EU Differentiated Cooperation: How Change in the Nuclear Nonproliferation Regime Affects Member States Alignment," *Contemporary Security Policy* 44, no. 1 (2023): 150–75, <https://doi.org/10.1080/13523260.2022.2146336>.

⁷³⁰ Lippert, "Conventional Arms Control and Ending the Russo-Ukrainian War."

finally manifested in the 2022 full-scale invasion of Ukraine. Yet again, history suggests that the imposition of discriminatory CAC can be successful, with the post-World War Two agreements standing as a banner example.

The history of CAC agreements can provide valuable insights not just into International Relations theory and diplomatic history, but also for future CAC agreements. How CAC agreements have been conceived, negotiated and concluded, and implemented; and their successes and failures can both provide lessons and insights and offer models and frameworks for future approaches.

CAC agreements in effect today may be helping maintain peace in Europe. The Montreux Convention may be limiting opportunities for escalatory behavior and incidents at sea because Türkiye has prohibited NATO members – and Russia and Ukraine – from moving naval vessels through the Turkish Straits. The Balkans sub-regional arms control agreement – a CFE Treaty for the southeast Balkan states – may be helping retain stability and preventing an arms race between Serbia and its NATO/EU neighbors. It is not possible to know for sure how much CAC agreements in effect contribute to the maintenance of peace because we cannot conduct an experiment to see what would happen if these agreements were to suddenly end (and compare them with their maintenance in the same time period). Pessimistic views of CAC agreements discount those agreements which have been successful likely because success is much more difficult to observe than failure.

This dissertation has attempted to emphasize that CAC agreements serve to stabilize rivalries in times of peace, conflict, or post-conflict. Whenever and wherever states find themselves in a rivalry, there is a place for CAC agreements. This is especially true now in the midst of a combination of a full-scale war conjoined with a full-scale, Europe-wide dyadic, great power rivalry. Yet with great power rivalries may come great power CAC agreements.

There is a saying, inaccurately attributed to Albert Einstein, that insanity is attempting the same thing repeatedly despite failure. But for CAC, a repeated attempt to arrive at a stable military balance between NATO and Russia is not insane for several reasons. First, the circumstances under which the agreements are negotiated or made change with each attempt. This conflict may offer new information about relative power and resolve which may contribute to bringing bargaining positions closer. And second, and perhaps most importantly, the Russo-Ukraine War is a reminder of how costly a large-scale war in Europe can be for all concerned. It is not insane to attempt to establish a new CAC agreement because it is not insane to search for a stable peace.

Appendix A: Chapter 4 – Status Quo Tables

*Table A 1: Assessment of historical periods, general geopolitical perceptions, and the number of agreements signed in each period**

<u>Historic Time Period</u>	<u>Years</u>	<u>Geopolitical Perception</u>	<u>Number of Agreements</u>	<u>Explanation</u>
First interwar period	1919-1932	Optimistic	14	The Allied powers which crafted many of the CAC agreements had a positive view of the world order, due to a belief that no state sought to have another major war in Europe, and the establishment of the League of Nations. However, in specific areas of Europe, there was substantial post-war instability; mainly Eastern Europe driven in part by concerns of Bolshevik expansionism.
Second interwar period	1933-1939	Negative	3	Nationalism was rising again, and the Allied powers were becoming concerned about instability and militarism throughout Europe.
World War Two peace agreements	1944-1948**	Optimistic	7	The Allied powers were optimistic because of the establishment of the United Nations, defeat of the Axis and militant nationalism, and belief that another world war was unlikely because the Second World War had been so destructive.
Cold War	1948-1986	Negative	3	States, especially the US and Soviet Union, had a pessimistic view about the European geopolitical situation as they sought military and political supremacy.
End of Cold War	1987-1991	Optimistic	3	Détente, reforms in the Soviet Union, significant reductions in military capability, and quickly improving diplomatic relations between the East and West created an optimistic atmosphere of cooperation and peace.
Post-Cold War	1991-2001	Optimistic	5	There was broad optimism across Europe due to the establishment of many democracies, free-market economies, and general liberalism.
Post-9/11	2001-2014	Negative	1	The post-9/11 world temporary brought cooperation between rising rivals, but differing perspectives of how to combat terrorism, disagreements over major security issues such as Kosovo, Libya, and Syria led to poorer diplomatic relations between Russia and NATO/EU.
Post-Crimea/East Ukraine	2014-present	Negative	1	The 2014 Russian annexation of Crimea and support for separatists in Eastern Ukraine substantially reduced the cooperative relationship between the EU/NATO and Russia.
Total			37	

Source: Authors' research and analysis

* This summation differs from the study's case dataset, as the dataset consolidates the World War One and Two peace treaties, while this summation separates them to offer a better picture of CAC agreement perceptions.

** The 1940 Finnish agreement is included in post- WW2 peace agreements, and the 1947 Russo-Finnish agreement is included separately. Each set of agreements related to surrender and peace is consolidated as one treaty per Axis member.

Table A 2: CAC agreement dataset

<u>Full Name</u>	<u>Short Name</u>	<u>Year</u>	<u>Status</u>
Post World War One Peace Treaties*	WW1	1919	Not valid
The Svalbard (Spitsbergen) Treaty	Spitsbergen	1920	In force
Finnish-Russian Dorpat/Tartu Agreement	Tartu	1920	Not valid
Åland Island Convention	Åland	1921	In force
Russo-Finnish Helsinki Agreement	Helsinki1922	1922	Not valid
Washington Naval Treaty	WashNav	1922	Not valid
Lausanne Agreements of 1923	Lausanne	1923	Replaced
East Aegean Agreements	Aegean	1923, 1947 (and others)	In force
Thrace Convention	Thrace	1923	Not valid
Statute of the Tangiers Zone	Tangiers	1923/1928	Not valid
First London Naval Treaty	London1930	1930	Not valid
Anglo-German Naval Treaty	Anglo-German	1935	Not valid
Montreux Convention of the Straits	Montreux	1936	In force
Second London Naval Treaty	London1936	1936	Not valid
The Moscow Treaty (Finland and Russia) of 1940	Moscow1940	1940	Not valid
World War Two peace agreements*	WW2	1945	Not valid
Dodecanese demilitarization agreement**	Dodecanese1947	1947	Not valid
Western European Union Protocol No. IV Agency of Western European Union for the Control of Armaments	WEU	1954	Not valid
Cyprus (UN Security Zone Establishment)	Cyprus	1964/1974	In force
Intermediate-Range Nuclear Forces (INF) Treaty	INF	1987	Not valid
Final Settlement for Germany	Germany1990	1990	In force
Conventional Armed Forces in Europe (CFE) Treaty	CFE	1990	Suspended
Agreement on the principles for a peaceful settlement of the armed conflict in the Dniester region of the Republic of Moldova	Transdnistria	1992	In force

Subregional Arms Control (Balkans)	Balkans	1996	In force
Belfast Agreement	Belfast	1998	In force
Military Technical Agreement between the International Security Force ("KFOR") and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	Kosovo	1999	Not valid
Adaptation of the CFE Treaty	A/CFE	1999	Signed but not ratified (did not enter into force)
Six-Point Peace Plan for Georgia	Georgia	2008	In force
Minsk Agreements	Minsk	2015	Not valid

Source: Authors' research and analysis

* The world war peace agreements are consolidated into one set for each war because the Allied leaders used similar approaches in the agreements.

** Although this agreement is part of the 1947 Peace Agreement with Italy (a WW2 peace agreement), it is included separately because of its implications for Turkish-Greek relations and stability.

Table A 3: Expected outcome determination

	Is the geopolitical order anticipated to remain or be more stable and peaceful ? 1=yes	Does the more powerful state/bloc view the current ratio viewed as dangerously unstable? 1=yes	Can states afford to compete to maintain the ratio? 1=No (they cannot afford because there is a resource shortage)	Status quo change or not (ratio reduction for the stronger party); 1 = ratio change	Brief explanation
Model	Geopolitical Order Stable	Balance Stabilization Danger	Resource Shortage	Expected Outcome	
A	0	1	1	1	The world is viewed as geopolitically unstable, but there are also fears that the current ratio is unstable (first strike instability), and the lead state finds it difficult to afford arms racing. Thus, on the one hand states need a contingency capability to deal with unforeseen problems, but this capability may be destabilizing. Continued arms racing is not affordable, so reducing the ratio brings near-term stability and cost savings.
B	0	1	0	0	The geopolitical situation is unstable, and the military balance is unstable (first strike instability). There is no resource shortage, so the stronger state may be willing to live with the balance instability because of fears of broader geopolitical challenges, and they can afford any arms racing.
C	0	0	0	0	There are fears of global instability and geopolitical competition, the military balance is stable, and there are no resource constraints which together offer no incentives for altering the status quo. Reductions will save money, but there is no pressing need to reduce the military balance advantage for cost reasons.
D	1	0	0	0	A stable (positive) or improving geopolitical order, with a stable force ratio and no shortage of resources to support that ratio (i.e. states can afford their existing militaries) will not result in a change to the status quo (ratio reduction). While reductions will save money, but there is no need to decrease the military balance advantage for cost reasons.
E	1	1	1	1	States that view the geopolitical order optimistically will feel less threatened overall and will need to be prepared for less contingencies compared to a less stable geopolitical order. Yet states view the

					current ratio with one or several rivals as destabilizing, because it is resulting in or may result in arms racing and is offensively unstable ("first-strike"). Resource constraints encourage them to accept reductions to the lowest possible level (maintaining the current ratio is difficult to afford). Thus, the more powerful state will accept a reduction in their relative military power (change in the military balance status quo).
F	1	0	1	1	The geopolitical situation is good or improving, but there is no pressing need to change the ratio because it is viewed as stable. Nonetheless, cost pressures encourage greater reductions in the ratio (as long as these keep the ratio stable). Thus, the more powerful state will accept a reduction in their relative military power (change in the military balance status quo).
G	0	0	1	0	The geopolitical order may be unstable, but the current ratio is stable thus offering some immediate stability and reducing pressures to reduce the ratio difference. However, although resource constraints might encourage reductions, states will retain the status quo as the military balance is stable and geopolitical uncertainty encourages retaining contingency capabilities.
H	1	1	0	0	Even though the overall geopolitical situation is stable or improving, the existing military balance is unstable as it offers a first attack advantage and can lead to arms racing. The strongest state (bloc) is able to afford arms racing and can maintain the existing ratio in part because greater expenditures may ensure or increase deterrence. Thus, the strong state/bloc will not be willing to change the military balance status quo because it can afford not to and it may seek to increase deterrence to deter a surprise attack.

Source: Authors' research and analysis

Table A 4: Geopolitical instability

Agreement	Does the more powerful state anticipate a negatively unstable geopolitical order? 1=yes	Explanation
WWI	1	There was broad optimism that the war's destructiveness, new governments, and the League of Nations had established a peaceful Europe. ⁷³¹
Spitsbergen	1	There was broad optimism that the war's destructiveness, new governments, and the League of Nations had established a peaceful Europe. ⁷³²
Tartu	0	Continued instability in Eastern Europe and Soviet Russia would suggest uncertainty or a pessimistic view of global governance. ⁷³³
Åland	1	With several newly created Baltic states, and the Western Allies and League of Nations actively mediated disputes in the Baltic Sea, views were optimistic despite the Russian civil war (and Western intervention) and concerns about the Bolshevik government. Sweden was arguably the most powerful country the Baltic Sea (based on naval forces present, although other navies could overpower Sweden if moved into the Baltic Sea). Sweden, which had stayed neutral during World War One, had a positive view of global governance following World War One. ⁷³⁴
Helsinki1922	0	Continued instability in Eastern Europe and Soviet Russia would suggest uncertainty or a pessimistic view of global governance. ⁷³⁵
WashNav	1	There was broad optimism that the war's destructiveness, new governments, and the League of Nations had established a peaceful Europe. This optimism remained 3 years (and more) after the end of

⁷³¹ Burns and Urquidi, *Disarmament in Perspective: Volume 1, An Analysis of Selected Arms Control and Disarmament Agreements Between the World Wars, 1919-1939*; David Lincove, "Data for Peace: The League of Nations and Disarmament 1920-40," *Peace & Change* 43, no. 4 (October 2018): 498–529, <https://doi.org/10.1111/pech.12316>; Webster, "From Versailles to Geneva"; Webster, "The League of Nations, Disarmament and Internationalism."

⁷³² Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Timo Koivurova and Filip Holiencin, "Demilitarisation and Neutralisation of Svalbard: How Has the Svalbard Regime Been Able to Meet the Changing Security Realities during Almost 100 Years of Existence?," *Polar Record* 53, no. 2 (March 2017): 131–42, <https://doi.org/10.1017/S0032247416000838>.

⁷³³ Albin T Anderson, "Origins of the Winter War: A Study of Russo-Finnish Diplomacy," *WORLD POLITICS* 6 (January 1954): 169–89; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Jarosław Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times," *Studia Europejskie - Studies in European Affairs* 26, no. 4 (January 30, 2023): 9–38, <https://doi.org/10.33067/SE.4.2022.1>; "Tarton rauha oli tiukan neuvottelun takana - eikä kestänyt kauan," text (Yle, October 14, 2020), <https://yle.fi/aihe/artikkeli/2020/10/14/tarton-rauha-oli-tiukan-neuvottelun-takana-eika-kestanyt-kauan>.

⁷³⁴ Sia Spiliopoulou Åkermark, "The Puzzle of Collective Self-Defence: Dangerous Fragmentation or a Window of Opportunity? An Analysis with Finland and the Åland Islands as a Case Study," *Journal of Conflict and Security Law* 22, no. 2 (2017): 249–74, <https://doi.org/10.1093/jcsl/krx005>; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Anders Gardberg, *Åland Islands: A Strategic Survey*, Finnish Defence Studies 8 (Helsinki: National Defence College, 1995); Ministry for Foreign Affairs of Finland, *Government Report on Changes in the Security Environment* (Helsinki: Finnish Government, 2022); Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times."

⁷³⁵ Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times"; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*.

		WW1, although there was recognition that states might seek to obtain naval superiority through arms racing. ⁷³⁶
Lausanne	1	With Turkey a new state and republic, seeking good relations with its neighbors, and Mediterranean and Black Sea states seeking general cooperative security at least on maritime issues led by the UK, there was a general atmosphere of cooperation and optimism. ⁷³⁷
Aegean	1	The agreements were made within a few years of the end of the World Wars, where there was broad global optimism. ⁷³⁸
Thrace	1	The agreements were made within a few years of the end of the World Wars, where there was broad global optimism. ⁷³⁹
Tangiers	1	The main signatories, which were western European countries, were optimistic about the post-WW1 global order especially concerning this region. Spain itself had not participated in WW1. ⁷⁴⁰
London 1930	1	Disarmament goals and security cooperation were still the norm globally, with the League of Nations disarmament conference about to occur. ⁷⁴¹
Anglo-German	0	Rising nationalism, Germanic and Italian expansionism and militarism, and a more aggressive Soviet Union among other factors suggested a destabilizing and unpredictable future, especially for the UK. The UK also had concerns about geopolitical developments in the Pacific region. ⁷⁴²
Montreux	0	Rising nationalism, Germanic and Italian expansionism and militarism, and a more aggressive Soviet Union among other factors suggested a destabilizing and unpredictable future. The League of Nations had been shown to be ineffective in dealing with a determined aggressor (Italy in Africa, and Japan in Manchuria, for example). ⁷⁴³

⁷³⁶ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Croft, “In Defence of Arms Control”; Downs, Rocke, and Siverson, “Arms Races and Cooperation.”

⁷³⁷ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; A. L. Macfie, “The Straits Question: The Conference of Lausanne (November 1922-July 1923),” *Middle Eastern Studies* 15, no. 2 (May 1979): 211–38, <https://doi.org/10.1080/00263207908700406>; Hazal Papuççular, “Contested Sovereignities: Turkish Diplomacy, the Straits Commission, and the League of Nations (1924–1936),” *Journal of Balkan and Near Eastern Studies* 25, no. 2 (November 9, 2022): 207–21, <https://doi.org/10.1080/19448953.2022.2143773>; Teoman Ertuğrul Tulun, “Consequences Of Material Breach Of The Lausanne Peace Treaty” (Çankaya, Turkey: Center for Eurasian Studies (AVİM), October 7, 2020).
⁷³⁸ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Jon M. Van Dyke, “An Analysis of the Aegean Disputes under International Law,” *Ocean Development & International Law* 36, no. 1 (February 16, 2005): 63–117, <https://doi.org/10.1080/00908320590909088>; Republic of Türkiye Ministry of Foreign Affairs, “Background Note on Aegean Dispute,” Relations Between Turkey and Greece, accessed April 19, 2024, <https://www.mfa.gov.tr/background-note-on-aegean-dispute.en.mfa>.

⁷³⁹ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*.

⁷⁴⁰ David Dunthorn, “The Paris Conference on Tangier, August 1945: The British Response to Soviet Interest in the ‘Tangier Question,’” *Diplomacy and Statecraft* 16, no. 1 (March 9, 2005): 117–37, <https://doi.org/10.1080/09592290590916167>; Brian Edwards, “3. Tangier(s): The Multiple Cold War Contexts of the International Zone,” in *Morocco Bound: Disorienting America’s Maghreb, from Casablanca to the Marrakech Express*, ed. Donald E. Pease (New York, USA: Duke University Press, 2005), 121–57, <https://doi.org/10.1515/9780822387121-006>.

