

Nuclear Alliances: Strategies of Extended Nuclear Deterrence and the Pursuit of Hegemony

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Introduction

How do nuclear alliances work? This paper examines the interactions between the members of an alliance in which at least one member has nuclear weapons. Specifically, I am interested in explaining how nuclear alliances, which come in different forms, provide extended nuclear deterrence (END) to all their members. For example, in an alliance in which one state has nuclear weapons but the others do not, what are the particular deterrence strategies that nuclear alliances develop to satisfy their members, who are likely to have conflicting views on which states should have nuclear weapons and how deterrence should operate inside the alliance? Moreover, what explains why nuclear alliances with different architectures pursue those different END strategies?

There is a large and impressive body of literature that deals with the workings of alliances. Much of what is said in that literature applies directly to nuclear alliances. There is no work, however, which deals directly with an important aspect of nuclear alliances that is peculiar to them: the different strategies they employ to provide END to all its members.¹ My aim is to develop a theory that begins to fill this void.

The members of an alliance have different views about what constitutes an appropriate END strategy. The balance of power among the member-states, I argue, largely determines which state's interests prevail, and thus what END strategy the alliance ends up pursuing. Specifically, the more powerful a state is relative to its alliance partners, the more able it is to promote its own interests and push forward a deterrence strategy that suits those interests. One can distinguish three kinds of nuclear alliances based on how power is allocated inside of them, and each type is likely to employ a different END strategy.

In an *imperial alliance*, power is concentrated in the hands of a single actor, while the other members are in an unambiguously subordinate position. Decision-making follows a top-down logic, characterized by an almost complete lack of input on the part of the

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¹Many authors have looked more closely at the “how” of extended deterrence (for example: Russett 1988; Gartzke, Kaplow, and Mehta 2014). This scholarship, however, is primarily concerned with the “means of deterrence”. They either cover both conventional and nuclear means or look at the degree of diversification of nuclear force structures.

dependent members. The hegemon, which dominates decision-making within the alliance, neither consults with nor accommodates the interests of the weaker members of the alliance. Instead, it imposes its own interests on its allies, who have hardly any power to promote their own interests. The resulting END strategy in an imperial alliance is likely to be *nuclear unilateralism*. This strategy, which is predicated on the belief that the hegemon's security interests matter above all else, means that its allies will only be defended when the dominant state sees fit.

The balance of power in a *hegemonic alliance* is also skewed in favor of one member, but the power differential between the leading state and its partners is not as pronounced as it is in an imperial alliance. The other members possess considerable military capabilities of their own, which gives them some power to advocate for their own security interests when bargaining with the hegemon and each other. The dominant state will be inclined to consult with the weaker member-states and accommodate their interests when possible. Nevertheless, it will still occasionally dismiss, ignore, or even coerce its junior partners. The likely strategy in a hegemonic alliance is *nuclear umbrella*, which is where the dominant power seeks to prevent its allies from acquiring nuclear weapons, while promising to use its nuclear weapons to deter an attack on its allies. The leading state is extending deterrence to its non-nuclear allies by tying its own security to theirs.

Finally, in a *balanced alliance*, power is distributed roughly equally among the member-states. There is no dominant state, as is the case with hegemonic and imperial alliances. The decision-making process in a balanced alliance is consultative; the allies seek to reach consensus when formulating policy, because no state is in a position to promote its own interests at the expense of the other members. Indeed, each state is well positioned to promote its own interests. This joint decision-making invariably leads to a strategy of *nuclear partnership*, which is where each member has its own nuclear deterrent. Nevertheless, those alliance partners work together to formulate a comprehensive END strategy that coordinates their individual nuclear strategies.

Liberal theories have inspired alternative explanations for how nuclear alliances devise END strategies. The first alternative revolves around regime type. It focuses on whether the member-states of an alliance are predominantly democracies or autocracies. The decision-making process would be fundamentally different in each of those alliances, which would lead to different END strategies (Schofield 2014, 73) . The second alternative draws on liberal institutionalism. It envisions the formal transfer of legal authority and decision-making power regarding nuclear weapons from the individual member s to the formalized alliance, which is responsible for devising the optimum deterrence strategy (Deighton 1995; Croft 1996; Heuser 1997) .

I will test my power-based theory against the rival liberal theories by examining how well each explains the workings of NATO and the Warsaw Pact during the Cold War. Comparing these two alliances should be a hard case for my argument, because the dominant narrative in the West is that they operated in fundamentally different ways, primarily because of the stark ideological difference between the leading state in each alliance (Friedberg 2000;

Peceny, Beer, and Sanchez-Terry 2002).² Democratic America and the authoritarian Soviet Union, so the argument goes, should have had different policies for providing deterrence to the non-nuclear members in their respective alliances (Ermarth 1978; Arkin and Fieldhouse 1985; Steinbruner 1987).

My analysis challenges this widely accepted account of those nuclear alliances and shows that liberal theories tell us little about their mode of decision-making and their choice of an END strategy. The distribution of power inside NATO and the Warsaw Pact provides the key for understanding how those alliances worked in the Cold War. In fact, they operated in markedly similar ways. Both were initially imperial alliances that morphed into hegemonic alliances in which the junior members had a limited input on policy. All the key decisions were ultimately made at the top in both alliances. Given these similarities, it is unsurprising that NATO and the Pact pursued the same END strategies throughout the Cold War: nuclear unilateralism and nuclear umbrella.

The remainder of this paper is organized into four sections. I present my power-based theory and specify its predictions in the next section. I also define my key terms and describe my research design. In the subsequent section, I describe the main alternative theories as well as their predictions. In the following section, I draw on the Cold War history of NATO and the Warsaw Pact respectively to determine which theory best explains how those two nuclear alliances made decisions and which deterrence strategies they pursued. In the conclusion, I summarize my findings, discuss their relevance for future cases, and offer brief policy recommendations.

A Theory of Nuclear Alliances

A state's principal interest is survival, because if a state does not survive it cannot pursue any of its other interests. To maximize its prospects of surviving in the rough and tumble of international politics, a state pursues three goals. First, it aims to be the hegemon in the system. In a world where states can never be sure of other states' intentions and where there is no higher authority to rescue them if they are threatened by a rival state, they have a powerfully incentive to gain as much power as possible and to make sure that other states do not gain power at their expense. The ideal situation is to be the dominant state in the system. It is the best way to ensure survival in international anarchy (Mearsheimer 2003) .

Second, states seek to acquire nuclear weapons, which are often referred to as the ultimate deterrent. Although it is difficult to conjure up scenarios for using nuclear weapons for offensive purposes, it is widely agreed that states are likely to use nuclear weapons as a last resort if their survival is at stake (Freedman 2003, 49) . While most states want their own nuclear weapons, they do not want other states to have them (Gavin 2015; Debs and Monteiro 2018) . States oppose proliferation for several reasons, not least because they a nuclear-armed foe might use those weapons against them (Wohlstetter 1959, 211). Moreover, they appreciate the danger of inadvertent nuclear escalation during a conventional war. The more nuclear powers there are, the more dangerous it becomes to fight conventional wars

²For a notable exception, see Lanoszka 2018b.

(Bracken 1983; Posen 1991) . There is also the risk of accidental use, because the systems that manage nuclear weapons are not foolproof (Feaver 1992; Blair 1993; Sagan 1995) . Additionally, it is difficult for states to impose their will on weaker countries that are nuclear-armed, because the threat of using military force against them is unlikely to be credible. Nuclear weapons are sometimes the great equalizer (Waltz 1981) . Furthermore, the spread of nuclear weapons increases the likelihood terrorist groups will obtain nuclear materials or possibly a bomb (Bunn and Roth 2015) . Last but not least, a nuclear-armed ally might use those weapons in a moment of desperation, causing the target state to retaliate against all members of an alliance (Christensen and Snyder 1990) .