⁷⁴¹ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; “The London Naval Conference, 1930,” US Department of State, Office of the Historian, accessed April 19, 2024, <https://history.state.gov/milestones/1921-1936/london-naval-conf>.

⁷⁴² Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Thomas Hoerber, “Psychology and Reasoning in the Anglo-German Naval Agreement, 1935-1939,” *The Historical Journal* 52, no. 1 (March 2009): 153–74; Watt, “The Anglo-German Naval Agreement of 1935.”

⁷⁴³ Acer, *Russia’s Attack on Ukraine: The Montreux Convention and Türkiye*; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Seydi, *The Turkish Straits and the Great Powers : From the Montreux Convention to the Early Cold War, 1936-1947*; Seydi and Morewood, “Turkey’s Application of the Montreux Convention in the Second World War.”

London1936	0	Rising nationalism, Germanic and Italian expansionism and militarism, and a more aggressive Soviet Union among other factors suggested a destabilizing and unpredictable future. The League of Nations had been shown to be ineffective in dealing with a determined aggressor (Italy in Africa, and Japan in Manchuria, for example). The US in particular feared a conflict with Japan, which would have been foreseen to be very navy-focused; as a result, they were reluctant to agree to reductions to address European instability. ⁷⁴⁴
Moscow1940	0	World War Two was in progress. The Soviet Union felt threatened by Germany, and had a rival relationship with the UK and France (who had condemned the Soviet invasion and had sought to aid Finland). ⁷⁴⁵
WW2	1	The victorious Allies were confident in post-war peace and stability, both due to the high costs of war, the removal and defeat of the fascist powers, and the establishment of the United Nations. ⁷⁴⁶
Dodecanese1947	1	The agreement was a product of Allied victory, and they were generally optimistic about the global order, especially in Western Europe which was most concerned with this issue. ⁷⁴⁷
WEU	1	Although the Cold War was at a high level of intensity, western Europe was developing a trusting, positive cooperative security relationship across institutions. ⁷⁴⁸
Cyprus	1	The Mediterranean area was mostly stable, with many European Mediterranean states in a cooperative relationship (and NATO allies). ⁷⁴⁹
INF	1	This was the shortly after the Reagan-Gorbachev détente period, and the Cold War in Europe had been relatively stable for several decades and neither side faced any other significant threat. ⁷⁵⁰
Germany1990	1	The Cold War was moving towards its end, and the US-Soviet relationship was very positive due to Gorbachev's reform policies. ⁷⁵¹

⁷⁴⁴ Burns and Urquidí, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; David Chessum, "The 1936 London Naval Treaty," *Warship International* 57, no. 3 (September 2020): 197–98.

⁷⁴⁵ Anderson, "Origins of the Winter War: A Study of Russo-Finnish Diplomacy"; Lauri Hannikainen, "Finland's Continuation War (1941–1944): War of Aggression or Defence? War of Alliance or Separate War?: Analyzed from the International – Especially Legal – Perspective," *Baltic Yearbook of International Law Online* 17, no. 1 (December 20, 2020): 77–121, https://doi.org/10.1163/22115897_01701_006; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times."

⁷⁴⁶ Jervis, "From Balance to Concert: A Study of International Security Cooperation"; Ikenberry, *After Victory*; Kupchan, "Concerts, Collective Security, and the Future of Europe"; Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), *From Versailles to Baghdad*.

⁷⁴⁷ Hellenic Republic Ministry of Foreign Affairs, "Turkish Claims Regarding the Demilitarization of Islands in the Aegean Sea," issues of Greek - Turkish Relations, January 31, 2024, <https://www.mfa.gr/en/issues-of-greek-turkish-relations/relevant-documents/turkish-claims-regarding-the-demilitarization-of-islands-in-the-aegean-sea.html>; Republic of Türkiye Ministry of Foreign Affairs, "Background Note on Aegean Dispute."

⁷⁴⁸ Hughes Hallett, "Western European Union (Armaments Control Agency), (Hansard, 17 December 1959)," Hansard UK Parliament archives, December 17, 1959, <https://api.parliament.uk/historic-hansard/commons/1959/dec/17/western-european-union-armaments-control>; Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950*; "The Establishment of Western European Union (WEU)," CVCE.EU by UNILU, January 2014, <https://www.cvce.eu/en/education/unit-content/-/unit/803b2430-7d1c-4e7b-9101-47415702fc8e/6d9db05c-1e8c-487a-a6bc-bf25cfl681e0>.

⁷⁴⁹ *The Blue Helmets : A Review of United Nations Peace-Keeping* (New York: UN, Department of Public Information, 1996); Alexandra Novosseloff, "Assessing the Effectiveness of the United Nations Peacekeeping Force in Cyprus (UNFICYP) and The Office of the Special Adviser to the Secretary- General on Cyprus (OSASG)" (Oslo: Norwegian Institute of International Affairs, 2021).

⁷⁵⁰ Colbourn, *Euromissiles*; Davis, "Lessons of the INF Treaty"; Philipp Gassert, Tim Geiger, and Hermann Wentker, eds., *The INF Treaty of 1987: A Reappraisal*, 1st ed. (Göttingen: Vandenhoeck & Ruprecht, 2020), <https://doi.org/10.13109/9783666352171>.

⁷⁵¹ M. E. Sarotte, *Not One Inch: America, Russia, and the Making of Post-Cold War Stalemate*, The Henry L. Stimson Lectures Series (New Haven: Yale University Press, 2022).

CFE	1	Détente, reforms in the Soviet Union, significant reductions in military capability, and quickly improving diplomatic relations between the East and West created an optimistic atmosphere of cooperation and peace. ⁷⁵²
Transdnistria	1	Despite the disorderly dissolution of the Soviet Union, there was general optimism due to the end of great power rivalries, broad security cooperation across Europe, and Moscow's hope that it could facilitate a more peaceful transition for the newly independent states. ⁷⁵³
Balkans	1	After the breakup of the former Yugoslavia and the ensuing war (with NATO and UN involvement), a combination of war fatigue and diplomacy created more optimism for cooperation, also facilitated by the OSCE. ⁷⁵⁴
Belfast	1	Throughout Europe there was overall optimism in the area of security cooperation and long-term peace (despite the Balkan wars). Moreover, neither of the state parties viewed the agreement as likely to be significantly undermined by other geopolitical developments due to the nature of the conflict. ⁷⁵⁵
Kosovo	1	Despite controversies and disagreements over the conflict, the strongest parties (US, NATO, and the other UN Security Council Permanent 5) seemed to still have been committed to security cooperation in Europe and global governance. ⁷⁵⁶
A/CFE	1	A spirit of security cooperation was still dominating Europe, despite disagreements over Kosovo. The CFE Flank Agreement may have helped facilitate cooperation for the A/CFE. ⁷⁵⁷

⁷⁵² Robert Jurski, *The Conventional Armed Forces in Europe Treaty and Its Contribution to Euro-Atlantic Security after 1990* (Monterey, California: Naval Postgraduate School, 2005); Wilcox, "Russia and the Treaty on Conventional Armed Forces in Europe (CFE Treaty)—A Paradigm Change?"; Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

⁷⁵³ Victoria Rosa, "The Transnistrian Conflict: 30 Years Searching for a Settlement," SCEEUS Reports On Human Rights And Security In Eastern Europe (Stockholm: Stockholm Centre for Eastern European Studies (SCEEUS), October 2021); Stanislav Secieru, "In the Shadow of War: Moldova's Quest for Stability and Security," Brief (Luxembourg: European Union Institute for Security Studies, May 2023); Marius Vahl and Michael Emerson, "Moldova and the Transnistrian Conflict," *Journal on Ethnopolitics and Minority Issues in Europe* 1 (2004).

⁷⁵⁴ Darko Bekic, "An Important Step Toward Peace and Long-Term Stabilisation in the Region of Southeastern Europe," *Croatian International Relations Review*, June 1996, 9–12; Mersiha Čaušević Podžić, "A New Era for South-East Europe - Rebuilding Peace, Security and Stability in Aftermath of War," OSCE, November 25, 2014, <https://www.osce.org/cio/126754>.

⁷⁵⁵ Dowling, "Pulling the Brakes on Political Violence"; Alan Macleod, *International Politics and the Northern Ireland Conflict: The USA, Diplomacy and the Troubles* (London, New York: I.B. Tauris, 2016), 10.5040/9781350986848; "US Involvement in the Northern Irish Peace Process and the Good Friday Agreement."

⁷⁵⁶ Susan Hannah Allen and Tiffany Vincent, "Bombing to Bargain? The Air War for Kosovo: Bombing to Bargain?," *Foreign Policy Analysis* 7, no. 1 (2011): 1–26, <https://doi.org/10.1111/j.1743-8594.2010.00120.x>; Stephen T. Hosmer, *Why Milosevic Decided to Settle the Conflict Over Kosovo When He Did* (Santa Monica, CA: RAND Corporation, 2001), <https://doi.org/10.7249/RB71>; "Key Role of UN Stressed as Security Council Debates Resolution on Kosovo Peace Plan - Serbia," ReliefWeb, June 10, 1999, <https://reliefweb.int/report/serbia/key-role-un-stressed-security-council-debates-resolution-kosovo-peace-plan>; Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁷⁵⁷ Klaus Bolving, "The Adapted Treaty on Conventional Armed Forces in Europe - CFE - Considerations Concerning Baltic CFE-Membership," *Baltic Defense Review* 2000, no. 4 (2000), <https://www.baltdefcol.org/files/docs/bdreview/03bdr200.pdf>; Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020; John E. Peters, *The Changing Quality of Stability in Europe: The Conventional Forces in Europe Treaty toward 2001* (Santa Monica, CA: RAND, 2000); Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

Georgia	0	A period of Russia-NATO competition was setting in due to a number of disagreements, especially NATO expansion but also the 2003 Iraq invasion. ⁷⁵⁸
Minsk	0	Due to a number of disagreements and geopolitical developments, trust and cooperation was very low between NATO/EU and Russia. ⁷⁵⁹

Source: Authors' research and analysis

⁷⁵⁸ Stephen J. Cimbala, "Russian Threat Perceptions and Security Policies: Soviet Shadows and Contemporary Challenges," *The Journal of Power Institutions in Post-Soviet Societies*, no. Issue 14/15 (2013), <https://doi.org/10.4000/pipss.4000>; Dmitri Medvedev, "Speech at Meeting with German Political, Parliamentary and Civic Leaders" (President of Russia Official Web Page, June 5, 2008), https://www.europarl.europa.eu/meetdocs/2004_2009/documents/dv/d_ru_20080617_04_/D_RU_20080617_04_en.pdf; Olga Oliker et al., *Russian Foreign Policy in Historical and Current Context: A Reassessment* (RAND Corporation, 2015), www.rand.org.

⁷⁵⁹ Samuel Charap and Jeremy Shapiro, "A New European Security Order: The Ukraine Crisis and the Missing Post-Cold War Bargain" (Foundation pour la Recherche Stratégique, December 8, 2014); Kvartalnov, "Indivisible Security and Collective Security Concepts"; Bettina Renz, "Why Russia Is Reviving Its Conventional Military Power," *The US Army War College Quarterly: Parameters* 46, no. 2 (Summer 2016): 15.

Table A 5: Military balance instability

The military balance was considered stable for agreements in which the military balance was not a consideration. For cease-fire agreements, the study determined to what extent the status quo was changed largely based on changes to the line of contact at the time of the ceasefire; that is, if any side gave up territory or obtained territory as part of the cease-fire agreement.

<u>Agreement</u>	<u>Does the more powerful state/bloc view the current ratio viewed as dangerously unstable? 1=yes</u>	<u>Explanation</u>
WW1	0	The victorious Allies viewed that their overwhelming superiority and battlefield victories, and in many cases major changes in governments (including fragmentation of the Ottoman and Austro-Hungarian Empires), established military balance stability as the defeated states accepted the new balance established by defeat and surrender, at least in the near term. ⁷⁶⁰
Spitsbergen	0	The island was strategically located but rival forces were not positioned to seize or hold it. ⁷⁶¹
Tartu	0	Both sides acknowledged that Soviet Russia was militarily superior, and Finland did not expect to or seek to alter this balance. ⁷⁶²
Åland	0	There is no information suggesting that Sweden viewed the naval balance of power in the Baltic as unstable. ⁷⁶³
Helsinki1922	0	Both sides acknowledged that Soviet Russia was militarily superior, and Finland did not expect to or seek to alter this balance. ⁷⁶⁴
WashNav	1	The fear was broadly that, because of naval ships' mobility and difficulty in tracking them when on the high seas, a state with a large navy could amass a single fleet that could overpower any distributed defensive naval force. (First strike advantage) ⁷⁶⁵
Lausanne	0	There was not necessarily a single more powerful navy in terms of the area of dispute, in part because Turkey's geographic control by default of the Straits (due to it possessing all land on the north and south banks of

⁷⁶⁰ Burns and Urquidi, *Disarmament in Perspective: Volume 1, An Analysis of Selected Arms Control and Disarmament Agreements Between the World Wars, 1919-1939*; Lincove, "Data for Peace"; Webster, "From Versailles to Geneva"; Webster, "The League of Nations, Disarmament and Internationalism."

⁷⁶¹ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Koivurova and Holiencin, "Demilitarisation and Neutralisation of Svalbard."

⁷⁶² Anderson, "Origins of the Winter War: A Study of Russo-Finnish Diplomacy"; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times"; "Tarton rauha oli tiukan neuvottelun takana - eikä kestänyt kauan."

⁷⁶³ Åkermarck, "The Puzzle of Collective Self-Defence"; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Gardberg, *Åland Islands*; Ministry for Foreign Affairs of Finland, *Government Report on Changes in the Security Environment*; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times."

⁷⁶⁴ Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times"; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*.

⁷⁶⁵ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Croft, "In Defence of Arms Control"; Downs, Locke, and Siverson, "Arms Races and Cooperation."

		the Straits) negated considerations of naval ratios. Thus, the balance was stable in that Turkey held an understood and accepted advantage. ⁷⁶⁶
Aegean	0	Although a surprise attack was possible, it is not clear that the more powerful state(s) viewed their superiority as destabilizing. ⁷⁶⁷
Thrace	0	There are no indications that fears of military balance instability were a consideration in the agreement. Rather, the agreement was a product of overlapping claims and agreements as well as conflict Greek-Turkish War). ⁷⁶⁸
Tangiers	0	There is no information suggesting that there was military tension related to Tangiers, Morocco. ⁷⁶⁹
London1930	0	The Washington Naval Treaty limits were still in effect, and state parties still viewed the established ratios as stable. ⁷⁷⁰
Anglo-German	1	The UK had a by far superior by far naval force, but the balance of forces on the continent were evening as Germany shed Versailles limitations. The UK's navy may have been viewed by the UK as unnecessarily and destabilizingly superior, especially as they feared Germany would attempt to engage in naval arms racing to narrow the capabilities gap. Urquidi states that the UK was interested in naval arms control to extend "naval limitations throughout Continental waters". The UK was also facing domestic pressures on disarmament (might be an indirect relationship with perceptions of instability - if the public viewed current ratios as unfair or unnecessary). The UK certainly viewed that the current ratio was "unfair", so they were willing to permit Germany to "rearm" especially due to failed agreements with Germany/France. Thus, the instability was not as much about first-strike but about arms racing and overall geopolitical imbalance of forces. ⁷⁷¹
Montreux	0	The Montreux convention was an evolution of the Lausanne agreements, and did not substantially change any aspects related to the military balance. ⁷⁷²
London1936	0	The Washington Naval Treaty and First London Naval Treaty restrictions still applied, and there was no clear sign that the strongest power(s) viewed their superiority as destabilizing, in part due to global commitments (compared to other rival's commitments to a single hemisphere). ⁷⁷³

⁷⁶⁶ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Macfie, "The Straits Question"; Papuçular, "Contested Sovereignities"; Tulun, "Consequences Of Material Breach Of The Lausanne Peace Treaty."

⁷⁶⁷ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Dyke, "An Analysis of the Aegean Disputes under International Law"; Republic of Türkiye Ministry of Foreign Affairs, "Background Note on Aegean Dispute."

⁷⁶⁸ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*.

⁷⁶⁹ Dunthorn, "THE PARIS CONFERENCE ON TANGIER, AUGUST 1945"; Edwards, "3. Tangier(s): The Multiple Cold War Contexts of the International Zone."

⁷⁷⁰ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; "The London Naval Conference, 1930."

⁷⁷¹ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Hoerber, "Psychology and Reasoning in the Anglo-German Naval Agreement, 1935-1939"; Watt, "The Anglo-German Naval Agreement of 1935."

⁷⁷² Acer, *Russia's Attack on Ukraine: The Montreux Convention and Türkiye*; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Seydi, *The Turkish Straits and the Great Powers : From the Montreux Convention to the Early Cold War, 1936-1947*; Seydi and Morewood, "Turkey's Application of the Montreux Convention in the Second World War."

⁷⁷³ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Chessum, "The 1936 London Naval Treaty."

Moscow1940	0	Due to the war's course, both sides accepted that the Soviet Union was superior (ie. Moscow did not view their superiority or Finland's inferiority as threatening). ⁷⁷⁴
WW2	0	The Allied states had uncontested and accepted military superiority over the defeated Axis states. ⁷⁷⁵
Dodecanese1947	0	Neither Greece nor Italy feared a military imbalance between one another. ⁷⁷⁶
WEU	0	There was no perception of military instability within the WEU, as they were NATO allies. ⁷⁷⁷
Cyprus	0	At the time that the ceasefire was established, each side was fixed in their military positions. Longer-term conflict did not offer certain gains due to the diplomatic situation. ⁷⁷⁸
INF	1	The first-strike instability went both ways, but Moscow was especially concerned about its vulnerability to INF missiles because of the short flight time to hit Moscow. Washington was not similarly threatened. The instability was in the need for the Soviets to strike NATO INF forces with their INF weapons, before NATO could launch. ⁷⁷⁹
Germany1990	0	Germany accepted the superiority of its former adversaries, especially the US and Soviet Union, and did not seek to unilaterally increase its military capability. Instabilities were between the blocs, and were being addressed through the CFE Treaty which was being finalized. ⁷⁸⁰
CFE	1	Both sides, including the Warsaw Pact (the stronger one) viewed the build-up of conventional armed forces, especially offensive ones, as destabilizing. The Warsaw Pact/USSR was facing economic pressures on maintaining a large military. ⁷⁸¹
Transdnistria	0	The front lines had stabilized, offering each side some defensive security/stability. ⁷⁸²
Balkans	0	There is no information suggesting that any particular side felt threatened by others, due to a combination of war losses (decreasing offensive capabilities), and stabilization of the borders. ⁷⁸³

⁷⁷⁴ Anderson, "Origins of the Winter War: A Study of Russo-Finnish Diplomacy"; Hannikainen, "Finland's Continuation War (1941–1944)"; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times."

⁷⁷⁵ Jervis, "From Balance to Concert: A Study of International Security Cooperation"; Ikenberry, *After Victory*; Kupchan, "Concerts, Collective Security, and the Future of Europe"; Tanner, United Nations Institute for Disarmament Research, and Graduate Institute of International Studies (Geneva, Switzerland), *From Versailles to Baghdad*.

⁷⁷⁶ Hellenic Republic Ministry of Foreign Affairs, "Turkish Claims Regarding the Demilitarization of Islands in the Aegean Sea"; Republic of Türkiye Ministry of Foreign Affairs, "Background Note on Aegean Dispute."

⁷⁷⁷ Hallett, "Western European Union (Armaments Control Agency), (Hansard, 17 December 1959)"; Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950*; "The Establishment of Western European Union (WEU)."

⁷⁷⁸ *The Blue Helmets : A Review of United Nations Peace-Keeping*; Novosseloff, "Assessing the Effectiveness of the United Nations Peacekeeping Force in Cyprus (UNFICYP) and The Office of the Special Adviser to the Secretary- General on Cyprus (OSASG)."

⁷⁷⁹ Colbourn, *Euromissiles*; Davis, "Lessons of the INF Treaty"; Gassert, Geiger, and Wentker, *The INF Treaty of 1987*.

⁷⁸⁰ Sarotte, *Not One Inch: America, Russia, and the Making of Post-Cold War Stalemate*.

⁷⁸¹ Jurski, *The Conventional Armed Forces in Europe Treaty and Its Contribution to Euro-Atlantic Security after 1990*; Wilcox, "Russia and the Treaty on Conventional Armed Forces in Europe (CFE Treaty)—A Paradigm Change?"; Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

⁷⁸² Rosa, "The Transnistrian Conflict: 30 Years Searching for a Settlement"; Secieru, "In the Shadow of War: Moldova's Quest for Stability and Security"; Vahl and Emerson, "Moldova and the Transnistrian Conflict."

⁷⁸³ Bekic, "An Important Step Toward Peace and Long-Term Stabilisation in the Region of Southeastern Europe"; Podžić, "A New Era for South-East Europe - Rebuilding Peace, Security and Stability in Aftermath of War."

Belfast	1	The presence of the UK military was viewed as provocative and a cause of Republican violence, and it was accepted that it was an obstacle to peace. ⁷⁸⁴
Kosovo	0	NATO did not view its victory and strong military position as destabilizing, as it did not believe that Serbia would attempt to compete/attack. ⁷⁸⁵
A/CFE	0	NATO members (the stronger side) did not view that their superiority threatened Russia, nor that Russia would seek a first strike due to its inferior military balance. Nor did they fear arms racing, as CFE Treaty limits were largely being respected (adjustments had been made to the Flank). ⁷⁸⁶
Georgia	0	Within a week of the conflict, it was clear that Russia's military was superior and Georgia had no means to contest it. ⁷⁸⁷
Minsk	0	A stalemate largely existed in Ukraine, and there was no indication that Ukraine or the separatists could launch a debilitating attack. Russia was largely recognized as having the superior army. ⁷⁸⁸

Source: Authors' research and analysis

⁷⁸⁴ Dowling, "Pulling the Brakes on Political Violence"; Macleod, *International Politics and the Northern Ireland Conflict: The USA, Diplomacy and the Troubles*; "US Involvement in the Northern Irish Peace Process and the Good Friday Agreement."

⁷⁸⁵ Allen and Vincent, "Bombing to Bargain?"; Hosmer, *Why Milosevic Decided to Settle the Conflict Over Kosovo When He Did*; "Key Role of UN Stressed as Security Council Debates Resolution on Kosovo Peace Plan - Serbia"; Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020.

⁷⁸⁶ Bolving, "The Adapted Treaty on Conventional Armed Forces in Europe - CFE - Considerations Concerning Baltic CFE-Membership"; Kühn, *The Rise and Fall of Cooperative Arms Control in Europe*, 2020; Peters, *The Changing Quality of Stability in Europe*; Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

⁷⁸⁷ Cimbala, "Russian Threat Perceptions and Security Policies"; Medvedev, "Speech at Meeting with German Political, Parliamentary and Civic Leaders"; Olikier et al., *Russian Foreign Policy in Historical and Current Context: A Reassessment*.

⁷⁸⁸ Charap and Shapiro, "A New European Security Order: The Ukraine Crisis and the Missing Post-Cold War Bargain"; Kvartalnov, "Indivisible Security and Collective Security Concepts"; Renz, "Why Russia Is Reviving Its Conventional Military Power."

Table A 6: Resource constraints

Agreement	<u>Can the more powerful state afford to compete to maintain the ratio? 1=No (they cannot afford because there is a resource shortage)</u>	<u>Explanation</u>
WW1	1	World War One was very expensive for all parties, and the Allied states felt pressure to significantly reduce defense costs and do so rapidly. ⁷⁸⁹
Spitsbergen	1	The UK (the strongest navy in the Atlantic Ocean area at the time) faced significant resource constraints due to the high war costs. ⁷⁹⁰
Tartu	1	Soviet Russia had significant resource constraints due to its civil war and conflicts along its borders. ⁷⁹¹
Åland	0	Sweden, the most powerful Baltic Sea naval power, was not facing significant resource constraints as it had not participated in World War One. Although Sweden faced some economic challenges in the first 5 years after WW1, there is no information to suggest that they had to make drastic cuts to defense. Defense spending only slightly decreased in the coming decade, with an increase in 1920-1921. The main debate was about force composition. ⁷⁹²
Helsinki1922	1	Soviet Russia had significant resource constraints due to its civil war and conflicts along its borders. ⁷⁹³
WashNav	1	The UK generally was facing substantial financial constraints after WW1. ⁷⁹⁴
Lausanne	0	The complicated interaction between naval and land forces that would have required any domination or control of the Straits minimize the extent to which resource constraints was an issue. In short, at low cost Turkey could control the Straits due to the geographic realities. ⁷⁹⁵

⁷⁸⁹ Nicholas Crafts, “Walking Wounded: The British Economy in the Aftermath of World War I,” CEPR, August 27, 2014, <https://cepr.org/voxeu/columns/walking-wounded-british-economy-aftermath-world-war-i>; Martin Ellison, Thomas J. Sargent, and Andrew Scott, “Chapter 2: Funding the Great War and the Beginning of the End for British Hegemony,” in *Debt and Entanglements Between the Wars*, ed. Era Dabala-Norris (International Monetary Fund, 2019); “Military Expenditure as a Share of GDP,” Our World in Data, accessed July 5, 2024, <https://ourworldindata.org/grapher/military-expenditure-as-a-share-of-gdp-long>.

⁷⁹⁰ Crafts, “Walking Wounded”; Ellison, Sargent, and Scott, “Chapter 2: Funding the Great War and the Beginning of the End for British Hegemony”; “Military Expenditure as a Share of GDP.”

⁷⁹¹ Mark Harrison, *Guns and Rubles*, Yale-Hoover Series on Stalin, Stalinism, and the Cold War (New Haven [Conn.]: Yale University Press, 2008).

⁷⁹² Anders Berge, *Sakkunskap Och Politisk Rationalitet: Den Svenska Flottan Och Pansarfartygsfrågan 1918-1939* (Stockholm: Almqvist & Wiksell International, 1987); Björn Hagelin and Peter Wallenstein, “Understanding Swedish Military Expenditures,” *Cooperation and Conflict* 27, no. 4 (1992): 415–41; Henric Häggqvist, “Wartime and Post-War Economies (Sweden),” *International Encyclopedia of the First World War* (WW1), September 18, 2019, https://encyclopedia.1914-1918-online.net/article/wartime_and_post-war_economies_sweden.

⁷⁹³ Harrison, *Guns and Rubles*.

⁷⁹⁴ Crafts, “Walking Wounded”; Ellison, Sargent, and Scott, “Chapter 2: Funding the Great War and the Beginning of the End for British Hegemony”; “Military Expenditure as a Share of GDP.”

⁷⁹⁵ Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Macfie, “The Straits Question”; Papuçular, “Contested Sovereignties”; Tulun, “Consequences Of Material Breach Of The Lausanne Peace Treaty.”

Aegean	1	The challenge of defending many islands from attack and invasion would have likely stressed the stronger state(s) finances in the 1920's. Both navies were relatively small, and Turkey (the larger and stronger state) did not show any growth in its navy from 1919-1927. ⁷⁹⁶
Thrace	0	Turkey was probably the strongest of the states directly concerned, and had sufficient resources and to deal with the border issues, as the defense would likely rely primarily on personnel numbers (compared to ships, in the case of the Aegean islands). 1923 Turkey:Greece:Bulgaria personnel ratios were 129:79:20; and CINC 66:44:16. ⁷⁹⁷
Tangiers	0	Although France and the UK had significant resource constraints, Tangiers was not a source of major military rivalry and there is no information that costs were a factor in its internationalization (which had been under negotiation even before WWI). ⁷⁹⁸
London1930	0	All state parties (US, UK, Japan) were in the midst of modernizing their navies; thus, no resource constraints applied. ⁷⁹⁹
Anglo-German	0	No clear information that cost was a major issue for the UK's accepting the reduced ratio. ⁸⁰⁰
Montreux	0	There were no indications that resource constraints played a role in establishing the Montreux Convention. ⁸⁰¹
London1936	0	States were undergoing modernization and generally increasing defense spending at this time. ⁸⁰²
Moscow1940	0	The Soviet Union did not face resource constraints at this time. ⁸⁰³
WW2	0	Despite the high costs of the war, the victorious Allies (especially USA) did not face significant economic distress at the war's end. The Soviet Union had suffered enormously, but war-time industrialization had helped its recovery. ⁸⁰⁴
Dodecanese1947	0	Resource constraints did not factor into the agreement. ⁸⁰⁵
WEU	0	There were no significant resource constraints amongst the signatories. ⁸⁰⁶

⁷⁹⁶ Serhat Güvenç, "Building a Republican Navy in Turkey: 1924-1939," *International Journal of Naval History* 1, no. 1 (April 2002); Serhat Güvenç and Dilek Barlas, "Atatürk's Navy: Determinants of Turkish Naval Policy, 1923-38," *Journal of Strategic Studies* 26, no. 1 (March 2003): 1-35; *Armaments Year-Book: General and Statistical Information*, vol. First Year (Geneva: League of Nations, 1924); *Armaments Year-Book: General and Statistical Information*, vol. Third Year: 1926-1927 (Geneva: League of Nations, 1927).

⁷⁹⁷ Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Greig and Enterline, "Correlates of War Database, National Material Capabilities (v6.0)."

⁷⁹⁸ Dunthorn, "THE PARIS CONFERENCE ON TANGIER, AUGUST 1945"; Edwards, "3. Tangier(s): The Multiple Cold War Contexts of the International Zone."

⁷⁹⁹ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; "The London Naval Conference, 1930."

⁸⁰⁰ Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Hoerber, "Psychology and Reasoning in the Anglo-German Naval Agreement, 1935-1939"; Watt, "The Anglo-German Naval Agreement of 1935."

⁸⁰¹ Acer, *Russia's Attack on Ukraine: The Montreux Convention and Türkiye*; Burns and Urquidi, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Seydi, *The Turkish Straits and the Great Powers: From the Montreux Convention to the Early Cold War, 1936-1947*; Seydi and Morewood, "Turkey's Application of the Montreux Convention in the Second World War."

⁸⁰² Burns and Urquidi, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; Chessum, "The 1936 London Naval Treaty."

⁸⁰³ "Military Expenditure as a Share of GDP."

⁸⁰⁴ M. Harrison, "The Soviet Union after 1945: Economic Recovery and Political Repression," *Past & Present* 210, no. Supplement 6 (January 1, 2011): 103-20, <https://doi.org/10.1093/pastj/gtq042>.

⁸⁰⁵ Hellenic Republic Ministry of Foreign Affairs, "Turkish Claims Regarding the Demilitarization of Islands in the Aegean Sea"; Republic of Türkiye Ministry of Foreign Affairs, "Background Note on Aegean Dispute."

⁸⁰⁶ Hallett, "Western European Union (Armaments Control Agency), (Hansard, 17 December 1959)"; Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950*; "The Establishment of Western European Union (WEU)."

Cyprus	0	There are no indications that either side (and their partners) faced significant resource constraints that prevented them from continuing to fight if pressed. ⁸⁰⁷
INF	1	Gorbachev felt that the costs of arms racing in general was too high, and he sought to shift defense expenses to general economic growth and cost of living improvements. ⁸⁰⁸
Germany1990	0	Although the Soviet Union was seeking to reduce defense expenditures, this was much less the case of the other Allies (US, UK, and France). ⁸⁰⁹
CFE	1	The Soviet Union and Warsaw Pact were seeking to reduce defense expenditures significantly to improve their economies. ⁸¹⁰
Transdnistria	0	The new Russian republic was facing resource constraints generally, but there are no indications that this conflict in particular were outside of its means to deal with given its local and small nature. ⁸¹¹
Balkans	0	There is no information suggesting that resource constraints compelled the state parties to sign the agreement. ⁸¹²
Belfast	1	The UK was facing significant pressures to generally reduce its defense budget, and operations in Northern Ireland were a source of personnel costs in particular. ⁸¹³
Kosovo	0	NATO did not face any major resource constraints. ⁸¹⁴
A/CFE	0	The more powerful states (NATO) were not facing major resource constraints, with defense budgets stable following the early 1990's drawdowns. ⁸¹⁵
Georgia	0	Russia did not face any resource constraints to continue a conflict with Georgia. ⁸¹⁶
Minsk	0	There are no indications that resource constraints were a driving factor in the ceasefire. ⁸¹⁷

⁸⁰⁷ *The Blue Helmets : A Review of United Nations Peace-Keeping*; Novosseloff, "Assessing the Effectiveness of the United Nations Peacekeeping Force in Cyprus (UNFICYP) and The Office of the Special Adviser to the Secretary- General on Cyprus (OSASG)."

⁸⁰⁸ Colbourn, *Euromissiles*; Davis, "Lessons of the INF Treaty"; Gassert, Geiger, and Wentker, *The INF Treaty of 1987*.

⁸⁰⁹ "Military Expenditure (% of GDP) - Russian Federation | Data," The World Bank, accessed January 22, 2023, <https://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?locations=RU>; James M. Cypher, "Military Spending after the Cold War," *Journal of Economic Issues* 25, no. 2 (June 1991): 607–15, <https://doi.org/10.1080/00213624.1991.11505193>.

⁸¹⁰ Jurski, *The Conventional Armed Forces in Europe Treaty and Its Contribution to Euro-Atlantic Security after 1990*; Wilcox, "Russia and the Treaty on Conventional Armed Forces in Europe (CFE Treaty)—A Paradigm Change?"; Wilcox, *The Treaty on Conventional Armed Forces in Europe and Russian Foreign and Security Policy (Dissertation)*.

⁸¹¹ Rosa, "The Transnistrian Conflict: 30 Years Searching for a Settlement"; Secieru, "In the Shadow of War: Moldova's Quest for Stability and Security"; Vahl and Emerson, "Moldova and the Transnistrian Conflict."

⁸¹² Bekic, "An Important Step Toward Peace and Long-Term Stabilisation in the Region of Southeastern Europe"; Podžić, "A New Era for South-East Europe - Rebuilding Peace, Security and Stability in Aftermath of War."

⁸¹³ Tom Dodd and Mark Oakes, "Strategic Defence Review White Paper," Research Paper (London: House of Commons Library, October 15, 1998); Select Committee on Defence, "House of Commons, Defence, Eighth Report," www.parliament.uk, September 3, 1998, <https://publications.parliament.uk/pa/cm199798/cmselect/cmdfence/138/13826.htm>; J. Vitor Tossini, "A Brief Look at the British Defence Budget in the 1990s," *Ukdj* (blog), July 15, 2015, <https://ukdefencejournal.org.uk/a-brief-look-at-the-british-defence-budget-in-the-1990s/>.