Third, states that fear a common enemy form an alliance to ensure their survival (Olson and Zeckhauser 1966). An alliance represents a group of states that operate together for a common military purpose. These states may join forces willingly or they may be coerced to work together by an especially powerful state. States join alliances because they have common, although not identical interests (Waltz 1979, 166) . Weak states sometimes have no choice but to bandwagon with a more powerful state because they cannot deter it by themselves. They may enter an alliance to counter a looming threat to all of them or to conquer other states and gain power at their victims' expense (Schweller 1994). Whatever the goal, alliances entail the pooling together of the member's resources and a commitment to help defend each other.

In a world where states seek nuclear weapons and also form alliances, nuclear alliances will be a fact of life. Moreover, the incentive that each state has to be a hegemon and to prevent other states from achieving that exalted position, coupled with the incentive every state has to acquire nuclear weapons while preventing other states from doing the same, are sure to have a significant effect on the politics inside a nuclear alliance. Those interactions, in turn, will influence how nuclear alliances formulate a deterrence strategy that satisfies all the different member-states with their conflicting interests.

The Fundamentals of Nuclear Alliances

An alliance's END strategy is directed at two different audiences: its adversary and its members. The chosen strategy must be designed to deter the enemy from attacking any member of the alliance. At the same time, however, the strategy must reassure all the member-states that they are protected by an adequate, if not robust, nuclear deterrent, while at the same time protecting them from getting entrapped in an unwanted war (Snyder 2007, 180–86) . Reassurance is especially important in alliances where the weaker members do not have their own nuclear weapons and depend on a nuclear-armed state in the alliance to protect them.

My focus is on how nuclear alliances design END strategies to satisfy their members, not on how those strategies relate to the adversary. The chosen strategy must be well-suited for deterring an opponent, but assessing how well it meets that criterion falls outside the scope of this paper. Yet, it is important to note that in imperial and hegemonic alliances, there is an inescapable tension between what is necessary to deter a rival and what is in the best interest of the dominant state as well as the non-nuclear states. For example, the

best way for a nuclear alliance to deter an opposing state is for every member-state to have a survivable nuclear deterrent. Then, the adversary would be foolish to attack any state in the alliance, because of the likelihood that the target state would retaliate with nuclear weapons, which would almost certainly lead to further nuclear escalation. Hegemons in nuclear alliances, however, do not want their allies to have the bomb, for fear that those allies might initiate nuclear use in a crisis and drag the hegemon into an unwanted nuclear war. Absent proliferation inside an alliance, the best way for a hegemon to deter an enemy is to take measures that closely link its military forces with those of its non-nuclear allies. An attack on one is then an attack on all. The problem this approach creates is that it increases the likelihood that a reckless ally might entrap a reluctant hegemon in an unwanted war. Thus, hegemons, have powerful incentives to be cautious and maintain some distance with non-nuclear allies, which not only weakens deterrence, but gives those allies incentives to countenance abandoning the dominant state, which would further undermine deterrence (Lee 2019) .

The particular END strategy that a nuclear alliance adopts is largely a function of the balance of power among its member-states. The reason that relative power matters is that those allies invariably have different interests, which means they are likely to prefer different strategies. In the final analysis, the more powerful a state is relative to the other members, the more likely it is to get its way and formulate an alliance-wide strategy that reflects its own interests. Weaker allies, on the other hand, are invariably forced to compromise on their own interests and accept the preferred strategy of the dominant state.

The balance of interests determines how decisions are made. Four behaviors are key to the decision-making process inside an alliance: consultation, accommodation, dismissal, and coercion. When allies consult, they seek advice and information from one another in order to deliberate on matters of common interest. Consultation presupposes a dialogue among the member-states, whereby they pay serious attention to each other's security concerns. Accommodation involves taking the interests of other allies into account, accepting at least some of their demands, and adjusting one's own policies to satisfy their requests. Dismissal is where one member-state either outright rejects or purposely ignores an ally's request to take its security interests into account when formulating alliance strategy. Coercion entails compelling an ally – sometimes by force – to act in ways that are not in its interest.

The following section will analyze the three types of alliances – imperial, hegemonic, and balanced – and their corresponding END strategies – nuclear unilateralism, nuclear umbrella, nuclear partnership.

Imperial Alliances and Nuclear Unilateralism

In an imperial alliance, power is decisively skewed in favor of one state, on whom the other members are almost completely dependent. The power discrepancy is so great that the other allies have hardly any autonomy. The dominant state has significant coercive leverage over them and might even occupy their territory. The decision-making process in an imperial alliance is top-down, as the leading state effectively does what it wants. The minor allies are rarely ever consulted on important matters and have virtually no meaningful input in the decision-making process. Their demands are invariably ignored, and they are

in no position to bargain with the hegemon, which profoundly influences how they define their security interests. The END strategy in an imperial alliance is nuclear unilateralism. In essence, the hegemon makes no commitments one way or the other about when it will use its nuclear weapons to defend its allies. It will only use those weapons when it suits its own interests.

An imperial alliance is especially attractive for the dominant state. Not only does it have complete freedom of action with regard to how it employs its nuclear weapons, but it also does not have to worry about abandonment or entrapment, since the weaker members have barely any agency. The hegemon's overwhelming power prevents the allies from taking reckless actions that might draw the patron into an unwanted war. Moreover, those weaker allies are in no position to abandon the leading power, not just because they are under its control, but also because they depend on its nuclear arsenal for their survival. Plus, the hegemon does not have to worry about the credibility of its commitment to defend its allies, because they are beholden to it and what they think matters little to the dominant state. Finally, given the asymmetry of power within an imperial alliance, the hegemon is ideally situated to prevent proliferation among its allies.

An imperial alliance is profoundly unappealing to the weaker members, mainly because they face the twin problems of abandonment and entrapment. In particular, it is uncertain whether the nuclear-armed hegemon will come to the rescue of its allies if they are threatened. After all, nuclear deterrence is extended in a crisis at the whim of the leading state in an imperial alliance, and if it concludes that defending a junior partner makes little strategic sense for itself, it will not do so. There is little that the exposed ally can do in that situation, simply because it has so little leverage with the hegemon. The possibility of abandonment is not the only problem minor powers face in an imperial alliance. Because they operate under the thumb of the dominant state, they are likely to get dragged into the wars that their more powerful ally fights, whether they want to or not. Despite these major problems confronting the weaker members in an imperial alliance, this form of protection is better than nothing.

Hegemonic Alliances and Nuclear Umbrella

In a hegemonic alliance, one state is much more powerful than its allies, but the weaker members are autonomous and have some say in how nuclear deterrence is provided to them. This is the fundamental difference between hegemonic and imperial alliances, where the members have practically no influence over policy. Although the junior members are frequently consulted and sometimes accommodated in a hegemonic alliance, their clout is modest. Their ability to impose their security interests on the other members of the alliance, including the dominant state, is moderate. The decision-making process is ultimately top-down; power is concentrated in the hands of the nuclear-armed hegemon and outcomes are largely a function of this intra-alliance balance of power. The favored END strategy in a hegemonic alliance is nuclear umbrella, which is where the dominant state commits itself to use its nuclear weapons to deter an attack on its allies. According to this strategy, the hegemon will not only come to the defense of its allies if they are attacked but will also use its nuclear weapons if they are needed to defend them.

A nuclear umbrella strategy carries risks of both abandonment and entrapment for the dominant state as well as its junior partners. The weaker members usually have considerable freedom of action, because they are not under the thumb of the hegemon, as they are in an imperial alliance. Consider the entrapment problem. Because weaker states tend to worry about the credibility of the leading power's promise to defend them with its nuclear weapons, hegemon goes to great lengths to communicate commitment and resolve to their allies. Providing this reassurance via declaratory policy is of limited utility, because talk is cheap. Stationing troops, and especially nuclear weapons on the territory of weaker members is much more effective. The downside of these moves is not only that they markedly reduce the hegemon's freedom of action in a conflict, but they also make it possible for an ally to act recklessly, because it thinks it will be protected from the consequences of its actions by the dominant state (Benson 2012; Fuhrmann 2018; Narang and Mehta 2019) . This moral hazard problem is especially worrisome because any resulting war might involve nuclear weapons.