⁸¹⁴ David L. Phillips, *Liberating Kosovo: Coercive Diplomacy and U.S. Intervention*, Belfer Center Studies in International Security (Cambridge, MA: MIT Press, 2012).

⁸¹⁵ William S. Cohen, "Report of the Quadrennial Defense Review" (Washington, DC: US Department of Defense, May 1997); "Future Years Defense Program: DOD's 1998 Plan Has Substantial Risk in Execution" (Washington, DC: US General Accounting Office, October 1997).

⁸¹⁶ Galeotti and Shumate, *Russia's Five-Day War: The Invasion of Georgia, August 2008*.

⁸¹⁷ Lidia Powirska, "Through the Ashes of the Minsk Agreements," May 18, 2022, <https://epicenter.wcfia.harvard.edu/blog/through-ashes-minsk-agreements>.

Source: Authors' research and analysis

Table A 7: Status quo assessment

The study considered the status quo unchanged when the quantitative ratio change was under five percent overall, or when there was otherwise no noticeable change in the overall military balance. The study considered it altered when the overall ratio changed by more than five percent, or when it was clear that the agreement significantly reduced the relative military superiority of the most powerful state party in other aspects.

Agreement	<u>Status quo change or not (ratio reduction for the stronger party); 1 = ratio change</u>	<u>Explanation</u>
WW1	0	The Allies imposed strict and debilitating limits on the defeated Central Powers, without accepting any limits on their own military capabilities. ⁸¹⁸
Spitsbergen	0	The agreement kept the island free of military activity and presence, as it had been prior to and during World War One. ⁸¹⁹
Tartu	0	The military superiority of Soviet Russia was retained; only Finland was subject to restrictions. ⁸²⁰
Åland	0	The agreement did not substantially change any state parties' military capabilities, deployments, etc. The island remained demilitarized as it had in the past (since 1856). ⁸²¹
Helsinki1922	1	Soviet Russia had military superiority, and therefore could have likely imposed a buffer zone on Finland without accepting one of its own (as was the case with the Tartu agreement where Finland accepted limitations in the Arctic). ⁸²²
WashNav	1	The pre-agreement ratio was 4 : 2.3 : 1.3 : 1.0 : 1.3 (all ships in 1920, UK, the United States, Japan, Italy, and France, respectively); or 5.3 : 1.8 : 0.9 : 0.7 : 1.2 (Ships completed in 1911 or later; UK, the United States, Japan, Italy, and France, respectively). The new agreement ratio was approximately 5:5:3:1.75:1.75 for the UK, the United States, Japan, Italy, and France, respectively. Agreement ratio: approximately 5:5:3:1.75:1.75 for the UK, the United States, Japan, Italy, and France, respectively. ⁸²³

⁸¹⁸ World War 1 peace treaties' text, with Austria, Bulgaria, Germany, and Hungary.

⁸¹⁹ Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Koivurova and Holiencin, "Demilitarisation and Neutralisation of Svalbard."

⁸²⁰ Anderson, "Origins of the Winter War: A Study of Russo-Finnish Diplomacy"; Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Greig and Enterline, "Correlates of War Database, National Material Capabilities (v6.0)"; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times"; "Tartton rauha oli tiukan neuvottelun takana - eikä kestänyt kauan." The Correlates of War (COW) Composite Index of National Capability (CINC) scores Russia:Finland 1920 at 0.10320065:0.001545291, or 103:1.

⁸²¹ *Armaments Year-Book: General and Statistical Information*, 1924; Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Gardberg, *Åland Islands*; Ministry for Foreign Affairs of Finland, *Government Report on Changes in the Security Environment*; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times"; Åkermark, "The Puzzle of Collective Self-Defence."

⁸²² Greig and Enterline, "Correlates of War Database, National Material Capabilities (v6.0)." The Correlates of War (COW) Composite Index of National Capability (CINC) scores Russia:Finland 1922 at 0.1443790: 0.0015718592, or 144:2.

⁸²³ Burns and Urquidí, *Disarmament in Perspective: Volume 3, Limitation of Seapower*.

Lausanne	0	The agreement did not control states' military capabilities per se, as limitations applied to access through the Straits rather than what was in the Black Sea (unless it came through the Straits). Overall, there was no alteration in the existing naval balance in the Black Sea region that was determined by the Lausanne agreement. ⁸²⁴
Aegean	0	Generalizing all of the islands' histories relevant to the sets of agreements is difficult, but in general the agreements balanced competing interests and claims to maintain a status quo and deepen stability. None of the agreements impacted the national military capabilities. ⁸²⁵
Thrace	0	The agreement did not impact national capabilities, but was a way to stabilize rivalries and prevent conflict by keeping forces separate. ⁸²⁶
Tangiers	0	Tangiers' demilitarized status was retained. ⁸²⁷
London1930	0	The agreement left intact the existing Washington Naval agreement, and supplemented areas which had not been covered. The new ratio was based on current holdings, although some believed the US might have sacrificed some superiority. ⁸²⁸
Anglo-German	1	The balance prior to the agreement was 14:100 (Germany:UK). The new balance set by the agreement was 35:100 (Germany:UK). ⁸²⁹
Montreux	0	The Montreux Convention upheld the status quo established by the Lausanne Convention. ⁸³⁰
London1936	0	The agreement left intact the existing Washington Naval agreement, and supplemented areas which had not been covered. The new ratio was based on current holdings, although some believed the US might have sacrificed some superiority. ⁸³¹
Moscow1940	0	The agreement affirmed the Soviet Union's military superiority (with limits only placed on Finland). ⁸³²
WW2	0	The Allied military superiority was as only the defeated Axis states were subject to limitations. ⁸³³

⁸²⁴ Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Macfie, "The Straits Question"; Papuççular, "Contested Sovereignties"; Tulun, "Consequences Of Material Breach Of The Lausanne Peace Treaty."

⁸²⁵ Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Dyke, "An Analysis of the Aegean Disputes under International Law"; Republic of Türkiye Ministry of Foreign Affairs, "Background Note on Aegean Dispute."

⁸²⁶ Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*.

⁸²⁷ Dunthorn, "THE PARIS CONFERENCE ON TANGIER, AUGUST 1945"; Edwards, "3. Tangier(s): The Multiple Cold War Contexts of the International Zone."

⁸²⁸ Burns and Urquidí, *Disarmament in Perspective: Volume 3, Limitation of Seapower*; D. W. Knox, "The London Treaty and American Naval Policy," *U.S. Naval Institute Proceedings* 57, no. 8 (August 1931), <https://www.usni.org/magazines/proceedings/1931/august/london-treaty-and-american-naval-policy>.

⁸²⁹ *Armaments Year-Book: General and Statistical Information*, vol. Eleventh Year (Geneva: League of Nations, 1935); Watt, "The Anglo-German Naval Agreement of 1935."

⁸³⁰ Acer, *Russia's Attack on Ukraine: The Montreux Convention and Türkiye*; Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Seydi, *The Turkish Straits and the Great Powers : From the Montreux Convention to the Early Cold War, 1936-1947*; Seydi and Morewood, "Turkey's Application of the Montreux Convention in the Second World War."

⁸³¹ Acer, *Russia's Attack on Ukraine: The Montreux Convention and Türkiye*; Burns and Urquidí, *Disarmament in Perspective: Volume 2, Demilitarization of Frontiers, Islands and Straits*; Seydi, *The Turkish Straits and the Great Powers : From the Montreux Convention to the Early Cold War, 1936-1947*; Seydi and Morewood, "Turkey's Application of the Montreux Convention in the Second World War."

⁸³² Anderson, "Origins of the Winter War: A Study of Russo-Finnish Diplomacy"; Hannikainen, "Finland's Continuation War (1941-1944)"; Suchoples, "In the Shadow of the Eastern Neighbour. Finland in the Security Policy of Russia and the Soviet Union from Peter the Great to Contemporary Times"; W.R. Trotter, *The Winter War: The Russo-Finnish War of 1939-40* (Aurum, 2002).

⁸³³ Various armistices and peace agreements between the Allies and Austria, Bulgaria, Hungary, Italy, Finland, Germany, and Romania.

Dodecanese1947	0	The agreement did not alter the status quo, as it left untouched Italian and Greek national military capabilities; and granting islands to Greece under the condition of demilitarization did not offer Greece a substantial military advantage; nor did it remove significant military capability from Italy. ⁸³⁴
WEU	0	The agreement had a flexible limit, based on NATO policy. ⁸³⁵
Cyprus	0	The agreement more or less froze the front line in place. ⁸³⁶
INF	1	By the deadline, the two countries had together destroyed a total of 2,692 short- and intermediate-range missiles: 1,846 Soviet missiles and 846 American missiles, with the end result that neither side had any INF weapons (conventional or nuclear). ⁸³⁷
Germany1990	0	Germany's relative inferiority to the WW2 allied powers combined was retained with a range of limits. Additionally, addressing reunification and the Cold War, the western allies were prohibited from establishing a military presence in the former East Germany (where they had also not been present). The Soviet Union agreed to withdraw from East Germany (GDR), which was a slight modification of the status quo - however the agreement otherwise did not limit Soviet military capabilities in Europe, including in other Warsaw Pact states. Thus, presumably or theoretically, the Soviet Union could have retained its military superiority over Germany if it sought to do so by stationing forces around the reunified Germany. The agreement was linked to the CFE Treaty which was being finalized. ⁸³⁸
CFE	1	The pre-agreement November 1990 TLE count (all five TLE categories combined) was Warsaw Pact: 112,068; NATO 76,009. The agreement ratio for all 5 TLE categories was 1:1. ⁸³⁹
Transdnistria	0	The agreement kept the front lines in place, and no impact on overall military capabilities. ⁸⁴⁰
Balkans	0	The agreement reflected that the former Yugoslavia (FRY) had more TLE, and that Croatia and Bosnia-Herzegovina (B/H) were comparable. The main variation was artillery, where the rank was the same but distribution different. The pre-agreement ratio for all TLE was 61:15:23. The agreement set a ratio of 55:22:22 for FRY, Croatia, and B/H respectively. ⁸⁴¹

⁸³⁴ Hellenic Republic Ministry of Foreign Affairs, "Turkish Claims Regarding the Demilitarization of Islands in the Aegean Sea"; Republic of Türkiye Ministry of Foreign Affairs, "Background Note on Aegean Dispute."

⁸³⁵ Hallett, "Western European Union (Armaments Control Agency), (Hansard, 17 December 1959)"; Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950*; "The Establishment of Western European Union (WEU)."

⁸³⁶ *The Blue Helmets : A Review of United Nations Peace-Keeping*; Novosseloff, "Assessing the Effectiveness of the United Nations Peacekeeping Force in Cyprus (UNFICYP) and The Office of the Special Adviser to the Secretary- General on Cyprus (OSASG)."

⁸³⁷ Daryl Kimball, "The Intermediate-Range Nuclear Forces (INF) Treaty at a Glance," Arms Control Association, August 2019, <https://www.armscontrol.org/factsheets/INFtreaty>.

⁸³⁸ Hannes Adomeit, "Gorbachev's Consent to Unified Germany's Membership in NATO" (Berlin: Stiftung und Wissenschaft und Politik / German Institute for International and Security Affairs, December 11, 2006); "Treaty on the Final Settlement with Respect to Germany" (Moscow, September 12, 1990). Hannes Adomeit, "Gorbachev's Consent to Unified Germany's Membership in NATO" (Berlin: Stiftung und Wissenschaft und Politik / German Institute for International and Security Affairs, December 11, 2006); "Treaty on the Final Settlement with Respect to Germany" (Moscow, September 12, 1990).

⁸³⁹ (Dean and Forsberg 1992)

⁸⁴⁰ Rosa, "The Transnistrian Conflict: 30 Years Searching for a Settlement"; Secieru, "In the Shadow of War: Moldova's Quest for Stability and Security"; Vahl and Emerson, "Moldova and the Transnistrian Conflict."

⁸⁴¹ "Parties Complete Weapons Reductions Under Balkan Arms Control Accord," Arms Control Association, accessed February 15, 2024, <https://www.armscontrol.org/act/1997-10/press-releases/parties-complete-weapons-reductions-under-balkan-arms-control-accord>.

Belfast	1	Due to complicated nature of the rivalry, there was no (perceived) need for Irish forces to reduce. Rather, militant groups were to demobilize, and the UK agreed to reduce its armed forces in Northern Ireland. ⁸⁴²
Kosovo	0	NATO's military superiority was upheld, with Serbia forced to accept geographic demilitarization and retain limits agreed to in 1996. Serbian forces were prohibited from operating within Kosovo, while NATO forces had no such limitations. ⁸⁴³
A/CFE	0	The changes for territorial ceilings between current (1 Jan 2000) holdings and territorial ceilings was under 5% for every country and category. ⁸⁴⁴
Georgia	1	The agreement did not impose limitations on either side's national military capabilities. However, Russia agreed to withdraw from some areas it had seized including Gori and Poti (major cities). Russia also agreed to draw down its forces in South Ossetia and Abkhazia to pre-conflict levels. ⁸⁴⁵
Minsk	0	The battlelines were largely kept in place, and the agreement did not impact overall military capabilities of either side (or Russia). ⁸⁴⁶

Source: Authors' research and analysis

⁸⁴² Independent Monitoring Commission, *Twenty-Sixth and Final Report of the Independent Monitoring Commission: 2004-2011 - Changes, Impact and Lessons* (London: Stationery Office, 2011).

⁸⁴³ Mark W. Corson and Clemson G. Turregano, "Spaces of Unintended Consequences: The Ground Safety Zone in Kosovo," *GeoJournal* 57, no. 4 (2002): 273–82, <https://doi.org/10.1023/B:GEJO.0000007205.16802.d7>; Hosmer, *Why Milosevic Decided to Settle the Conflict Over Kosovo When He Did*; "Interviews: Strobe Talbott," PBS Frontline, accessed July 7, 2024, <https://www.pbs.org/wgbh/pages/frontline/shows/kosovo/interviews/talbott.html>; "Kumanovo Agreement 24 Years Later: Kosovo Problem Far from Resolved, KFOR Strengthens Its Forces - Kosovo Online," Kosovo Online, June 9, 2023, <https://www.kosovo-online.com/en/news/analysis/kumanovo-agreement-24-years-later-kosovo-problem-far-resolved-kfor-strengthens-its>.

⁸⁴⁴ Bolving, "The Adapted Treaty on Conventional Armed Forces in Europe - CFE - Considerations Concerning Baltic CFE-Membership."

⁸⁴⁵ Galeotti and Shumate, *Russia's Five-Day War: The Invasion of Georgia, August 2008*; Phillips, *Liberating Kosovo: Coercive Diplomacy and U.S. Intervention*; Ühtegi, "The 2008 Russia-Georgia War Five Years Later."

⁸⁴⁶ OSCE, *A Peaceful Presence - The First Five Years of the OSCE Special Monitoring Mission to Ukraine*; Powirska, "Through the Ashes of the Minsk Agreements."

Appendix B: Chapter 5 – Delegation Tables

Table B 1: CAC agreement variables and scoring

Variable	Description	Scoring	Points
Mandate modification	Ability of the agreement executor to modify its mandate	Yes; No or NA	1; 0
Governance independence	Extent to which the treaty executor can make decisions without state party approval	Yes; Somewhat; No or NA	1; 0.5; 0
Staff independence	Extent to which staff are independent of states parties	Yes; Somewhat; No or NA	1; 0.5; 0
Assessment independence	Extent to which the agreement executor can make independence assessments on compliance	Yes; Somewhat; No or NA	1; 0.5; 0
Enforcement authority	Extent to which the agreement executor can enforce the agreement	Yes; Somewhat; No or NA	1; 0.5; 0
Agent resources	Amount of personnel, equipment, and financial resources available to the agreement executor	High; Medium; Low; NA	1; 0.5; 0.25; 0
Monitoring	Extent to which the agreement executor is permitted to monitor compliance	Yes; No or NA	1; 0
Inspection	Extent to which the agreement executor is permitted to conduct on-site inspection activities	Yes; No or NA	1; 0
Third-party involvement	Involvement of a third-party IGO or state as witness, guarantor, or implementer	Yes; No or NA	1; 0
Success	Level of treaty success based on lack of conflict between primary states parties over the issue that the agreement is intended to address	Successful; Somewhat successful; or Not successful	1; 0.5; 0

Source: Author's methodological analysis and research

Note: CAC, conventional arms control; IGO, intergovernmental organization; NA, not applicable

Table B 2: CAC agreement explanation of success or failure

Agreement	Explanation	Score
Post–World War I peace treaties	During the lifetimes of the multilateral treaty bodies charged with implementing the World War I peace treaties, particularly the various international military commissions, the bodies successfully identified violations, oversaw reductions, and conflict did not break out during their operations. However, the CAC elements of the peace treaties largely collapsed in the 1930s and war across Europe broke out by the end of that decade.	Somewhat successful
Svalbard (Spitsbergen) Treaty	There has not been any conflict between states parties over the Spitsbergen archipelago, and no substantial violations.	Successful
Finnish-Russian Dorpat/Tartu Agreement	While relations between Finland and Russia were mediocre between the wars, the agreement was respected and endured with cooperation between parties for over 20 years.	Somewhat successful
Åland Island Convention	There has not been any conflict between states parties over the Åland Islands, and no substantial violations.	Successful
Washington Naval Treaty	The treaty was generally successful, with parties respecting the agreement until the treaty's expiration. However, failure to extend or revise the treaty and the subsequent war between the global naval powers, especially Japan versus the United States and the United Kingdom, suggest that the Washington Naval Treaty's success was unenduring.	Somewhat successful
Lausanne Agreements of 1923	These agreements concerning Turkish and Greek demilitarization and control and access to the Bosphorous Straits were respected, and no conflict occurred.	Unsuccessful
London Naval Treaties	The treaties failed to reduce tensions between states parties, and war broke out between them within a decade.	Unsuccessful
Anglo-German Naval Treaty	While the agreement was respected during its brief lifetime in part due to the inability of Germany to produce beyond the treaty's limits, the overall rivalry continued and war broke out between the countries within a few years.	Unsuccessful

Montreux Convention of the Straits	This agreement is still in force, even with conflict having occurred several times in the Black Sea region since its passage. Turkey has meticulously observed and implemented the treaty, and no state has attempted to militarily contest Turkey's control over the straits.	Successful
Moscow Treaty (Finland and Russia) of 1940	The treaty that ended the Winter War was quickly violated when Finland joined Germany in attacking the USSR.	Unsuccessful
Post–World War II agreements	The post–World War II agreements were successful in that the states that composed the Axis never attacked the Allied states again, and there was no attempt to violate the mostly vague CAC controls imposed on the Axis states without the Allies' permission. However, the onset of the Cold War largely negated all of the postwar CAC agreements, with only the agreement applying to Finland being generally respected, and war never breaking out between it and the USSR after the treaty's entry into force.	Somewhat successful
Western European Union (WEU) agreements	The WEU agreements that set controls on its Member States, particularly Germany, succeeded. Germany never exceeded the NATO-authorized military quantities, and (Western) Germany did not go to war with any of the Western World War II Allies.	Successful
Intermediate Nuclear Forces (INF) Treaty	The INF Treaty, which is no longer in force, is a partial success from a CAC perspective. First, it was fully respected by the United States and Soviet Union and then Russia until the 2010s (at least 20 years) – with violations being related to conventional missiles rather than the nuclear missiles that were the treaty's focus. The INF Treaty was a key arms control component in ending the Cold War, and the United States and USSR/Russia have not gone to war. Still, the Russo-Ukraine War, as well as US withdrawal from the treaty due to alleged Russian violations, make the treaty only partially successful.	Somewhat successful
Conventional Armed Forces in Europe (CFE) Treaty	The CFE Treaty offered high levels of transparency between states parties, and is credited with assisting in a peaceful end of the Cold War. There was never a surprise attack by either NATO, the Warsaw Pact, or Russia (against NATO). Russia's invasion, which occurred approximately 15 years after Russia had suspended its participation in most of the CFE Treaty, shows that the treaty did not resolve the post–Cold War military balance or imbalance, and did not prevent Russia from attacking a NATO partner and proxy. Thus, it was somewhat successful in many aspects, but the Russo-Ukraine War counters many of its successes.	Somewhat successful
Subregional Arms Control (Balkans)	States parties of the Balkans CFE Treaty, as it is sometimes referred to, have not gone to war with one another since the agreement's signature and entry into force. The 1999 Kosovo conflict did not involve combat between the states parties.	Successful
Belfast Agreement	The Belfast Agreement has seen the United Kingdom withdraw a large part of its military forces, and paramilitary violence is much lower in Northern Ireland compared to the period of the Troubles.	Successful

Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	Since the agreement's signature, there has not been armed conflict between NATO and Kosovo on one side, and Serbia. Recent instability within Kosovo between ethnic Serbs and the central government is a cause of concern for the agreement's sustainability, but there are no indications yet that Serbia seeks to violate or withdraw from the 1999 agreement.	Successful
Six-Point Peace Plan for Georgia	While the status of South Ossetia and Abkhazia remain in dispute, fighting between Georgia and Russia has not occurred since the peace plan's implementation.	Successful
Minsk agreements	The Minsk agreements were never substantively respected, and Russia's invasion of Ukraine is another manifestation of the agreements' abject failure.	Unsuccessful

Source: Authors' research and analysis

Note: CAC, conventional arms control; NATO, North Atlantic Treaty Organization; WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty.

Table B 3: Mandate modification

Agreement	Explanation	Score
Post–World War I peace treaties	The various interwar commissions could not change their mandates. This could only be done by the Allied powers, primarily through the Conference of Ambassadors and, to a lesser extent, the Allied Military Committee in Versailles.	0
Svalbard (Spitsbergen) Treaty	Not applicable due to lack of an agreement implementing body.	0
Finnish-Russian Dorpat/Tartu Agreement	The small joint commission had no independence.	0
Åland Island Convention	Not applicable due to the narrow nature of the agreement, and no disputes arising.	0
Washington Naval Treaty	Not applicable due to lack of agreement implementing body.	0
Lausanne Agreements of 1923	Not applicable due to the narrow nature of the agreement, and no disputes arising.	0
London Naval Treaties	Not applicable due to lack of an agreement implementing body.	0
Anglo-German Naval Treaty	Not applicable due to lack of an agreement implementing body.	0
Montreux Convention of the Straits	Not applicable due to lack of an agreement implementing body.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable due to lack of an agreement implementing body.	0
Post–World War II agreements	The Allied Control Councils and Commissions had substantial authority in the execution of occupation duties.	1
WEU agreements	The Agency for the Control of Armaments' (ACA) role was clearly defined by agreement, with any changes having to go through WEU members and WEU decisionmaking bodies.	0
INF Treaty	The Special Verification Commission had a narrow, specified mandate.	0
CFE Treaty	The Joint Consultative Group had a narrow, specified mandate.	0
Subregional Arms Control (Balkans)	OSCE and the SRCC had narrow, specific mandates in how the agreement was to be executed.	0
Belfast Agreement	The IMC and IICD had narrow mandates that could not be changed without revising NI and state party agreements.	0
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	The mandate was determined by NATO's senior decisionmaking bodies and Member States.	0
Six-Point Peace Plan for Georgia	The EUMM's mandate was determined by EU senior decisionmaking bodies and EU members.	0
Minsk agreements	The OSCE's SMM was able to modify and expand its mandate to adjust for conditions and unforeseen challenges.	0.5

Source: Authors' research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACA, Agency for the Control of Armaments; OSCE, Organization for Security and Co-operation in Europe; SRCC, Subregional Consultative Commission; IMC, Independent Monitoring Commission; IICD, Independent International Commission on Decommissioning; NATO, North Atlantic Treaty Organization; EUMM, European Union's Monitoring Mission in Georgia; EU, European Union; SMM, Special Monitoring Mission.

Table B 4: Governance independence

Agreement	Explanation	Score
Post–World War I peace treaties	While the Allied commissions were subject to higher authorities, such as the Conference of Ambassadors and the Allied Military Committee in Versailles, each commission was given latitude in the execution of its mission, in part due to the fact that they were not located in the same country as their superiors, and also due to the nature of the work that required daily tasking and decisions.	0.5
Svalbard (Spitsbergen) Treaty	No need for any governance for this agreement execution.	0
Finnish-Russian Dorpat/Tartu Agreement	The commission had no independence.	0
Åland Island Convention	No need for any governance for this agreement execution.	0
Washington Naval Treaty	Not applicable.	0
Lausanne Agreements of 1923	No need for any governance for this agreement execution.	0
London Naval Treaties	Not applicable.	0
Anglo-German Naval Treaty	Not applicable.	0
Montreux Convention of the Straits	Not applicable.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable.	0
Post–World War II agreements	The Allied Control Commission and Councils had some independence, but the each Allied representative was formally under the command of a national military officer or reported directly to their home government.	0.5
WEU agreements	The Agency for the Control of Armaments (ACA) was not subject to any individual government’s decision or oversight, and could thus make decisions on tasks, priorities, and so forth.	0.5
INF Treaty	The Special Verification Commission had no governance duties.	0
CFE Treaty	The JCC had no governance duties.	0
Subregional Arms Control (Balkans)	The OSCE had significant leeway in how it could support implementation of the agreement, but the Subregional Consultative Commission (modeled after the CFE JCC) did not have substantial independent duties.	0.5
Belfast Agreement	The two commissions, IMC and IICD, both had broad authority to conduct their duties as they saw fit. They had no responsibility to obey any state party demands, and states parties had no substantive role in the commissions’ decisionmaking.	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	The agreement was implemented by both Serbia and KFOR. Serbian officials only reported to their national government, while KFOR management permitted substantial leeway within the NATO command structure, but decisions and other activities were always subject to both national controls and restrictions, and KFOR was also subject to NATO’s decisionmaking bodies.	0.5
Six-Point Peace Plan for Georgia	The EUMM was subject neither to Georgia nor Russia’s control, as neither were EU members. This gave the EUMM – within its narrow mandate – substantial freedom to govern its own activities.	1
Minsk agreements	The OSCE’s SMM was partially independent due to the scale and scope of its work, which meant that much of its major daily activities and taskings were conducted independent of national interference. However, the SMM was subject to OSCE governance, which was based on state party input, as well as national officials who were part of the SMM (seconded) may have been subject to some controls from their home government.	0.5

Source: Authors' research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACA, Agency for the Control of Armaments; JCC, Joint Consultative Commission; OSCE, Organization for Security and Co-operation in Europe; IMC, Independent Monitoring Commission; IICD, Independent International Commission on Decommissioning; NATO, North Atlantic Treaty Organization; EUMM, European Union's Monitoring Mission in Georgia; EU, European Union; SMM, Special Monitoring Mission.

Table B 5: Staff independence

Agreement	Explanation	Score
Post–World War I peace treaties	Staff were primarily national military members, thus subject to their home government at various levels, formally and informally, but they were also formally assigned to the Allied commission hierarchies, under a single commander.	0.5
Svalbard (Spitsbergen) Treaty	Not applicable.	0
Finnish-Russian Dorpat/Tartu Agreement	The commission members were national government representatives.	0
Åland Island Convention	Not applicable.	0
Washington Naval Treaty	Not applicable.	0
Lausanne Agreements of 1923	The limited work of the commission was done by national representatives.	0
London Naval Treaties	Not applicable.	0
Anglo-German Naval Treaty	Not applicable.	0
Montreux Convention of the Straits	Not applicable.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable.	0
Post–World War II agreements	The Allied Control Council and Commission members were all uniformed military officials representing their national government. Nonetheless, they were able to make substantive decisions and manage the commissions' affairs with some independence, especially when their hierarchy was primarily to the ACCs' heads.	0.5
WEU agreements	The ACA staff were subject to WEU management, which was itself subject to Member State decisionmaking processes.	0.5
INF Treaty	The Special Verification Commission members were all national government representatives.	0
CFE Treaty	The Joint Consultative Council members were all national government representatives.	0
Subregional Arms Control (Balkans)	While the SRCC members were national representatives, many of the OSCE members, including the special representative, were international civil servants under direct pay of the OSCE.	0.5
Belfast Agreement	The two commissions' staffs were wholly independent.	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	KFOR leadership had some leeway in conducting their activities and policies, in part because KFOR was not under the control of any individual state. Rather, it was subject to national leadership collectively, and NATO command and governance.	0.5
Six-Point Peace Plan for Georgia	The EUMM was not subject to daily, national control but staff were still subject to broader EU management, and any seconded officials to the EUMM were also subject to national prerogatives.	0.5
Minsk agreements	The OSCE SMM staff were a combination of contract and seconded officials. The seconded officials were subject to national prerogatives and influence. OSCE staff were subject to OSCE secretariat management.	0.5

Source: Authors' research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACCs, Allied Control Councils and Commissions; ACA, Agency for the Control of Armaments; SRCC, Subregional Consultative Commission; OSCE, Organization for Security and Co-operation in Europe; NATO, North Atlantic Treaty Organization;

EUMM, European Union's Monitoring Mission in Georgia; EU, European Union; SMM, Special Monitoring Mission.

Table B 6: Assessment independence (of the governing body)

Agreement	Explanation	Score
Post–World War I peace treaties	The Allied commissions issued regular assessments of compliance and other observations of relevance and importance.	1
Svalbard (Spitsbergen) Treaty	Not applicable.	0
Finnish-Russian Dorpat/Tartu Agreement	No reports were issued.	0
Åland Island Convention	No reports were issued.	0
Washington Naval Treaty	No reports were issued.	0
Lausanne Agreements of 1923	The Straits Commission could assess compliance and issue reports.	1
London Naval Treaties	Assessments of compliance were done by states parties.	0
Anglo-German Naval Treaty	Assessments of compliance were done by states parties.	0
Montreux Convention of the Straits	Assessments of compliance were (or could be) done by states parties.	0
Moscow Treaty (Finland and Russia) of 1940	Assessments of compliance were done by states parties.	0
Post–World War II agreements	While the Allied Control Commissions and Councils could assess compliance, this could be complicated by differing national perspectives among the Allied commanders and political leaders. In principle, any lead member of an ACC could object to any assessment.	0.5
WEU agreements	The ACA could assess compliance.	1
INF Treaty	Assessments of compliance were done by states parties.	0
CFE Treaty	Assessments of compliance were done by states parties.	0
Subregional Arms Control (Balkans)	The OSCE could make observations about compliance, without a determination of compliance. States parties made the formal determination about state party compliance.	0.5
Belfast Agreement	The commissions had full authority to assess compliance.	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	KFOR had full authority to assess Serbian compliance.	1
Six-Point Peace Plan for Georgia	The EUMM issued reports about compliance.	1
Minsk agreements	The OSCE SMM issued reports about compliance.	1

Source: Authors' research and analysis

Note: WEU, Western European Union ; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACC, Allied Control Council and Commission; ACA, Agency for the Control of Armaments; EUMM, European Union's Monitoring Mission in Georgia; OSCE, Organization for Security and Co-operation in Europe; SMM, Special Monitoring Mission.

Table B 7: Enforcement authority

Agreement	Explanation	Score
Post-World War I peace treaties	The Allied commissions could demand compliance, and use various tools to compel compliance such as seizure of equipment, insistence on certain laws.	1
Svalbard (Spitsbergen) Treaty	Not applicable.	0
Finnish-Russian Dorpat/Tartu Agreement	The commission had no enforcement role.	0
Åland Island Convention	The League of Nations never had to enforce the agreement.	0
Washington Naval Treaty	Not applicable.	0
Lausanne Agreements of 1923	The Straits Commission had no enforcement powers.	0
London Naval Treaties	Not applicable.	0
Anglo-German Naval Treaty	Not applicable.	0
Montreux Convention of the Straits	Not applicable.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable.	0
Post-World War II agreements	The Allied Control Commissions and Councils had complete authority and could call on the occupying militaries to enforce their decisions.	1
WEU agreements	The ACA had no enforcement authority, which was the responsibility of states parties.	0
INF Treaty	The Special Verification Commission (SVC) had no enforcement authority, which was the responsibility of states parties.	0
CFE Treaty	The JCG had no enforcement authority, which was the responsibility of states parties.	0
Subregional Arms Control (Balkans)	Neither the OSCE nor the SRCC had enforcement authority, which was the responsibility of states parties.	0
Belfast Agreement	The commissions had no enforcement responsibility.	0
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	KFOR had full authority to enforce the agreement.	1
Six-Point Peace Plan for Georgia	The EUMM had no enforcement authority.	0
Minsk agreements	The OSCE SMM had no enforcement authority.	0

Source: Authors' research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACA, Agency for the Control of Armaments; SVC, Special Verification Commission; JCG, Joint Consultative Group; OSCE, Organization for Security and Co-operation in Europe; SRCC, Subregional Consultative Commission; EUMM, European Union's Monitoring Mission in Georgia; SMM, Special Monitoring Mission.

Table B 8: Agent resources

While the eight other variables are scored as 0.0, 0.5, or 1.0, agent resources has a fourth scoring scale of 0.25 because several agreements such as the CFE Treaty create a permanent, standing body composed of national officials acting in a national capacity. These treaty executors have limited powers and resources of their own, but they are more substantive than ad-hoc bilateral approaches. The Belfast Agreement is assessed as having 0.25 because the two commissions' staffs of under a dozen each were much smaller than most other distinct, agreement executors.

Agreement	Explanation	Score
Post-World War I peace treaties	The Allied commissions had extensive staff and operating budget in each country with commissions. The number of staff varied based on the size and scope of the mission, but were at least several hundred in some countries.	1
Svalbard (Spitsbergen) Treaty	Not applicable.	0
Finnish-Russian Dorpat/Tartu Agreement	The joint commission was small.	0.25
Åland Island Convention	Not applicable.	0
Washington Naval Treaty	Not applicable.	0
Lausanne Agreements of 1923	The Straits Commission was small.	0.25
London Naval Treaties	Not applicable.	0
Anglo-German Naval Treaty	Not applicable.	0
Montreux Convention of the Straits	Not applicable.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable.	0
Post-World War II agreements	The Allied Control Commissions and Councils had a headquarters staff, and had the occupying military forces at their disposal.	1
WEU agreements	ACA staff of approximately 50.	0.5
INF Treaty	The SVC was composed of national representatives who attended meetings.	0.25
CFE Treaty	The JCG was composed of national representatives who attended meetings.	0.25
Subregional Arms Control (Balkans)	The number of OSCE staff assigned to support the agreement was between 20 and 50, based on available information, full-time equivalent staff. Many staff, including national officials participating in OSCE inspection missions, were temporary or part time for that task. The SRCC was composed of national officials who attended meetings.	0.5
Belfast Agreement	The commissions were composed of approximately 10–15 full-time staff.	0.25
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	KFOR was a large, substantial military force, composed of task-specific personnel and units, and national units assigned under KFOR command, plus additional NATO and national military support outside of Kosovo.	1
Six-Point Peace Plan for Georgia	The EUMM had a substantial field presence of hundreds of personnel, plus any EU support outside of Georgia.	1
Minsk agreements	The OSCE SMM had over 1,000 staff in Ukraine, plus OSCE support outside of Ukraine.	1

Source: Authors' research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACA, Agency for the Control of Armaments; SVC, Special Verification Commission; JCG, Joint Consultative Group; OSCE, Organization for Security and Co-operation in Europe; SRCC, Subregional Consultative Commission; NATO, North Atlantic Treaty Organization; EUMM, European Union's Monitoring Mission in Georgia; EU, European Union; SMM, Special Monitoring Mission.