There is also the possibility that a junior member of a nuclear alliance might abandon the hegemon in a crisis or even in a war. This is unlikely, however, because the weaker state depends on the hegemon to provide it with nuclear deterrence, and also because it would incur the hegemon's wrath. Still, it might think that it could – in the right circumstances – maintain neutrality in a crisis or even shift sides and join forces with the adversary.

Hegemonic alliances are well-suited for preventing proliferation, although there is always a small chance that a weaker power will acquire its own nuclear weapons. The hegemon, after all, does not have absolute control over its allies. Nevertheless, it will go to great lengths to check proliferation within the alliance. Indeed, the nuclear umbrella strategy is designed for just this purpose. Hegemonic alliances thus embody a grand bargain: the junior partners get the protection they need against a nuclear-armed adversary in exchange for not acquiring their own nuclear weapons (Debs and Monteiro 2016, 39) .

A nuclear umbrella strategy offers obvious benefits for the weaker allies, as they have some influence with the leading state, which provides them with nuclear deterrence. Hegemonic alliances carry real risks of abandonment and entanglement for the junior partners. To be more specific, given that the hegemon is committed to tying its fate to that of its allies by extending them nuclear deterrence, it will go to great lengths to control the behavior of its allies so that they do not precipitate a crisis that ends up dragging the hegemon into an unwanted war. Putting golden handcuffs on weaker partners, however, puts the hegemon in a position where it can drag its allies into a war they do not want.

Finally, despite the fact that the leading state goes to great lengths to reassure its allies that it will use its nuclear weapons to defend them in the event of a war, there is still a real possibility that the hegemon will not act on its promise. The reason is simple: by initiating nuclear use to defend an ally, the hegemon runs the risk that its own homeland will be destroyed in an all-out nuclear war. That is a huge risk to run when an ally's survival is at stake, not the hegemon's survival. This logic explains why those allies constantly worry about the credibility of the hegemon's promise to use its nuclear weapons to defend them in the crunch. Thus, abandonment as well as entrapment are significant concerns for minor powers in a hegemonic alliance.

Balanced Alliances and Nuclear Partnership

There is no dominant state in a balanced alliance. Instead, power is distributed roughly equally among the member-states. The security interests of all the allies matter equally in the process of devising the alliance's END strategy. They all contribute to the decision-making process, which is consultative in nature. Allies take each other's security concerns into account and adjust their own policies to accommodate their allies. Nuclear partnership is the strategy of choice in balanced alliances. Each member has its own nuclear weapons and maintains full control over the decision to use its nuclear arsenal. Still those allies coordinate their nuclear plans in peacetime and consult with each other about nuclear use during crises and wars.

In an alliance where each state has its own nuclear weapons, the member-states are unlikely to worry much about being abandoned, simply because they possess their own nuclear deterrents. All the allies, however, have a deep-seated interest in hanging together in a crisis to maximize the prospects that deterrence works, and relatedly, to minimize the chances that one ally drags the others into a nuclear war. This fear of entrapment stems from the danger if one ally gets into a war, there is always a chance that nuclear weapons will be used, and then the conflict will escalate to include all the member-states. Combatting proliferation inside a balanced alliance makes no sense, since all of the member-states have their own nuclear arsenal.

Predictions

In sum, my theory makes three sets of predictions about how nuclear alliances extend deterrence to cover all the member-states. My central claim is that the END strategy an alliance adopts is largely a function of how power is distributed among the allies. In imperial alliances, nuclear unilateralism will be the preferred strategy. In hegemonic alliances, the dominant state extends deterrence to its allies via a nuclear umbrella strategy. Lastly, in balanced alliances, the favored strategy is nuclear partnership, which means that each state has its own nuclear weapons. These predictions are summarized below in Table 1:

Table 1: Power-Based Theory Predictions

Alliance Type	Balance-of-interests	END Strategy
Imperial	Only hegemon matters	Nuclear Unilateralism
Hegemonic	All allies matter, but hegemon matters most	Nuclear Umbrella
Balanced	All allies matter equally	Nuclear Partnership

Alternative Theories

Three alternative explanations for how alliances formulate END strategies can be deduced from the international relations literature. The first focuses on regime type, while the latter two focus on international institutions. When it comes to focusing on the kind of regime, the key question is whether the alliance is comprised mainly of democracies or autocracies (Liska

1968; Siverson and Emmons 1991; Risse 1997; Lai and Reiter 2000). When democracies dominate an alliance, they infuse it with the principles that govern their domestic politics (Ikenberry 2000, 5) . In particular, all the members participate equally in the decision-making process. No state is privileged because it is more powerful than the others in a *democratic alliance*. Moreover, great emphasis is placed on accountability and obeying the rules, which the allies collectively created.

In contrast, the guiding principle for relations among the states in an *autocratic alliance* is dictatorial rule – one state has absolute power (Liska 1968, 62). In effect, this means that it is impossible to have an autocratic alliance comprised of equals; one state must have unconditional power over the others. In such an alliance the dominant state pays little attention to the interests of the other autocracies and instead privileges its own interests. Democratic and authoritarian alliances provide different kinds of public goods for their members, including protection. Thus, they pursue different END strategies. Democratic alliances will seek to protect every member equally and therefore are likely to employ a strategy of nuclear partnership. Autocratic alliances, on the other hand, will almost always pursue nuclear unilateralism.

The second and third alternative explanations, which are derived from liberal institutionalist theories, emphasize that alliances themselves can be given independent power over their member-states and thus play the key role in formulating the alliance’s END strategy. Alliances, like all institutions, facilitate lower transaction costs, increase transparency, and help build trust among states (Keohane 2005) . But even more importantly, states formally transfer legal authority and decision-making power to alliances. In other words, they yield sovereign prerogatives to the alliance itself. This process can take two forms.

In an *intergovernmental alliance*, the members agree to make decisions by voting procedures other than unanimity, which is sometimes referred to as “pooled sovereignty (Moravcsik 1998, 8). The underlying assumption here is that the alliance will make decisions that are in the best interests of all the members, who will abide by those decisions. Nevertheless, a state – even a powerful one – might find itself in a position where the alliance decides to act in ways that are not in that state’s national interest. With intergovernmental alliances, states keep control of their nuclear arsenals, but the decision on when and how to employ them in a war rests with an intergovernmental mechanism, such as a rotational command. The intergovernmental mechanism stipulates that each state would take turns at the helm of power, thus providing input in the decision-making process while taking into account the interests of the other members. The END strategy in this kind of alliance would be a nuclear rotational command.

The third alternative explanation focuses on creating a *supranational alliance* in which the member-states seek to integrate their foreign and defense policies (Haas 2004; Smith 2001) . This integration leads to the creation of a formal body that sits above the member-states and makes all the alliance’s key decisions regarding nuclear weapons. The various states in the alliance create that powerful body, which is populated by individuals from those countries. Nevertheless, the allies per se do not control the alliance’s nuclear weapons, do not formulate its END strategy, and do not make the critical decisions about nuclear use in a crisis or war. The supranational body that sits above those states bears responsibility

for those tasks. The preferred deterrence strategy in a supranational alliance is likely to be a nuclear union. The predictions of the three alternative theories are summarized below in Table 2:

Table 2: Alternative Theories' Predictions

Alliance Type	Causal Mechanism	END Strategy
Democratic Alliance	Equal Representation	Nuclear Partnership
Authoritarian Alliance	Rule by One	Nuclear Unilateralism
Intergovernmental Alliance	Majority Rule	Nuclear Rotational Command
Supranational Alliance	Integration	Nuclear Union

Research Design

I rely on historical case studies to corroborate my structural theory, and to test the validity of alternative theories. The universe of cases is relatively broad - to date there have been 67 alliances (bilateral and multilateral) in which at least one of the members had nuclear weapons. From among them, I will select those pertaining to NATO and the Warsaw Pact and use a “most different systems design”. Explaining the END strategy of the two Cold War alliances should be difficult for my theory and easy for the alternative theories, because the regime types of the constituent members were so different (democracies in the case of NATO vs. autocracies in the case of the Pact) and because democracies are known to form complex institutional frameworks to manage their relations. Accordingly, democratic alliances resorting to nuclear unilateralism, autocratic regimes employing nuclear umbrellas, and nuclear rotational commands and nuclear unions getting rejected will count against liberal explanations of END strategy and towards my structural theory.