Table B 9: Monitoring

Agreement	Explanation	Score
Post–World War I peace treaties	The Allied commissions monitored for compliance through various means.	1
Svalbard (Spitsbergen) Treaty	Not applicable.	0
Finnish-Russian Dorpat/Tartu Agreement	The Joint Commission did not monitor for compliance, this was the responsibility of states parties.	0
Åland Island Convention	Not applicable.	0
Washington Naval Treaty	Not applicable.	0
Lausanne Agreements of 1923	The Straits Commission monitored for compliance.	1
London Naval Treaties	Not applicable.	0
Anglo-German Naval Treaty	Not applicable.	0
Montreux Convention of the Straits	Not applicable.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable.	0
Post–World War II agreements	The Allied Control Councils and Commissions monitored for compliance.	1
WEU agreements	One of the ACA’s primary functions was to monitor for compliance, primarily from state reporting.	1
INF Treaty	The SVC had no monitoring responsibility, which was conducted by states parties.	0
CFE Treaty	The JCG has no monitoring responsibility, which is conducted by states parties.	0
Subregional Arms Control (Balkans)	The OSCE could monitor for compliance, but not the SRCC.	1
Belfast Agreement	The commissions monitored for compliance.	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	KFOR monitored for compliance.	1
Six-Point Peace Plan for Georgia	The EUMM monitored for compliance.	1
Minsk agreements	The OSCE SMM monitored for compliance.	1

Source: Authors’ research and analysis

Note: WEU, Western European Union ; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; SVC, Special Verification Commission; JCG, Joint Consultative Group; OSCE, Organization for Security and Co-operation in Europe; SRCC, Subregional Consultative Commission; EUMM, European Union’s Monitoring Mission in Georgia; SMM, Special Monitoring Mission.

Table B 10: Inspection (by the agreement executor)

Agreement	Explanation	Score
Post–World War I peace treaties	The Allied military commissions conducted on-site inspections.	1
Svalbard (Spitsbergen) Treaty	There were no inspections.	0
Finnish-Russian Dorpat/Tartu Agreement	There were no inspections by the commission.	0
Åland Island Convention	There were no inspections.	0
Washington Naval Treaty	Not applicable.	0
Lausanne Agreements of 1923	The Straits Commission did not conduct inspections.	0
London Naval Treaties	Not applicable.	0
Anglo-German Naval Treaty	Not applicable.	0
Montreux Convention of the Straits	Not applicable.	0
Moscow Treaty (Finland and Russia) of 1940	Not applicable.	0
Post–World War II agreements	The Allied Control Councils and Commissions could inspect freely any part of the occupied states.	1
WEU agreements	ACA staff conducted inspections.	1
INF Treaty	Inspections were conducted by states parties.	0
CFE Treaty	Inspections were conducted by states parties.	0
Subregional Arms Control (Balkans)	The OSCE participated in inspections, with states parties.	1
Belfast Agreement	The commissions conducted inspections.	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	KFOR had the authority to conduct inspections if it felt it needed to.	1
Six-Point Peace Plan for Georgia	The EUMM could conduct inspections – but mostly in the areas controlled by the Georgian government.	1
Minsk agreements	The OSCE SMM had extensive inspection authority and conducted such activities throughout Ukraine.	1

Source: Authors' research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; ACA, Agency for the Control of Armaments; OSCE, Organization for Security and Co-operation in Europe; EUMM, European Union's Monitoring Mission in Georgia; SMM, Special Monitoring Mission.

Table B 11: Third-party state involvement

Agreement	Explanation	Score
Post–World War I peace treaties	All states parties were belligerents.	0
Svalbard (Spitsbergen) Treaty	A large number of signatories had no direct interest in Spitsbergen’s control.	1
Finnish-Russian Dorpat/Tartu Agreement	All states parties were belligerents.	0
Åland Island Convention	States parties the United Kingdom, France, and Italy did not have a direct interest in the Åland Islands.	1
Washington Naval Treaty	All states parties were subject to limitations.	0
Lausanne Agreements of 1923	Japan, and to a lesser extent the United Kingdom and France, did not have a clear interest in restricting access to the Black Sea – especially as the access would apply more to them than Black Sea states.	1
London Naval Treaties	All states parties were subject to limitations.	0
Anglo-German Naval Treaty	Both states parties were subject to limitations.	0
Montreux Convention of the Straits	Japan, Australia, and to a lesser extent the United Kingdom and France, did not have a clear interest in restricting access to the Black Sea – especially as the access would apply more to them than Black Sea states.	1
Moscow Treaty (Finland and Russia) of 1940	All states parties were belligerents.	0
Post–World War II agreements	All states parties were belligerents.	0
WEU agreements	All states parties were belligerents.	0
INF Treaty	Both states parties were subject to limitations.	0
CFE Treaty	All states parties were subject to limitations.	0
Subregional Arms Control (Balkans)	Third-party states supported the agreement through the OSCE, and provided national staff to participate in activities such as inspections.	1
Belfast Agreement	The United States was a major promoter of the peace process and agreement facilitator.	1
Military Technical Agreement between the International Security Force (KFOR) and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	Non-NATO states participated in KFOR.	1
Six-Point Peace Plan for Georgia	EU states supported the EUMM (Georgia and Russia were the belligerents).	1
Minsk agreements	The OSCE members, including those that are not members of the EU or NATO, supported the creation of the OSCE SMM and provided national staff.	1

Source: Authors’ research and analysis

Note: WEU, Western European Union; INF Treaty, Intermediate-Range Nuclear Forces Treaty; CFE Treaty, Conventional Forces in Europe Treaty; OSCE, Organization for Security and Co-operation in Europe; NATO, North Atlantic Treaty Organization; EUMM, European Union’s Monitoring Mission in Georgia; EU, European Union; SMM, Special Monitoring Mission.

Table B 12: Expected versus observed cases

Table B12 shows the number of expected and observed cases for the various combinations of delegation and treaty success. The combinations are for high, medium, and low delegation and high, medium, and low (no) success. The expected number is based on the theory that there is a positive correlation between the level of delegation and level of success.

Category	Observed no.	Expected no.
High-Suc	6	8
High-PartSuc	2	0
High-NoSuc	1	0
Med-Suc	1	0
Med-PartSuc	0	1
Med-NoSuc	0	0
Low-Suc	2	0
Low-PartSuc	4	0
Low-NoSuc	3	10
	19	19

Source: Author's calculations

Appendix B: Case Studies

Conventional Armed Forces in Europe (CFE) Treaty

The CFE Treaty was signed in 1990 and entered into force in 1992, with the intent to reduce the likelihood of either the World Trade Organization (WTO) or the North Atlantic Treaty Organization (NATO) launching a successful surprise attack through reductions of and limits to five “offensive” military systems: tanks, armored vehicles, tactical combat aircraft, artillery, and attack helicopters. The treaty set equal equipment ceilings for both “groups of state parties,” which meant that the WTO had to reduce more weapon systems. A vigorous system of on-site inspections, reporting and information exchange, equipment destruction, open storage, overflights, and other measures were taken to support monitoring and verification. The CFE Treaty created the Joint Consultative Group (JCG), which was composed of national officials who meet regularly to discuss treaty-related issues.⁸⁴⁷ The JCG is an agreement executor that has no staff, secretariat, or agency. The Organization for Security and Co-operation in Europe (OSCE) serves as an administrative facilitator, including for information exchange.

Mandate Modification (No): The JCG can discuss technical issues, but substantive issues remain the prerogative of individual national governments.

Governance Independence (No): The JCG does not make any substantive decisions as an independent entity. Rather, decisions are reached by consensus from states parties.

Staff Independence (No): JCG participants attend the meetings in their capacity as national representatives.

Assessment Independence (No): The JCG does not publish any assessment documents or make any statements concerning compliance or violations. These come exclusively from states parties.⁸⁴⁸

Enforcement Authority (No): The JCG does not possess any enforcement authority.

Agent Resources (Low): The JCG has few resources other than those required to hold meetings and perform basic coordination and information exchange functions.

⁸⁴⁷ “Joint Consultative Group,” OSCE, accessed June 6, 2023, <https://www.osce.org/jcg>.. The JCG was established in Article XVI of the CFE Treaty.

⁸⁴⁸ For example, “Condition (5)(C) Report: Compliance With The Treaty On Conventional Armed Forces In Europe” (US Department of State, January 2020), <https://www.state.gov/compliance-with-the-treaty-on-conventional-armed-forces-in-europe-condition-5-c-report-2020/>..

Monitoring (No): The JCG itself does not conduct any monitoring activities. This is the responsibility of states parties, though compliance issues could be raised in the JCG.

Inspection (No): The JCG is merely a meeting forum for states parties; thus, it does not conduct any inspection activities.

Third-Party State Involvement (No): At the time of signature, all states parties were either a NATO or WTO member. There were no neutral or third-party signatories nor participants in CFE inspection activities.

Agreement Type (Balanced): The CFE was a balancing agreement, setting equal Treaty Limited Equipment (TLE) for each group of states parties.

Intergovernmental Organization (IGO) (No): The JCG has no agency or autonomy.

Arms Limitation or Geographic Demilitarization (Arms Limitation): The agreement is an arms limitation treaty with limits varying by zones and states, but does not establish any demilitarized areas.

Major Military Adversarial Agreement? (Yes): The agreement was intended to address destabilizing military postures between the WTO and NATO by decreasing the threat of either side being capable of launching a successful surprise attack. This treaty was an attempt to resolve the security dilemma between the two blocs, which were referred to in the treaty as “group of state parties.”

Success (Somewhat Successful): In some ways, the CFE Treaty was almost irrelevant when it entered into force, with the WTO dissolving and then many former WTO members joining NATO. However, the treaty is credited with facilitating a soft landing of the Soviet Union’s dissolution due to the treaty’s robust transparency measures, as well as the significant reduction in military forces.⁸⁴⁹ Moreover, to the extent to which Russia is the inheritor of the Soviet Union’s security interests, neither NATO nor Russia have launched a surprise attack against the other. Russia’s attack against Ukraine in February 2022 would be the main reason why the CFE Treaty could be assessed as not being fully successful because Russia’s attack was due, in part, to concerns about the military balance that the CFE Treaty had attempted to address.⁸⁵⁰

⁸⁴⁹ See, for example, Richard A. Falkenrath, “The CFE Flank Dispute: Waiting in the Wings,” *International Security* 19, no. 4 (Spring 1995): 118–44, <https://doi.org/10.2307/2539122>; John E. Peters, *CFE and Military Stability in Europe* (Santa Monica, CA: RAND Corporation, 1997)..

⁸⁵⁰ Nelson and Twardowski, “How the Demise of an Arms Control Treaty Foreshadowed Russia’s Aggression against Ukraine.”.

The Minsk Agreements

The Minsk agreements of 2014–2015 were intended to reduce violence and conflict within eastern Ukraine between Ukrainian state forces and separatist groups. The agreements included demilitarized zones, withdrawal of foreign of armed forces, weapon restrictions near the line of contact, and prohibitions on placing landmines. The agreement was signed by Ukraine, Russia, separatist leaders, and the OSCE and had been facilitated by the “Normandy Format,” which was a high-level diplomatic forum to resolve the conflict in eastern Ukraine composed of France, Germany, Russia, and Ukraine.⁸⁵¹

The agreement’s implementation was managed by the OSCE’s Special Monitoring Mission (SMM), whose mandate included observing and reporting on the conflict and treaty implementation and engaging in dialogue with the belligerents to promote local cease-fires⁸⁵². The SMM had extensive field presence throughout Ukraine including in the contested eastern areas, with over 1,300 contract and seconded staff who were nationals of the 57 OSCE states parties⁸⁵³. The SMM was able to purchase at least several dozen unmanned aerial vehicles (UAVs) of short, medium, and long-range to support their operations.⁸⁵⁴

The SMM’s activities were wide-ranging and their mandate was broad and flexible. The staff faced considerable risks, with one perishing and several kidnapped in separate incidents. The SMM had a substantial role in responding to and supporting investigations into the shoot-down of Malaysian Airlines Flight 17 (MH17).⁸⁵⁵

Mandate Modification (Somewhat): The SMM was granted a flexible and vague mandate, as demonstrated by its need to deal with kidnapped personnel and response to the downing of MH17. SMM drones, for example, were not a customary capability and nothing within the original mandate authorized advanced equipment purchases, but their acquisition and deployment was another demonstration of how the SMM was able to broadly interpret its mandate to accomplish its missions. At the same time, the SMM operated largely within its mandate, partly because of its broad scope, and did not (in the area of conventional arms control [CAC]), for example, engage in enforcement or significantly broaden the geographic scope. Moreover, major decisions were subject to OSCE approval, which in turn may (depending on

⁸⁵¹ Cameron, “After U.S. & NATO Reject Russia’s Proposals, Outlook for Ukraine Is Grim. But Normandy Format Talks Still Offer a Pathway to Peaceful Resolution of the Crisis.”

⁸⁵² Permanent Council, “Decision No. 1117: Deployment Of An OSCE Special Monitoring Mission To Ukraine” (OSCE, March 21, 2014)..

⁸⁵³ “OSCE Special Monitoring Mission to Ukraine (SMM) Daily Report 244/2021 Issued on 18 October 2021,” OSCE, October 19, 2021, <https://www.osce.org/special-monitoring-mission-to-ukraine/501352.b>.

⁸⁵⁴ Tanner, “The OSCE and Peacekeeping.”

⁸⁵⁵ OSCE, *A Peaceful Presence - The First Five Years of the OSCE Special Monitoring Mission to Ukraine.a*.

their importance or impact) have been subject to the OSCE's Permanent Council which is composed of states party representatives.

Governance Independence (Somewhat): The SMM's operational fieldwork with over 1,000 personnel spread throughout Ukraine in sometimes challenging circumstances made close control and management by states parties impractical. The head of the SMM was not a state representative, but worked for the OSCE and reported to the OSCE's senior management. Nonetheless, as an OSCE organ the SMM was ultimately subject to state party authority, which was demonstrated when in March 2022 Russia refused to extend the SMM's mandate, which resulted in the mission's cessation.

Staff Independence (Somewhat): During its operations, the SMM had 814 international and 477 national staff – thus, seconded staff made up one-third of the mission staff. Information is not available concerning the extent to which the seconded staff were beholden to national interests or orders but, as previously discussed, seconded staff are typically formally or informally under orders or guidance from their home governments.

Assessment Independence (Yes): The SMM was able to issue regular reports with assessments and observations, with over 2,500 reports issued.

Enforcement Authority (No): The SMM was unarmed and had no enforcement authority.

Agent Resources (High): The SMM had substantial manpower, equipment, and administrative resources with an average budget of over 70 million euros per year.

Monitoring (Yes): The SMM's primary mission was to monitor the situation in Ukraine and report on compliance and violations of the Minsk agreements.

Inspection (Yes): The SMM had over 1,000 staff in Ukraine, including in the contested areas, to conduct inspection activities. However, these were not as invasive or intrusive as inspection activities connected to other CAC agreements. SMM staff could not compel cooperation as evidenced by continuous denial of entry into certain areas under their jurisdiction.

Third-Party State Involvement (Yes): The OSCE and SMM were fully supported by the OSCE states parties, and the Minsk agreements were facilitated by the Normandy Format.

Agreement Type (Cease-fire): The Minsk agreements were primarily intended to create conditions for a cease-fire to be followed by a more permanent solution.

IGO (Yes): The OSCE was closely involved in the Minsk agreements, and the SMM was, as part of the OSCE, an IGO.

Arms Limitation or Geographic Demilitarization (Geographic Demilitarization): The agreement's CAC elements were focused on reducing certain types of weapon systems along the line of contact and respect for a cease-fire.

Major Military Adversarial Agreement (Yes): While the origins of the conflict in eastern Ukraine are complex, they were closely tied to Moscow's perceptions of Kiev's gravitation toward NATO and the European Union.⁸⁵⁶ Although narrow in that they did not address the broader military balance between NATO and Russia, the Minsk agreements were an attempt for all parties, through the Normandy Format, OSCE, and TCG to address the adversarial situation.

Success (No): Almost no CAC aspect of the agreement was successful, with compliance minimal at best with at least 1.4 million violations, including from prohibited artillery systems, from 2015 to 2019.⁸⁵⁷ The Russian invasion in February 2022 ended the agreements definitively.

⁸⁵⁶ Oliker et al., *Russian Foreign Policy in Historical and Current Context: A Reassessment*..

⁸⁵⁷ OSCE, *A Peaceful Presence - The First Five Years of the OSCE Special Monitoring Mission to Ukraine*.a.

Appendix C: Chapter 6 – QCA

Outcome: Success Data Analysis

Complex and Parsimonious Solution for Success

Complex Solution					
		Coverage			
Outcome	Solution	Consistency	Raw	Unique	Cases
Suc	Del*~Demil*~Grtpwr	1	0.3	0.1	WEU, Balkans, Belfast
	~Del*~NatLim*Grtpwr	1	0.4	0.3	Spitsbergen, Åland, Lausanne, Montreux
	Del*~NatLim*~Demil	1	0.3	0	WEU, Belfast, Georgia
	~NatLim*~Demil*Grtpwr	1	0.2	0	Montreux, Georgia
solution coverage: 0.8					
solution consistency: 1					
Parsimonious Solution					
		Coverage			
Outcome	Solution	Consistency	Raw	Unique	Cases
Suc	~NatLim*Grtpwr	0.857143	0.6	0.4	Spitsbergen, Åland, Lausanne, Montreux, Kosovo, Georgia, Minsk
	Del	0.75	0.6	0.1	WW1, WW2, WEU, Balkans, Belfast, Kosovo, Georgia, Minsk
	~Demil*~Grtpwr	1	0.3	0	WEU, Balkans, Belfast
solution coverage: 1					
solution consistency: 0.833333					

Necessary Conditions for Success

<u>Condition</u>	<u>Consistency</u>	<u>Coverage</u>
Del	0.6	0.75
~Del	0.4	0.363636
NatLim	0.2	0.222222
~NatLim	0.8	0.8
Demil	0.5	0.5
~Demil	0.5	0.555556
Grtpwr	0.7	0.5
~Grtpwr	0.3	0.6

Outcome:~Success Data Analysis

Complex and Parsimonious Solution for ~Success

Complex Solution			Coverage		
Outcome	Solution	Consistency	Raw	Unique	Cases
~Suc	~Del*Demil*~GrtPwr	1	0.222222	0.222222	Tartu, Moscow1940
	~Del*NatLim*GrtPwr	1	0.555556	0.555556	WashNav, LondonNav, Anglo-German, INF, CFE
solution coverage: 0.777778					
solution consistency: 1					
Parsimonious Solution			Coverage		
Outcome	Solution	Consistency	Raw	Unique	Cases
~Suc	~Del*~GrtPwr	1	0.222222	0	Tartu, Moscow1940
	~Del*NatLim	1	0.666667	0	WashNav, LondonNav, Anglo-German, Moscow1940, INF, CFE
	Demil*~GrtPwr	1	0.222222	0	Tartu, Moscow1940
	NatLim*GrtPwr	0.857143	0.666667	0.111111	WW1, WashNav, LondonNav, Anglo-German, WW2, INF, CFE
solution coverage: 0.888889					
solution consistency: 0.888889					

Necessary Conditions for ~Success

<u>Condition</u>	<u>Consistency</u>	<u>Coverage</u>
Del	0.222222	0.25
~Del	0.777778	0.636364
NatLim	0.777778	0.777778
~NatLim	0.222222	0.2
Demil	0.555556	0.5
~Demil	0.444444	0.444444
GrtPwr	0.777778	0.5
~GrtPwr	0.222222	0.4

Table C 1: Success scoring

The following describes the scoring and calibration for each condition for each case, and outcome.

<u>Agreement</u>	<u>Explanation</u>	<u>Score</u>
Post World War One Peace Treaties	The defeated and victorious states went to war again about 20 years later.	0
The Svalbard (Spitsbergen) Treaty	There has not been any conflict between state parties over the Spitsbergen archipelago, and no substantial violations.	1
Finnish-Russian Dorpat/Tartu Agreement	Finland and Russia ended up going to war, for a number of reasons, in part due to perceived threats from areas under the agreement.	0
Åland Island convention	There has not been any conflict between state parties over the Åland Islands, and no substantial violations.	1
Washington Naval Treaty	Italy went to war against France and the UK, and though it is outside of the article's scope, Japan went to war with the US and UK over naval control of the Pacific.	0
Lausanne Agreements of 1923	These agreements concerning Turkish and Greek demilitarization and control and access to the Bosphorous Straits were respected, and no conflict occurred concerning Turkey's control of the Straits.	1
London Naval Treaties	The treaties failed to reduce tensions between state parties, and war broke out between them within a decade.	0
Anglo-German Naval Treaty	While the agreement was respected during its brief lifetime in part due to the inability of Germany to produce beyond the treaty's limits, the overall rivalry continued and war broke out between the countries within a few years.	0
Montreux Convention of the Straits	This agreement is still in force, even with conflict having occurred several times in the Black Sea region since its passage. Turkey has meticulously observed and implemented the treaty, and no state has attempted to militarily contest Turkey's control over the Straits.	1
The Moscow Treaty (Finland and Russia) of 1940	The treaty which ended the Winter War was quickly violated when Finland joined Germany in attacking the USSR.	0
Post-World War Two agreements	The post-WW2 agreements were successful in that the states that composed the Axis never attacked the Allied states again, and there was no attempt to violate the mostly vague CAC controls imposed on the Axis states without the Allies' permission. However, the onset of the Cold War largely negated all of the post-war CAC agreements, with only the agreement applying to Finland being generally respected, and war never breaking out between it and the USSR after the treaty's entry into force.	1
WEU agreements	The WEU agreements that set controls on its member states, particularly Germany, succeeded. Germany never exceeded the NATO-authorized military quantities, and (Western) Germany did not go to war with any of the western WW2 Allies.	1
INF Treaty	While the agreement was respected for over 20 years, and the US and USSR/Russia have not gone to war, Russia violated the agreement due to perceived military imbalances caused by the agreement, and the violations resulted in the US withdrawal. Russia's invasion of Ukraine is also an indicator of the agreement's failure.	0

<u>Agreement</u>	<u>Explanation</u>	<u>Score</u>
CFE Treaty	The CFE Treaty is difficult to assess at several levels. Its original purpose of preventing the Warsaw Pact or NATO from launching a surprise attack became irrelevant between the dates of signature and entry into force with the Warsaw Pact's dissolution. The treaty somewhat adapted to provide general regional stability and transparency. While state parties engaged in conflict with one another, the overall, evolved objective of preventing a large-scale surprise attack and conventional war between NATO and Russia (as the Warsaw Pact's successor) was largely accomplished, not just until 2007 when Russia withdrew, but to this day. The treaty is still in effect without Russia, and includes Russian ally Belarus who presumably can provide some assurances to Russia. While the larger goal of preventing a NATO or Russia surprise attack against the other is still met, Russia's invasion of Ukraine suggests that the two blocs are in a state of near conflict contrary to the CFE Treaty's spirit and goals.	0
Subregional Arms Control (Balkans)	State parties of the Balkans CFE Treaty, as it is sometimes referred to, have not gone to war with one another since the agreement's signature and entry into force. The 1999 Kosovo conflict did not involve combat between the state parties.	1
Belfast Agreement	The Belfast Agreement has seen the UK withdraw a large part of their military forces, and paramilitary violence is much lower in Northern Ireland compared to the period of the Troubles.	1
Military Technical Agreement between the International Security Force ("KFOR") and the Governments of the Federal Republic of Yugoslavia and the Republic of Serbia	Since the agreement's signature, there has not been armed conflict between NATO and Kosovo on one side, and Serbia.	1
Six-Point Peace Plan for Georgia	While the status of South Ossetia and Abkhazia remain in dispute, fighting between Georgia and Russia has not occurred since the peace plan's implementation. Russia violated several aspects of the treaty concerning the presence and size of its armed forces in South Ossetia and Abkhazia, but this has not resulted in conflict and is of questionable military significance in the long-term given the imbalance of military capabilities overall.	1
Minsk Agreements	The Minsk Agreements were never substantively respected, and Russia's invasion of Ukraine is another manifestation of the agreement's abject failure.	0

Source: Authors' research and analysis

Table C 2: Delegation calibration

Agreement	Raw Score	csOCA calibrated score	Brief explanation
WW1	6	1	WW1 established international commissions of control, composed of the victorious powers, to oversee implementation of the military aspects of the peace treaties.
Spitsbergen	1	0	Spitsbergen did not have any agreement executor.
Tartu	0	0	There was a small commission created to oversee the agreement, but it was composed of state representatives and had no substantive authority
Åland	1	0	The agreement identified the League of Nations to review and adjudicate any challenges or disagreements, but none ever arose.
WashNav	0	0	There was no treaty executor created
Lausanne	3	0	The Straits Commission created to oversee the Lausanne Agreements were composed of state parties and had limited authority and responsibilities.
LondonNav	0	0	There was no treaty executor created
Anglo-German	0	0	There was no treaty executor created
Montreux	1	0	The League of Nations, and now potentially the UN Security Council, might adjudicate disputes but implementation of the treaty is Turkey's responsibility.
Moscow1940	0	0	There was no treaty executor created
WW2	7.5	1	The Allied Control Councils and Commissions (ACCs) had sweeping authority over the defeated and occupied states.
WEU	5.00	1	The WEU Armaments Control Agency (ACA) was created by WEU members to oversee and inspect military limits of its members, particularly Germany.
INF	0	0	The treaty executor was small and entirely composed of state party representatives, with limited authority.
CFE	0	0	The treaty executor was small and entirely composed of state party representatives, with limited authority.
Balkans	5	1	The OSCE was extensively involved in implementation and the agreement created the Subregional Consultative Commission (SRCC), which was composed of state party representatives.
Belfast	6	1	The agreement created the Independent International Commission on Decommissioning (IICD) and the Independent Monitoring Commission (IMC). Both were fully independent, without any state party representation.
Kosovo	7	1	The agreement gives NATO/KFOR authorization to use military force to deal with non-compliance and violations. Implementation was a combination of KFOR, NATO, and the Joint Implementation Commission (JIC) with Serbia.
Georgia	6.5	1	The EU created and deployed the EU Monitoring Mission (EUMM) to oversee the peace plan. The EUMM was independent of any single EU member, and it was a delegation on the part of Georgia. The EUMM is not operating in the separatist areas.
Minsk	6.5	1	The OSCE created the Special Monitoring Mission (mandated by OSCE members) to oversee the Minsk Agreements. This included field offices throughout Ukraine, with over 1000 SMM officials.

Source: Authors' research and analysis

Table C 3: National limitations calibration

Short Name	csOCA calibrated score	Brief explanation
WW1	1	Extensive limits on national inventories of the defeated states.
Spitsbergen	0	No national limitations
Tartu	0	No national limitations
Åland	0	No national limitations
WashNav	1	Limits on naval forces by class, expressed as the number of ships in each class
Lausanne	0	No national limitations
LondonNav	1	Limits on naval forces by class, expressed as the number of ships in each class
Anglo-German	1	Limits on naval forces by class, expressed as the number of ships in each class
Montreux	0	No national limitations
Moscow1940	1	No national limitations
WW2	1	Several states had limits placed on the number of troops, types of weapons, and quantity of certain weapon systems
WEU	0	There was not a specific limit placed on any state, but states were not to exceed the planned NATO force sizes. This flexible and somewhat ambiguous limitation results in a coding of absence of national limits.
INF	1	The state parties were prohibited from possessing anywhere conventional missiles of a certain range.
CFE	1	State parties agreed to a large number of conventional arms restrictions based primarily on national counts.
Balkans	1	State parties agreed to conventional arms limitations.
Belfast	0	While the UK agreed to reduce its military forces in Northern Ireland, no agreement specified exactly what the reduction and end state should be.
Kosovo	0	No national limitations
Georgia	0	No national limitations
Minsk	0	No national limitations

Source: Authors' research and analysis

Table C 4: Geographic demilitarization calibration

Short Name	csQCA calibrated score	Brief explanation
WW1	1	Extensive limitations on fortifications and other military capabilities in certain locations
Spitsbergen	1	Spitsbergen was not to be militarized
Tartu	1	Extensive limitations on fortifications and other military capabilities in certain locations
Åland	1	Åland Islands were not to be militarized
WashNav	1	Various restrictions on fortifications and bases in certain locations
Lausanne	1	Various restrictions on fortifications and other military capabilities in certain locations
LondonNav	0	No geographic limitations
Anglo-German	0	No geographic limitations
Montreux	0	No geographic limitations on land (fortifications, etc.). There are limitations on which states can use the straits with what kind of ships, and other limits on ships. However, this does not fall into the usual category of demilitarization, of limiting forces in a geographic area to stabilize forces and security. The restrictions are on the passage through the Straits, rather than in the Black Sea itself. Thus, a state could theoretically build or assemble a ship of any size and quantity in the Black Sea.
Moscow1940	1	Extensive limitations on fortifications and other military capabilities in certain locations
WW2	1	Limitations on fortifications and other military capabilities in certain locations for Italy and Bulgaria
WEU	0	No geographic limitations
INF	0	No geographic limitations
CFE	0	No geographic limitations
Balkans	0	No geographic limitations
Belfast	0	No geographic limitations
Kosovo	1	Areas along the border were prohibited to Serbian/Yugoslav military forces
Georgia	0	There were no specific, quantitative prohibitions or limitations along the border or contested areas. The agreement called for withdrawal to pre-conflict positions, but this was vague.
Minsk	1	Extensive limitations on various weapon systems along the line of contact

Source: Authors' research and analysis

Table C 5: Great power rivalry calibration

Determining in the first place whether or not a great power rivalry exists requires a historical assessment of the relations and perceptions at the time of the agreement's signing (see appendix for the determination of great power status). Mazarr et al. note that identifying a rivalry can be difficult in part because even rival relationships can be a mix of positive and negative relations, but are often defined by "a serious clash of goals and objectives... with an ingrained sense of dislike or hatred and with some degree of zero-sum clashes of intention," and a "history of conflict."⁸⁵⁸ Moreover, especially during the interwar period, some rivalries evolved slowly from cooperative and friendly relationships, and from which point or year the relationship was more one than the other is not always clear. This complicates coding in csQCA, which requires that the great power rivalry condition be set at yes or no (1, 0). For the interwar cases, a determination was made by assessing the geopolitics at the time of signature between great power signatories of the given treaty, complemented by awareness of future relations.

In many cases, the determination is straightforward: practically by definition, any agreement between the US and Soviet Union during the Cold War or NATO and the Warsaw Pact were great power rival agreements. However, in some instances the impact of the rivalry on an agreement, or the extent to which a great power rivalry is partly or mostly the cause of an agreement, is uncertain. For example, while the Spitsbergen agreement was not initially signed by great power rivals in Europe as in 1920 relations between the World War One allies of the US, France, Italy, and the UK were warm, many other states including great powers acceded to the agreement prior to World War Two, including Germany and the Soviet Union. The island was strategically significant enough that the Germans and Allies clashed over it during World War Two.

Some scholars and analysts view the fighting in Georgia in 1998 ended by the Six Point Peace Agreement as being rooted in Georgia's goals to join the EU and NATO.⁸⁵⁹

⁸⁵⁸ Mazarr et al., *Stabilizing Great-Power Rivalries*, 2021.

⁸⁵⁹ Phillips, "Implementation Review: Six-Point Ceasefire Agreement Between Russia and Georgia."

<u>Short Name</u>	<u>csQCA calibrated score</u>	<u>Brief explanation</u>
WW1	1	Peace agreement following a great power war
Spitsbergen	1	Original signatories were not rivals (possibly Italy) - but in any case, with the additional signatures major great power rivals joined
Tartu	0	The agreement was between Russia (great power) and Finland (not a great power)
Åland	1	1921 Germany; clearly the French viewed Germany as a rival (Wright; various interwar articles).
WashNav	1	The agreement involved European rivals, particularly Italy, UK, US, and France
Lausanne	1	The main great power rivalry was UK vs. Russia. In 1923, Manne suggests deep disagreement with the UK - anti-Soviet attitudes in the UK.
LondonNav	1	The agreement was between growing great power rivals, particularly with Italy vs. UK and France.
Anglo-German	1	Clear UK vs. Germany rivalry
Montreux	1	In 1936 Russia was clearly a great power rival with the UK and France among other states. (Manne, Watson articles); in general, it is clear that Russia was a competitor, attempting to balance competing interests which were ultimately manifested in the Ribbentrop-Molotov Pact.
Moscow1940	0	The agreement was between Russia (great power) and Finland (not a great power)
WW2	1	Peace agreement following a great power war
WEU	0	Germany at this time was an ally of the other WEU members
INF	1	US and Soviet Cold War rivalry
CFE	1	NATO and Warsaw Pact Cold War rivalry
Balkans	0	No great powers are state parties
Belfast	0	The agreement is primarily between the UK and Republic of Ireland, with the latter not a great power rival.
Kosovo	1	The conflict is viewed as the start of the post-Cold War US-Russia rivalry. The agreement itself was facilitated by a UNSC resolution (which includes the US and great powers in Europe).
Georgia	1	The conflict was motivated in part by Georgia's gravitation towards NATO and the EU, contrary to Russia's preferences.
Minsk	1	The conflict was motivated in part by Ukraine's gravitation towards NATO and the EU, contrary to Russia's preferences.

Source: Authors' research and analysis

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Summary

What explains the form that adversarial conventional arms control (CAC) agreements, which are agreements between geopolitically rival states, assume and what determines their success? CAC in Europe from the end of World War One to the present is the result of states attempting to stabilize the military balance, prevent surprise attacks, and remove potential sources of military dispute through the formal limitation of military capabilities. CAC can be based in part on a combination of states' considerations of deterrence, the security dilemma, and the offense-defense balance (ODB). When a post-conflict CAC agreement is imposed on a defeated state, the victors' considerations of deterrence and ODB take primacy, with the security dilemma being less relevant in the near term. However, for a peace-time CAC agreement including narrow cease-fires which establish a buffer zone, state parties must consider one another's perceptions and requirements.