To measure the balance of power inside both alliances, I assessed the military capabilities of their member states. Those alliances were built mainly for the twin purposes of deterring a war in Europe and waging it, in case deterrence failed. The key assets to consider are the conventional military forces that each member of those alliances had deployed on the Central Front, as well any nuclear weapons they possessed. The Central Front – which included West Germany on one side and Czechoslovakia, East Germany, and Poland on the other side – was the by far the most important territory in Europe for both alliances. Thus, this analysis will consider both the quantity and the quality of the ground and the air forces that each country deployed in that well-defined arena. Nuclear weapons also played a key role in the makeup of military deployments in this area, as they could influence the outcome of a possible war on the Central Front. A state with formidable conventional forces, but no nuclear weapons could not be the dominant state in a nuclear alliance. To achieve that exalted position, a state had to be principally responsible for providing nuclear deterrence for the alliance. In almost all cases, it needed to have formidable conventional forces as well.

The History of Nuclear Alliances

This section will now consider how well my theory – and the alternatives – explain how the American-led Western alliance and the Soviet-led Eastern alliance provided extended nuclear deterrence to their members during the Cold War. First, it examines the balance of power inside each alliance over the course of their intense rivalry. It shows that both began as imperial alliances, where power was profoundly tilted in favor of either the Soviet Union or the United States. Each alliance morphed into a hegemonic alliance in the mid-1950s, when the junior partners gained considerable power at the expense of their superpower ally. Then, the section will examine in detail the decision-making process inside the Western alliance when it was both an imperial and a hegemonic alliance. It will do the same for the Soviet-dominated side. The superpowers and their junior partners in each alliance interacted with one another in ways that my theory predicts. The resulting END strategies are also consistent with my theory. Finally, this section will show that the alternative theories have limited explanatory power in these cases.

The next section will seek to show that the US-dominated alliance in Western Europe was an imperial one from 1945 until 1954. Moreover, it aims to show that its members interacted with each other as my theory would predict, ultimately adopting an END strategy of nuclear unilateralism.

The Western Alliance and Nuclear Unilateralism (1945-1954)

The United States was by far the most powerful country in the Western alliance during the first decade after World War II (Lundestad 2012, 1). Its junior partners depended on the American military to protect them from a possible Soviet attack (Leffler 1992, 195). Those weaker partners were in an unambiguously subordinate position, which is the defining feature of an imperial alliance.

The main reason that the balance of power inside the Western alliance was so lopsided during this period was that the West German military, which would become a formidable presence in Europe after 1954, did not exist (Forndran 2004, 241). Britain, France, and the United States provided most of the alliance's conventional forces. Washington had the lion's share of those forces, in good part because Britain and France dedicated a large portion of their militaries to policing their empires. By the end of this period, the United States provided about 35 percent of all the NATO combat divisions on the Central Front, and almost as many combat divisions as Britain and France combined.³

The Western alliance, however, emphasized nuclear deterrence over conventional deterrence between 1945 and 1954 (Rosenberg 1983, 12). Neither the U.S. nor the allies believed that it would be possible to mount a conventional defense against a Soviet attack without West German troops (Carter 2015, 78, 162, 183). The United States alone provided nuclear

³These calculations are based on the following breakdown of NATO forces on the Central Front in 1955: 2 Belgian divisions, 4 British divisions, 1/3 rd of a Canadian division, 2 and $\frac{1}{2}$ French divisions, 1/3 rd of a Luxembourg division, 2 Dutch divisions, and 6 American divisions. The U.S. figure includes 5 divisions and three armored cavalry regiments (Carter 2015, 78, 237).

deterrence for the Western alliance during this period. To be more specific, the alliance depended almost exclusively on the U.S. nuclear arsenal to protect Western Europe between 1945 and 1950, simply because the alliance had meager conventional forces and the United States was the only member with nuclear weapons.

That situation began to change after NATO was created in 1949, replacing the bilateral ties between the United States and its European allies, and especially after the Truman administration decided in late 1950 to send four U.S. Army divisions to Europe, effectively tripling the size of American ground troops deployed there (Carter 2015, xiii, 14, 24, 85) . Britain and France also increased their contingents on the Central Front. Nevertheless, these developments were not enough to create an effective conventional defense against the Soviet threat. Thus, the large and growing American nuclear arsenal was the principal source of protection for the newly created NATO in its early years. Britain, which tested its first nuclear weapon in 1952, had a very small nuclear arsenal by 1955, which played hardly any role in the defense of the Central Front (Norris and Kristensen 2010, 81) . Before 1955, the United States alone was providing security for all the members of the Western alliance, which is why it was an imperial alliance in the first decade after World War II.

The United States used its massive preponderance in military power over its Western European allies during the first decade of the Cold War to shape the formulation of the alliance's END strategy to suit its own interests. Washington seldom consulted with its allies, who thus had hardly any opportunity to provide input on how the United States planned to use its nuclear weapons to deter a Soviet attack against Western Europe or how it would wage a nuclear war in the event deterrence failed. In short, Washington engaged with its allies the way one would expect in an imperial alliance.

The Western alliance – with the United States leading the way – adopted nuclear unilateralism as an END strategy. The cornerstone of that strategy was maintaining America's nuclear monopoly, not just against the Soviet Union, but its Western allies as well. Although there had been an intense period of collaboration to build the bomb with Canada and Britain during World War II, the United States abruptly cut off both countries from the Manhattan Project shortly after the war ended.⁴ Instead, American leaders put forward a series of proposals, such as the Baruch Plan (1946) , that aimed to stifle other countries' nuclear weapons programs, including its allies (Maddock 2010, 67) .

The United States was also deeply committed to extended deterrence within the Western Alliance. If the Soviet military overran all of Western Europe, it would dramatically shift the global balance of power in Moscow's favor. Moreover, the United States had substantial numbers of troops and other assets in Western Europe that had to be protected. But in keeping with its END strategy of nuclear unilateralism, American leaders vigorously guarded

⁴The British contribution to the development of the first American atomic weapon was acknowledged by U.S. officials at the time. U.S. Secretary of War Henry Stimson recognized in a memorandum to President Truman that “ in effect, [the British] already [have] the status of a partner with us in the development of this [nuclear] weapon.” Memorandum by the Secretary of War (Stimson) to President Truman, Washington, DC, September 11, 1945, FRUS, 1945, General: Political and Economic Matters, Volume II, 41-42. The British requested that the United States shared the nuclear weapons resulting from the Manhattan project with the UK, but Americans refused (Gowing 1974, 298).

against allied interference. The United States sought to ensure that it alone determined when and where nuclear weapons would be used (Hewlett and Duncan 1972, 279–80) . The aim was to reduce the junior partner’s input on nuclear strategy to as close to zero as possible, even though their territory, not American territory, was at risk of being overrun. Atomic bombs, in the minds of U.S. policymakers, were weapons to be used to defend America’s interests abroad. The defense of other countries interests came second and was largely derivative of Washington’s effort to protect its own interests (Ball 1995, 443) .

This section will consider in greater detail how the United States interacted with its main allies – Britain, France, and Germany – during the early Cold War. The analysis will be framed in terms of the four main kinds of behavior that the hegemon can employ vis-a-vis the weaker partners: consultation and accommodation, which should be largely absent in an imperial alliance; and coercion and dismissal, which should be evident in such an alliance.

Britain should be the hardest cases for my theory, because Washington had a “special relationship” with London during the Cold War, which it did not have with any other country. One might think, therefore that there was close consultation between London and Washington on nuclear strategy. The available documentation, however, paint a different story. In October 1945, President Harry Truman unequivocally stated that “he would not share atomic know-how with anyone, not even the British” (Maddock 2010, 37) . Over the course of subsequent years, the UK leadership tried to persuade the Americans to relax the nuclear embargo on U.S. nuclear secrets (Reynolds 2013, 170) . In December 1949, for example, the British asked the Americans to engage in “ full cooperation in the military aspects of Atomic Energy ”, by sharing information about military operations with nuclear weapons, basing, and storage (FRUS 1949, I:622) . The 1946 Atomic Energy Act (known as the McMahon Act), however, made the disclosure of such details to the British “illegal” (Maddock 2010, 64) . The British saw this piece of legislation as “ a breach of faith ” (Pierre 1972, 76) . Its effects on Britain were wide-ranging: not only could it prevent Britain from acquiring its own nuclear deterrent (or at least to slow it down), but it also precluded access to Washington’s plans for nuclear use. Moreover, Britain’s pursuit of its own nuclear deterrent is powerful evidence that British leaders did not think they could rely on the United States to defend core British interests with the ultimate weapon (Gowing 1974, 220).

The Truman administration deployed nuclear-armed bombers to Britain in July 1948 when the Soviets were blockading Berlin (Duke 1987, 33) . British leaders expressed unease about having those weapons on their territory, mainly because there was no promise of consultation with the United States regarding when and how they would be used. For instance, British policymakers feared that the United States could decide to “use the A-bomb while we were arguing about whether it should be used” (Wheeler 1990, 138) . When it came down to which enemy targets would be attacked, they feared that “ British and American interests might diverge ” (Wheeler 1990, 136) . If the Americans failed to destroy all the Soviet military forces capable of targeting Britain, it would become a battleground and London would have little power to limit or end the war (M. Jones 2017, 18) .

Britain’s sense of vulnerability became even more acute after the Soviet Union tested its first nuclear weapon in August 1949. Britain was effectively a giant aircraft carrier for the

Strategic Air Command – the centerpiece of the U.S. nuclear arsenal – which transformed Britain into a primary target for a Soviet nuclear attack (Wheeler 1990, 137) . These various concerns would have been greatly ameliorated if American leaders had consulted with their British counterparts and sought to accommodate their fears.

As one would expect in an imperial alliance, lack of consultation and accommodation went hand-in-hand with dismissal and coercion. For example, after NATO was created in April 1949, Britain and Canada demanded that they be included in the process of devising the alliance’s extended nuclear strategy. American policymakers, however, brushed off British and Canadian demands, refusing to put in writing or make public any commitment to consult with the British and Canadians on the use of atomic bombs. They preferred instead to talk about “ informing ” their junior partners about such matters (Documents on British Policy Overseas 1951) . “More than that we cannot hope to obtain at present,” was the British response, which is a clear reflection of Britain’s subordinate position to the United States (DBPO 1951) .

There was hardly any consultation or accommodation in the case of West Germany, which is unsurprising given that it had not only suffered a devastating defeat in World War II, but it also had no military forces of its own between 1945 and 1954 (Schwartz 1991, 212) . Nevertheless, the alliance’s END strategy was of paramount importance to West German leaders, because their country was the front-line state in the Western alliance. A Soviet-led offensive on the Central Front would drive straight into West Germany. There were some important differences between Bonn and Washington about military strategy, but American leaders invariably dismissed their ally’s concerns. For example, the United States opted to locate the alliance’s main defensive line along the Rhine River, which meant that much of West Germany would be overrun before the main battles were fought. West German leaders wanted to defend their country at the intra-German border, so as to minimize the loss of territory to a Soviet-led offensive (Large 2000, 49–50) . The United States dismissed Bonn’s concerns and kept the alliance’s main defensive positions on the Rhine River throughout the first decade of the Cold War (D. A. Carter 2015, 183) .

The Americans used hard-nosed tactics with France as well. The French, who had contributed to the Manhattan Project, thought about developing a nuclear program – with dual purpose – after Nazi occupation of France ended in 1944 (Goldschmidt 1990, 214–15) . During the early Cold War, these plans did not materialize primarily because the Americans blocked their access to nuclear technology, patents, and materials (Wellerstein 2008). The United States, which was committed to preserving its nuclear monopoly, was especially fearful of the French effort, because the leading figure in the nuclear research field in France, Frederic Joliot-Curie, was a member of the Communist Party (FRUS 1945, II:2–5) . Washington was afraid that the French would pass on atomic secrets to the Soviet Union. Consequently, the United States acted to suppress the launch of a French national nuclear program by delaying the application of the atomic energy-related patents French scientists had filed before and during World War II (Wellerstein 2008, 69; Goldschmidt 1990, 298). This instance of coercion by denial infuriated French leaders, who became more determined than ever to escape the shackles imposed by Washington. They realized that the United States, “ while relying on nuclear weapons to guarantee their own security, tries to prevent

their allies from doing the same thing ” (Documents Diplomatiques Français 1954, II:29) . Therefore, the best strategy for France was to launch a secret nuclear weapons program. As in the British case, this move is evidence that Paris did not think Washington, as De Gaulle later quipped, “would be ready to trade New York for Paris” (Foreign Relations of the United States 1961, XIV:30) .

In sum, between 1945 and 1954, the United States dominated an imperial alliance, which extended deterrence to all its members via a strategy of nuclear unilateralism. American policymakers sought to limit the extent to which they consulted with their allies, resisted calls for accommodating them, ignored their concerns and demands, and sometimes coerced them to adopt positions or take actions that were congruent with U.S. interests, but not theirs.

The next section seeks to explain how the Western alliance, which formally became NATO in 1949, morphed into a hegemonic alliance starting in 1955. As my theory predicts, that alliance adopted an END strategy of nuclear umbrella.

NATO and the Nuclear Umbrella (1955-1989)

The balance of power between the United States and its allies changed markedly after 1954, mainly because of German rearmament. The United States remained the most powerful actor in NATO by a substantial margin, but it could no longer treat its allies as mere dependents. The alliance had become hegemonic. The junior partners’ improved power position vis-à-vis their patron shaped the formulation of the alliance’s END strategy. The Americans had to listen more carefully to what their allies’ views, adjust their own policies to address their allies’ needs, and refrain as much as possible from using force and coercion to gain agreement on key issues. The alliance’s deterrence strategy shifted to nuclear umbrella.

The 1954 decision to rearm West Germany and then admit it into NATO in 1955 fundamentally altered the balance of power inside that alliance (Zilian 2004, 225). By the early 1960s, West Germany had built and deployed 12 divisions and hundreds of tactical aircraft. By 1976, West Germany provided 42% of the combat divisions and 40% of all combat aircraft on the Central Front. In contrast, the United States provided 21% of the combat divisions and 18% of all combat aircraft in that arena.⁵ Nevertheless, West Germany was not the dominant country in NATO because it did not have nuclear weapons. The United States not only continued to maintain formidable conventional forces, but it also possessed a huge nuclear arsenal that was built in good part to contribute to both deterrence and warfighting on the Central Front. The U.S. thus remained the dominant member of the alliance.

Britain and France also had nuclear weapons, but the British arsenal was subordinated to the U.S. arsenal during this period, and France withdrew from NATO’s military command structure in 1966, two years after it deployed its first bomb (Norris and Kristensen 2010, 81) . In short, the balance of power inside NATO shifted markedly with West German rearmament, creating a situation where the United States, which was still a hegemon inside the alliance, now needed its allies to help provide security for all the members.

⁵These numbers are calculated from the tables in Fischer 1976, 8.

The shift in the intra-NATO balance of power caused that alliance to go from imperial to hegemonic. Although the United States was still much more powerful than its junior partners, it had to pay significant attention to their interests and could only rarely ignore or dismiss their requests, as it had often done in the first decade of the Western alliance. It also could no longer dictate policy to the other alliance members. To protect its own interests as well as those of its allies in this new hegemonic alliance, the United States abandoned nuclear preponderance and pushed NATO to adopt a different END strategy: nuclear umbrella.

With this umbrella strategy, the United States effectively tied its security to the security of its allies, thus putting itself at risk of ending up in a nuclear war because of its close ties with a junior partner. Washington employed a variety of tactics for extending nuclear deterrence to its allies. To begin with, American nuclear forces were deployed forward in Western Europe (Norris, Arkin, and Burr 1999) . Initially the allies did not have access to the American forward deployed warheads and the Americans were the only ones who could fight a nuclear war on the territory of the junior partners (Avey 2018, 99). Later, Washington agreed to give at least some allies U.S. nuclear warheads to use in a war. With some nuclear weapons deployed in Europe, there was a dual key arrangement, which meant that a junior partner could veto using those particular weapons in wartime (Gregory 1996, 21) . Furthermore, British nuclear weapons were deployed to Europe, where they were integrated with U.S. nuclear weapons (Arkin and Fieldhouse 1985, 39) . Very importantly, the United States formally committed to using its nuclear weapons to rescue an ally – Germany is the key here – if it was being overrun by Warsaw Pact forces.

These concessions notwithstanding, the United States went to great lengths to prevent nuclear proliferation within NATO, and it ultimately played the key role in shaping the deployment of NATO's nuclear arsenal. Most importantly, it remained principally responsible for determining whether nuclear weapons would be used in a conflict, and if so, where and how they would be employed. The possibility that the United States might not use its nuclear arsenal to defend an ally in desperate straits, as it promised, fueled fears of abandonment among the junior partners and created powerful incentives for them to get their own nuclear weapons. In short, the United States remained the dominant member of the alliance, although it now had to pay serious attention to the interests of its allies.

This section will now discuss in greater detail how the United States dealt with its NATO allies between 1955 and 1989. As in the previous case, my analysis will be couched in terms of the four key types of behavior that characterize relations between hegemon and their weaker allies. In particular, one should expect to see Washington engage in considerable consultation and accommodation with its junior partners, which will sometimes work, but not always. Nevertheless, there will invariably be instances where the United States dismisses the concerns of its allies and even a few cases where it attempts to coerce them. The subsequent discussion will focus on intra-NATO relations in three issue areas: force deployment on the Central Front, the alliance's decision-making process regarding nuclear use, and which NATO members possess nuclear weapons.

Force Deployments

West German leaders, as noted, cared greatly about having NATO place its main defensive positions on the intra-German border, not far to the rear on the Rhine River. During the early Cold War, however, the United States dismissed German concerns and continued to focus on defending along the Rhine River. But that situation changed after 1955, as American policymakers consulted with and accommodated West Germany by adopting and indeed vigorously supporting a forward defense strategy that was designed to thwart a Warsaw Pact offensive on West Germany's eastern border (Heuser 1997, 142) .

Turkey provides another example of Washington's increased interest in consultation and accommodation. In 1956, the United States unilaterally deployed tactical nuclear weapons on Turkish territory without informing Ankara, which did not request the weapons. Washington only later shared this decision with Turkish leaders, who were angered by this lack of consultation (FRUS 1956, XXIV:678–79) . This case, coupled with other similar instances, led American policymakers to change their ways and consult with their allies as much as possible before making decisions about force deployments on their territory. This new approach actually allowed Turkish Prime Minister Adnan Menderes to request that the United States place Intermediate Range Ballistic Missiles (IRBMs) in Turkey "in as great numbers as possible" (Nash 2000, 65) . Washington agreed and in 1961, a squadron of 15 Jupiter missiles was deployed near Izmir.

The Turkish case illustrates, however, that there were limits to U.S. consultation with its junior partners. During the 1963 Cuban Missile, the Jupiter missiles deployed in Turkey served as a bargaining chip in the Kennedy administration's dealings with Moscow. The Americans offered to withdraw those IRBMs from Turkey (and Italy) in exchange for the Soviets pulling their nuclear weapons out of Cuba. President Kennedy took the decision to withdraw the missiles without giving Turkey any say in the process (Criss 1997, 118) . Despite Turkey's displeasure with the deal, Washington did not change its mind (Seydi 2010, 451). The hegemon was still calling the shots.

Nuclear Decision-Making

The junior partners in NATO were deeply concerned about the fact that they had hardly any say in the alliances decision to use nuclear weapons, and they made their views clear to the United States. In response, American policymakers sought creative ways to involve their allies in the decision-making process. One scheme the Americans put forward called for making sure that a European military officer always held the position of SACEUR (Trachtenberg 1999, 214) . This arrangement would entailed allowing SACEUR to order the use of U.S. nuclear weapons that were integrated into NATO without having to secure authorization from Washington. This policy of turning the SACEUR job over to a European nuclear rotational command would have largely eliminated the process of consultation between the United States and its junior partners over the use of nuclear weapons. Indeed, it would have given a non-American the capability to start a nuclear war, which could lead to the destruction of the United States. American policymakers, however, could not conceive putting the survival of their country in the hands of a European leader, which meant that U.S. President Dwight Eisenhower ultimately shelved the rotational command proposal.

The creation of the Nuclear Planning Group (NPG) in 1966 provides another example of the United States working to consult with and accommodate its NATO allies on nuclear decision-making while actually maintaining control over the process (Sayle 2019, 115 – 16). In theory, the NPG was a consultative body – not a policymaking body – in which all the members were supposed to have an equal say over a broad range of nuclear policy issues (Johnston 2017, 105) . In practice, however, the United States dominated the proceedings. For starters, it operated as a two-tiered system. The most powerful countries in the alliance – Britain, Italy, the United States, and West Germany – were permanent members. The less powerful states – such as Turkey, Greece, the Netherlands, and Belgium – took turns occupying the remaining three seats, one year at a time (Gregory 1996, 32–33) . This discriminatory system ended in 1979, when all the members were given a permanent seat. The United States, however, had already devised another way for dominating this important deliberative body. In 1977, it created the High-Level Group (HLG) to serve as the senior advisory body to the NPG. The U.S. appropriated for itself the position of HLG chair, which ensured that it would play the key role in shaping the discussions in the HLG, and in turn the NPG (Buteux 2011, 197).

Who Gets Nuclear Weapons?

There were two ways that junior partners could acquire nuclear weapons: they could build their own or be given U.S. nuclear weapons. Regarding the latter option, they might have physical control over the American weapons, but require authorization from the United States to use them. Or they might have control and not require permission from Washington to use them.

It is a popular belief today that junior partners in NATO like West Germany had direct control over American nuclear warheads; some even argue that those U.S. allies could have used those weapons on their own (Trachtenberg 1999, 146; Korda 2018). But such views are unsubstantiated by the empirical evidence. No other country had control of U.S. nuclear weapons in peacetime, much less the authority to use them as they saw fit. As Daniel Charles shows, “U.S. ‘custodial units’ maintain[ed] direct physical control of the nuclear warheads at all times” (Charles 1987, 12) . Nevertheless, the United States deployed nuclear weapons on the territory of its allies and it agreed to consult with them in wartime about the possibility of the custodians giving U.S. warheads to the allies to use against the Warsaw Pact. In other words, there was a real possibility that in the event of a conflict, the United States would give at least a few of its junior partners the green light to fight with American nuclear weapons. This change was a major step forward for NATO’s weaker members, who had no prospect of using nuclear weapons in wartime during the first decade of the Cold War.

The United States went to great lengths to prevent unauthorized use of its nuclear weapons by its allies. Specifically, locks were placed on every American nuclear warhead in Europe; these were the so-called Permissive Action Links (PALs). If “ the correct code or combination [was not] entered into the PAL, the warhead [was] rendered unusable” (Charles 1987, 54) . The National Command Authority, meaning effectively the American president or someone he delegated in the chain of command, kept the codes until “ the moment of release ” when they would be “ transmitted to the delivery team along with the employment

order ” (Charles 1987, 54) . SACEUR, who was always an American military officer, either had access to the codes during peacetime or would be given access in a crisis. Thus, an American leader always had the final word over whether U.S. nuclear weapons would be used in the defense of Western Europe (Trachtenberg 2003, 44–45) . The allies had a veto over the use of U.S. nuclear weapons from their territory, but the relationship remained asymmetric, as Washington could still use its strategic nuclear arsenal (located on American territory or on submarines) without the permission of their allies.

There is also the matter of other NATO countries having their own nuclear weapons. Despite Washington’s efforts to prevent proliferation, Britain joined the nuclear club in 1952, although it took a few years to develop a good-sized nuclear arsenal. The United States responded to this unwelcome development by integrating the British arsenal into NATO’s umbrella strategy, while at the same time doing everything possible to subordinate that arsenal to U.S. control. Specifically, Washington agreed to provide London with delivery vehicles for its nuclear warheads – land- and sea-based launchers (Kelleher 1987, 465) . In return, Britain committed some of its nuclear forces to NATO, so that “ they are subject to the command of SACEUR in wartime ” (Charles 1987, 16) . Britain kept the sovereign right to use its nuclear weapons without American approval, but in fact coordination between London and Washington became so deep-seated that experts dubbed the British nuclear deterrent as “ pseudo-independent ” (Arkin and Fieldhouse 1985, 89) .

As mentioned in the previous section, the United States was deeply opposed to France acquiring its own nuclear deterrent. After experiencing Washington’s strong-arm tactics when NATO was an imperial alliance, France took advantage of the change in the intra-alliance balance of power to pursue the nuclear option with renewed vigor. The French demanded what amounted to ‘reparations’ from London and Washington. French leaders were animated by the hope that the Americans would give them “full possession” of U.S. nuclear warheads (Melissen 1994, 262). To compensate for the time Paris lost in its nuclear pursuits because of Washington’s opposition and London’s unwillingness to cooperate, French Prime Minister Charles de Gaulle asked the Americans and the British in September 1958 to create a troika that would “put into effect strategic plans of action, notably with regard to the employment of nuclear weapons” (FRUS 1958, VII:83) .

De Gaulle’s scheme for putting France atop the Western alliance with Britain and the United States, despite the fact it did not possess its own nuclear weapons, effectively amounted to a nuclear sharing arrangement, whereby France would have the authority to use American or British nuclear weapons to defend itself (Bozo 2002, 2) . This idea, which reflected liberal institutionalist thinking – intergovernmentalism in particular – went nowhere, because the United States, operating according to basic realist logic, opposed it.

When the John F. Kennedy administration came to power in 1961, it looked for ways to compel the UK and France to abandon their independent nuclear forces by assimilating them into a supranational arrangement (Timerbaev 1999, 209 – 10). Washington also sought to prevent West Germany from joining the nuclear club (FRUS 1963c, XIII:543). Kennedy pursued a number of liberal-institutionalist approaches that emphasized nuclear sharing, building on proposals launched by the Eisenhower administration. One such older idea was to create a stockpile of nuclear warheads under SACEUR’s control, while also creating a

special NATO working group to coordinate research and development on advanced weapons (Nutti 1998, 78) . That idea later morphed into a plan to form a NATO Medium Range Ballistic Missile (MRBM) force (Schrafstetter and Twigge 2004, 135 – 36). In effect, London and Paris, together with help from Washington, would cede control over their MRBMs to create an independent European nuclear force, which would ultimately decide when and how those weapons would be used (Heuser 1997, 148–72) . This nuclear force would have relied on supranational institutional mechanisms, which would have been at odds with realist, balance-of-power logic.

Another option that the Kennedy administration considered was the Multilateral Force (MLF), which approximated a supranational institution as well. The MLF entailed placing American nuclear weapons on surface ships, manned by NATO crews comprised of American, British, Dutch, German, Greek, Italian, and Turkish officers, working side-by side (FRUS 1963b, XIII:538–40). They would not, however, be acting as representatives of their own home countries, but as delegates of the alliance itself, which would be operating independently of the United States, even though it was equipped with American nuclear weapons.

De Gaulle understood that these nuclear sharing arrangements were designed to strip France of its independent nuclear deterrent, which was clearly not in France’s strategic interest (Timerbaev 1999, 213). Therefore, in June 1964, when the United States set the train in motion to create an MLF by launching a mixed-manning experiment on the nuclear-armed USS Ricketts, the French steered clear and declined to join (Priest 2005, 769) . De Gaulle also refused to place French nuclear weapons under the command of SACEUR in wartime, as the British did, since doing so meant compromising the independence of France’s force de frappe (Charles 1987, 16) . Indeed, France went so far as to withdraw from NATO’s integrated military command in 1966 (Bozo 1996) . In short, once France acquired its own nuclear weapons, it behaved according to realist dictates and dismissed the various liberal-institutionalist proposals put forward by the United States.

France ’ s history within NATO illustrates the tug of war that invariably takes place between the dominant power and its junior partners in a hegemonic alliance. Despite putting forward different proposals to accommodate French concerns about nuclear deterrence, the United States ultimately could not do enough to satisfy its ally. Washington was too committed to maintaining its hegemonic position in the alliance to allow France to have a finger on a nuclear trigger. France’s defection from NATO in 1966 did not prevent Washington from continuing to exert extensive influence within the alliance. On the contrary, getting rid of a troublesome junior partner cleared the way for reinforcing American influence over its allies.

France was not the only NATO member to see its requests regarding the alliance’s END strategy dismissed by the United States. West Germany, which was the frontline state, did not have its own nuclear weapons, and feared that the United States would not use its nuclear weapons to defend it in the event it was being overrun by Warsaw Pact forces. Given its precarious strategic position, Bonn actively pursued ways to gain more influence over any decision to use nuclear weapons (Lutsch 2016, 542). Hence, it showed great enthusiasm for the MLF (FRUS 1963a, XIII:533). Italy was also enthusiastic about those two options,

although for different reasons. Italian leaders wanted to join the MLF in order to gain status and be recognized as an equal of the other junior partners (Nutti 1993, 128–29) . Yet, they quickly came to realize that despite Washington’s interest in considering these supranational arrangements, they would never materialize, because they would undermine America’s hegemonic position in NATO. The Italian Ambassador to Washington, for instance, indicated in 1963 that he “did not believe Kennedy will apply pressure to see the MLF become reality because this is not a principal interest of the U.S., but of Europe” (Archivio Centrale dello Stato 1963, busta 7).

West Germany held out hope that the MLF could be made to work and tried to put pressure on Washington to fulfill its promise (Lanoszka 2018a, 65). But the Italians’ insight that the MLF was not in the American national interest was correct and the United States rebuffed Bonn’s demands. Six months after initiating the June 1964 mixed-manning experiment, President Lyndon Johnson appointed a blue-ribbon committee to conduct a thorough review of U.S. nuclear non-proliferation policy. One conclusion this task force reached did not portend well for this supranational institution: Our “ priorities should be reversed. Even a small chance of halting proliferation may be worth [sacrificing] a dozen MLFs ” (Lyndon Baines Johnson Library 1964) . The Americans worried about the unintended consequences of the MLF on West Germany: “ the MLF may in time appear to the Germans as an arrangement in which they pay for nuclear missiles without having real control of them. This attitude is likely to foster pressures for developing a German national nuclear capability ” (LBJL 1964) . The Johnson administration solved this problem by abandoning the MLF and in its place creating the NPG.

The United States would even occasionally use coercion to affect the behavior of its allies. As Gerzhoy argues (2015, 119–26) , Washington forced a reluctant West Germany to accede to the Treaty on the Nonproliferation of Nuclear Weapons (NPT). In the early 1960s, the United States and the Soviet Union started the negotiations that would lead to the creation of the NPT in 1968. This development caused great alarm in Bonn, given that it appeared that its protector was colluding with its principal enemy, and thus might not come to its rescue with nuclear weapons. American leaders, however, were keen to cooperate with the Soviets for purposes of limiting proliferation (Coe and Vaynman 2015) . Articles I and II of the treaty banned both the acquisition of nuclear weapons and MLF-type arrangements (Alberque 2017, 39). The United States threatened West Germany with abandonment, if it refused to sign the NPT. Germany ultimately caved into American pressure and joined the NPT, signing it in 1969 and ratifying it in 1975.

While the use of coercion by the United States was less frequent when the Western alliance was hegemonic rather than imperial, American policymakers refused to give it up as an instrument of alliance management. The junior partners could shape extended nuclear deterrence in certain ways for sure, but there were real limits to what they could ultimately do. The intra-NATO balance of power decidedly favored the United States between 1955 and 1989, which allowed that hegemon to sometimes act in heavy-handed and hypocritical ways. That behavior naturally raised doubts among the junior partners about whether the United States could be counted on to deliver on its promise to use its nuclear weapons on behalf of its allies. Those doubts notwithstanding, the nuclear umbrella strategy remained

intact throughout the second period of the Cold War. None of the liberal institutionalist alternatives came close to being realized.

The next section will analyze the other side of the Iron Curtain and examine the Soviet-led alliance in Eastern Europe between 1949 and 1956. Like its counterpart in the West during the early years of that bitter conflict, it was an imperial alliance with an END strategy of nuclear unilateralism.

The Eastern Alliance and Nuclear Unilateralism (1949-1956)

The Soviet Union was not just the most powerful state in the Eastern alliance in the first decade after World War II, it was the only one that had the capability to wage a major inter-state war. Indeed, the Soviet military by itself was responsible for providing security for its allies before 1957. Thus, this Moscow-dominated alliance was a textbook case of an imperial alliance, which adopted nuclear unilateralism as its END strategy.

During the period from 1949 to 1956, Czechoslovakia, East Germany, and Poland all had armies that might have been useful for internal security but were largely useless for waging war on the Central Front. The Soviets provided them with obsolete weaponry and little combat training. Moreover, Moscow “ dispatched Soviet officers to hold key appointments . . . and insisted on privileges and rights for Soviet officers in each Eastern European ally” (Mackintosh 1984, 42) .⁶ Regarding the Polish military, for example, a RAND study found that: “ Its poor state of organization, inadequate weaponry, and limited combat capability are ubiquitous themes in the many frank critiques of the 1949-1955 period contained in post-1956 Polish military writings ” (Johnson, Dean, and Alexiev 1982, 20). In contrast, the Soviet Union, which had played the main role in defeating the vaunted Wehrmacht in World War II, maintained formidable ground and air forces on the Central Front, and could mobilize millions in the eventuality of a war. In addition to the Soviet Union’s unambiguous dominance at the conventional level, it was the only country in the Eastern alliance that had nuclear weapons. In short, the intra-alliance balance of power overwhelmingly favored Moscow over its allies.

In light of this stark power asymmetry, the Eastern alliance was imperial at its core in the period up to 1957. The Soviets dominated the decision-making process and paid hardly any attention to the interests of their allies (Bunce 1985, 6) . Soviet leaders focused almost exclusively on advancing their own interests. Toward that end, they initially established an alliance system based on bilateral treaties with each one of its weaker allies, forbidding them from having independent diplomatic relations with Soviet enemies and forcing them to allow Soviet military forces to be stationed on their territory (Jersild 2011, 114). Moscow also appointed special advisers to shape the domestic and foreign policies of its dependents (Simon 1985, 2) . In theory, the role of these advisers was to consult with the Eastern Europeans about economic, military, and political problems. In reality, they controlled most of the key decisions inside those countries. As Joseph Stalin made it clear in 1948, “ Moscow was determined to control the foreign policies of its allies ” (Holloway 1994, 257) .

⁶See also Johnson, Dean, and Alexiev 1982; Wolfe 1966; 1970.

In May 1955, in the immediate aftermath of NATO's decision to admit a rearming West Germany, the Soviet Union created the Warsaw Pact, which included not just Czechoslovakia, East Germany, and Poland, but also Albania, Bulgaria, Hungary, and Romania (Wolfe 1966, 191). With Moscow at the helm, the Eastern alliance embraced nuclear unilateralism. That END strategy was designed to allow the Soviet Union to protect its own interests, while protecting the interests of its weak allies only when it saw fit. Eastern Europe was a "defensive shield" (Schmid 2011, 127) or, as some put it, a "buffer zone" meant to protect the Soviet Union from an attack from the West (Kramer 2010, 59). Those allies had no input in the formulation of that extended deterrence strategy, even though it might have profound consequences for their survival. Nor would they have any say as to when and how the alliance's nuclear weapons would be used in a future crisis. The Soviets would be in complete control on those matters. Soviet leaders were deeply committed to maintaining a monopoly on nuclear weapons, which meant preventing any of their allies from acquiring their own nuclear weapons or having access to Soviet warheads (Modelski 1959, 124). In essence, the junior partners' security was subservient to Moscow's security – a key feature of imperial alliances.

The following section will examine in more detail how the Soviet Union engaged with its far weaker East European allies between 1949 and 1956. There should be little evidence of consultation and accommodation with the junior partners, given the imperial nature of the alliance, but much evidence of dismissal and coercion.

The Soviet Union did not consult with its allies on matters relating to nuclear strategy, which Moscow considered its eminent domain. Soviet leaders not only refused to engage in meaningful dialogue with the East Europeans on how they would employ nuclear weapons to defend the alliance, but they also provided them with hardly any information about the basic features of Soviet nuclear strategy. Moreover, despite the fact the Soviet Union depended on its allies for the uranium it needed to build its nuclear arsenal, Moscow kept to itself all information concerning the location and the size of its nuclear arsenal (Modelski 1959, 124).

Nevertheless, the East European allies occasionally tried to have some input in the alliance's END strategy decision-making process. When this happened, however, Soviet leaders dismissed their weaker partners' demands. Stalin, for example, effectively put the Polish military under Soviet control in 1949 when he installed Field Marshal Konstantin Rokossowki, a Soviet citizen of Polish origins as Poland's Minister of Defense (Kramer 1998b, 169). Furthermore, several thousand other Soviet officers occupied important positions up and down the Polish army's chain of command. Not surprisingly, this direct assault on Poland's sovereignty was deeply unpopular in that country and its leaders made its discontent clear to Moscow throughout the 1950s. But to little avail until 1957, when the Warsaw Pact began to morph from an imperial alliance into a hegemonic one (Library of Congress 1957, 90).

Even after the Warsaw Pact was created, the Soviets continued to eschew consultation with their allies, at least at the beginning. The Pact contained an institutional mechanism that was designed to facilitate the exchange of information between the Soviet Union and its allies. The body, which was called the Political Consultative Committee (PCC), was

intended to facilitate immediate consultation among the members in case of a enemy threat or attack (Rodionov et al. 1975, 7). Because the Warsaw