This dissertation's theoretical importance is its contribution to international security and conflict studies. CAC is presently an underdeveloped or underexplored theoretical topic. This dissertation contributes to theories concerning military balancing, power balancing, rivalry stabilization, conflict prevention, and war causation. Building up a unique dataset of approximately 25 CAC agreements, this dissertation offers original, empirical analyses based on comparative case analysis of these agreements and offers empirically-based findings and conclusions. This approach contrasts with most other CAC studies which attempt to offer broad insights and judgments of CAC, but do so based on narrow and incomplete datasets. Additionally, the dissertation attempts to identify theoretical frameworks to understand CAC that go beyond simple concepts of cooperation and competition.

This dissertation does not suggest that CAC will always be a component of these issues, but this dissertation has attempted to increase understanding of the impact of CAC's presence or absence on these theoretical areas. This dissertation is relevant to practitioners because the implications and lessons that this dissertation have identified are directly relevant to policymakers charged with crafting, negotiating, and implementing CAC agreements. This dissertation has attempted to offer the framework that CAC agreements might assume based on existing conditions, and that establishing agreements – which are by definition mutual – that vary from the historical precedents this dissertation discusses may be difficult. Moreover, this dissertation has offered various suggestions for what might make CAC agreements succeed – such as delegation to agreement implementers.

Part 1, chapters 1-3, offer an introduction to the topic of CAC, discuss the relevant theories and analytical framework, presents the literature review, and provides an overview of the methodologies used to answer the research question. Part 2, chapters 4-7, are composed of the research article chapters. This article-based dissertation (including four articles published in/submitted to peer-reviewed academic journals) seeks to answer the following overarching research question: *Under what conditions do the more powerful states in an adversarial CAC agreement accept a reduction in their relative military power?* Chapter 4 attempts to answer the research question by applying a typological methodology to categorize three conditions in which CAC agreements are made and when they retain or alter the status quo, defined by the military balance and, when applicable, broader national power balance. A model composed of three conditions attempts to explain and predict when the more powerful states will willingly accept a reduction in their relative national and military power, with the conditions being: perceptions of the current and future world order, pressures to significantly reduce or limit defense expenditures, and perceptions that the existing military balance is unstable. The model successfully explains and predicts most CAC agreement approaches to maintaining or altering the status quo, with the few exceptions being explained by the particularities of the geopolitics at the time and the agreement itself.

Chapters 5 and 6 seek to answer the question: How is adversarial CAC agreement success and failure defined?

Chapter 5 approaches this question as part of a broader question: *What is the effect of delegation to an agreement executor, such as an international organization, on the success of CAC in Europe and how is delegation to an agreement execution body defined and measured?* A sum score methodology measures state delegation of authority to agreement implementers and agreement success is scored to enable a correlational analysis. The cross-case study suggests that delegation is slightly correlated with agreement success, and that the involvement of a third-party state has a high correlation with success. This study also observed that delegation to agreement executors has slightly increased over time.

In chapter 6, a Qualitative Comparative Analysis (QCA) method assessed four conditions: delegation, national limitations, geographic demilitarization, and great power rivalry with CAC agreement success as an outcome to answer the question: *Under what conditions are adversarial conventional arms control agreements (CAC) in Europe successful or unsuccessful?* This study's results suggest that national limitations between great power rivals and the absence of delegation with great power rivalry are more likely to result in

agreement failure. Delegation may be important for agreement success when great powers or buffer zones are involved.

In order to answer the question: *What role did conventional arms control (CAC) agreements failures play in Russia's decision to invade Ukraine?* chapter 7 uses a within-case study with process tracing and counterfactual analysis of Russian President Putin's decision to invade Ukraine in February 2022 and hypothesizes that one of the main causes of the invasion was the deterioration of CAC in Europe. This analysis of Russia's CAC agreement perception and policies from the Cold War's end to the 2022 Ukraine invasion demonstrated that Russia sought to address what they viewed as relatively increasing and threatening NATO military capability, in part due to membership expansion, through CAC. Russia attempted to adjust and update the 1990 Conventional Armed Forces in Europe (CFE) Treaty, as well as create new agreements. When it became apparent that the US and NATO would not concede to the CAC controls or agreements demanded by Moscow, President Putin decided to invade Ukraine. This case suggests that the goal of obtaining a CAC agreement is in part the product of dissatisfaction with the status quo, or a desire to lock in the status quo when one party sees that the other is obtaining comparative advantages.

Chapter 8 concludes the dissertation, emphasizing the importance and relevance of CAC.

Overall, this thesis is more positive than negative about CAC agreements for several reasons. First, this thesis attempts to demonstrate and emphasize that the success record for CAC agreements is not one of unequivocal failure. Indeed, about half of the 37 CAC agreements since 1918 can be considered successful, with one-third of the 37 agreements still in effect – which may not be a poor record given the changes that have swept Europe since the Great War ended. Moreover, many of the agreements were overcome by positive political changes rather than having collapsed due to rivalry or conflict, leaving just one-third as complete failures. The successful cases suggest that CAC can contribute to establishing peace or at least creating conditions for a stable relationship between rivals through decreasing sources of dispute; and that CAC overall is at least partially successful. Today, twelve agreements are still in effect – again emphasizing that pessimistic views of CAC are misplaced. And, despite concerns about Russia's compliance with CAC agreements especially in light of their invasion of Ukraine in 2022, Russia is a party to at least seven of the agreements still in force.

CAC is arguably also relevant to a post-Russo-Ukraine War Europe. A well-crafted CAC agreement implemented by state parties committed to its success may very well stabilize

and contribute to ending the NATO-Russia rivalry. Failure to establish an effective CAC agreement that addresses underlying tensions in the NATO-Russian rivalry could leave the door open to future conflict – a tragedy that should be avoided if possible.

Samenvatting⁸⁶⁰

Wat verklaart de vorm die vijandige conventionele wapenbeheersingsakkoorden, of *adversarial conventional arms control* (CAC) – akkoorden tussen geopolitieke rivalen – aannemen en wat bepaalt hun succes? CAC in Europa, vanaf het einde van de Eerste Wereldoorlog tot heden, is het resultaat van pogingen om het militaire evenwicht te stabiliseren tussen staten, om verrassingsaanvallen te voorkomen en om potentiële bronnen van militair conflict weg te nemen door middel van formele beperking van militaire capaciteiten. CAC is gedeeltelijk gebaseerd op een combinatie van overwegingen met betrekking tot afschrikking, het veiligheidsdilemma, en de offensief-defensief balans (ODB). Wanneer een post-conflict CAC-akkoord wordt opgelegd aan een verslagen staat, hebben de overwinnaars primair oog voor afschrikking en de ODB, terwijl het veiligheidsdilemma op korte termijn minder relevant is. In vreedstijd, inclusief kleine wapenstilstanden die een bufferzone instellen, moeten staten echter rekening houden met elkaars percepties en eisen.

Het theoretisch belang van deze dissertatie ligt in de bijdrage aan studies over internationale veiligheid en conflict. CAC is momenteel een onderontwikkeld en onderbelicht theoretisch onderwerp. Deze dissertatie draagt bij aan theorieën over militair evenwicht, machtsevenwicht, stabilisatie van rivaliteit, conflictpreventie en oorzaken van oorlog. Door een unieke dataset op te bouwen van ongeveer 25 CAC-akkoorden, biedt deze dissertatie originele empirische analyses op basis van vergelijkende casestudies van deze akkoorden, en trekt empirisch onderbouwde conclusies. Deze benadering is in contrast met veel andere CAC-studies die brede inzichten proberen te geven, maar zich baseren op beperkte en onvolledige datasets. Daarnaast probeert deze dissertatie theoretische kaders te identificeren die verder gaan dan eenvoudige concepten van samenwerking en competitie.

Deze dissertatie stelt niet dat CAC altijd een onderdeel zal zijn van deze kwesties, maar poogt het begrip te vergroten over de impact van de aanwezigheid of afwezigheid van CAC op deze theoretische domeinen. Deze dissertatie is ook relevant voor beleidsmakers, omdat de geïdentificeerde implicaties en lessen rechtstreeks betrekking hebben op hen die verantwoordelijk zijn voor het opstellen, onderhandelen en implementeren van CAC-akkoorden. Deze dissertatie biedt een kader voor hoe CAC-akkoorden kunnen worden vormgegeven op basis van bestaande omstandigheden. Akkoorden – die per definitie wederkerig zijn – die afwijken van de historische precedënten besproken in deze dissertatie,

⁸⁶⁰ This summary has been kindly translated from the original English text by Jan Gijsbers.

kunnen moeilijk te realiseren zijn. Bovendien doet deze dissertatie aanbevelingen voor succesfactoren van CAC-akkoorden, zoals het delegeren van uitvoering aan gespecialiseerde instanties.

Deel 1, hoofdstukken 1–3, biedt een inleiding tot het onderwerp CAC, bespreekt relevante theorieën en het analytisch kader, presenteert de literatuurstudie, en geeft een overzicht van de gebruikte methodologie om de onderzoeksvraag te beantwoorden.

Deel 2, hoofdstukken 4–7, bestaat uit onderzoeksartikelen. Deze op artikelen gebaseerde dissertatie (met vier artikelen die zijn gepubliceerd of ingediend bij peer-reviewed academische tijdschriften) tracht de volgende overkoepelende onderzoeksvraag te beantwoorden: *Onder welke omstandigheden accepteren machtigere staten in een vijandig CAC-akkoord een vermindering van hun relatieve militaire macht?*

Hoofdstuk 4 probeert deze vraag te beantwoorden door middel van een typologische methodologie die drie voorwaarden categoriseert waarin CAC-akkoorden worden gesloten en waarin zij de status quo behouden of wijzigen, gedefinieerd door het militaire evenwicht en, indien van toepassing, het bredere nationale machts-evenwicht. Een model bestaande uit drie voorwaarden probeert te verklaren en te voorspellen wanneer machtigere staten vrijwillig een vermindering van hun relatieve nationale en militaire macht accepteren. De voorwaarden zijn: percepties van de huidige en toekomstige wereldorde, druk om defensie-uitgaven aanzienlijk te beperken, en de perceptie dat het bestaande militaire evenwicht instabiel is. Dit model verklaart en voorspelt met succes de meeste CAC-benaderingen ten aanzien van het behouden of wijzigen van de status quo, met enkele uitzonderingen die kunnen worden verklaard door de geopolitieke bijzonderheden van dat moment en het specifieke akkoord.

Hoofdstukken 5 en 6 trachten de volgende vraag te beantwoorden: *Hoe worden succes en falen van vijandige CAC-akkoorden gedefinieerd?*

Hoofdstuk 5 benadert deze vraag in het bredere kader van: *Wat is het effect van delegatie aan een uitvoerend orgaan, zoals een internationale organisatie, op het succes van CAC in Europa, en hoe wordt deze delegatie gedefinieerd en gemeten?* Een ‘sum score’-methodologie meet de delegatie van autoriteit aan uitvoerende partijen, en het succes van akkoorden wordt gescoord om correlatie-analyse mogelijk te maken. De cross-case-analyse suggereert een lichte correlatie tussen delegatie en akkoordensucces, en toont een sterke correlatie aan tussen het betrekken van een derde partij en het succes van het akkoord. Ook

werd waargenomen dat delegatie aan uitvoerende partijen in de loop der tijd licht is toegenomen.

In **hoofdstuk 6** werd een Qualitative Comparative Analysis (QCA) toegepast op vier voorwaarden: delegatie, nationale beperkingen, geografische demilitarisatie, en rivaliteit tussen grootmachten, met als uitkomst het succes van CAC-akkoorden. De resultaten suggereren dat nationale beperkingen tussen grootmachten, en het ontbreken van delegatie bij grootmachtrivaliteit, vaker leiden tot falen van akkoorden. Delegatie lijkt belangrijk voor het succes van een akkoord, vooral wanneer grootmachten of bufferzones betrokken zijn.

Om de vraag te beantwoorden: *Welke rol speelden mislukkingen in conventionele wapenbeheersingsakkoorden (CAC) in Rusland's beslissing om Oekraïne binnen te vallen?*, gebruikt **hoofdstuk 7** een casestudie met proces-tracering en contrafeitelijke analyse van de beslissing van president Poetin om Oekraïne in februari 2022 binnen te vallen. De hypothese is dat een van de belangrijkste oorzaken van de invasie het verval van CAC in Europa was. De analyse van de Russische perceptie en het beleid ten aanzien van CAC van het einde van de Koude Oorlog tot de invasie in 2022 laat zien dat Rusland CAC wilde gebruiken om het als bedreigend ervaren, relatief toegenomen NAVO-vermogen – mede door uitbreiding – te beperken. Rusland probeerde het Verdrag inzake Conventionele Strijdkrachten in Europa (CSE) uit 1990 aan te passen en nieuwe akkoorden op te stellen. Toen duidelijk werd dat de VS en de NAVO geen concessies zouden doen, besloot Poetin Oekraïne binnen te vallen. Deze casus suggereert dat het doel van CAC deels voortkomt uit ontevredenheid met de status quo, of de wens om deze vast te leggen wanneer een partij ziet dat de ander comparatieve voordelen verwerft.

Hoofdstuk 8 sluit de dissertatie af met de nadruk op het belang en de relevantie van CAC.

Over het algemeen is deze dissertatie positiever dan negatief over CAC-akkoorden, om meerdere redenen. Ten eerste laat zij zien dat het succesrecord van CAC-akkoorden niet eenduidig negatief is. Ongeveer de helft van de 37 CAC-akkoorden sinds 1918 kan als succesvol worden beschouwd, met een derde nog steeds van kracht – wat geen slecht resultaat is gezien de vele veranderingen in Europa sinds het einde van de Grote Oorlog. Bovendien zijn veel akkoorden beëindigd door positieve politieke ontwikkelingen, en niet door rivaliteit of conflict. Slechts een derde kan als volledig mislukt worden beschouwd. De succesvolle gevallen suggereren dat CAC kan bijdragen aan het vestigen van vrede of in ieder geval aan

het creëren van stabiele relaties tussen rivalen door geschilbronnen te verminderen – en dat CAC in het algemeen deels succesvol is. Vandaag de dag zijn twaalf akkoorden nog van kracht – wat wederom benadrukt dat pessimistische visies op CAC mogelijk misplaatst zijn. Ondanks zorgen over de Russische naleving van CAC-akkoorden, vooral gezien de invasie van Oekraïne in 2022, is Rusland nog steeds partij bij ten minste zeven van de akkoorden die nog van kracht zijn.

CAC is wellicht ook relevant in een post-Rusland-Oekraïneoorlog Europa. Een goed opgesteld CAC-akkoord, geïmplementeerd door staten die toegewijd zijn aan het succes ervan, kan bijdragen aan het stabiliseren van de NAVO-Rusland-rivaliteit. Het falen om een effectief CAC-akkoord te vestigen dat de onderliggende spanningen aanpakt, zou de deur kunnen openlaten voor toekomstig conflict – een tragedie die indien mogelijk moet worden voorkomen.

Acknowledgements

This PhD has been written largely in home solitude, and with me having only a minimal knowledge base to begin with, either on the topic or the methods. Unfortunately, I did not benefit from a team to collaborate with on specific conventional arms control issues. This is, undoubtedly, the cost of working in a non-funded external position and on a topic that has received underwhelming academic attention through the years. The enormous advantage, however, of both my inexperience and the relative dearth of recent scholarship was my opportunity to look at the problem from a very fresh perspective, and minimal risk of replicating others' works. In almost all aspects, this PhD has followed a nearly untrodden path; one that not only lacked signposts, but was pushed through brush and brambles.

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Curriculum Vitae

William Egon Lippert (Cantho, Vietnam, December 1973) studied international studies and psychology at American University in Washington, DC, USA, and obtained his bachelor's degree from this university in December 1995. He then studied national security studies at Georgetown University, Washington, DC, USA, and obtained his master's degree from this university in May 1999. Prior to university he attended high school in Southbury, Connecticut, USA.

While studying for his master's degree, William worked in several jobs for the US Department of Defense: first, as a logistics support contract for the US navy's STANDARD missile program; then as a contractor primarily conducting force structure analysis for the US military's Joint Staff (J-5); and then as a non-political appointee research analyst for the US Defense Department's congressionally mandated Hart-Rudman Commission. Shortly after graduation, William worked as an intelligence analyst with a TS/SCI clearance for the US Defense Department's Defense Intelligence Agency (DIA) as a counterdrug analyst, focusing on cocaine movement in and from South America.

After having made several vacation trips to France, however, William decided that he wanted to live in the country, and thus, at the end of 2002, he was offered and accepted a contract to move to Lyon, France, where he became a criminal intelligence analyst at INTERPOL in its General Secretariat. William worked in Lyon, France, for 12 years and was then transferred to Singapore to continue working for the INTERPOL General Secretariat for another six years. During his 18 years at INTERPOL, William was an analyst on a wide variety of transnational crime areas, but his two longest and most substantive projects were on nuclear trafficking and terrorism, and then terrorism in Southeast and East Asia. He also delivered training courses around the world in criminal intelligence analysis.

William began his PhD studies at Leiden University as an external candidate in July 2021. He is currently a non-resident fellow at the Brussels-based Global Governance Institute (GGI).

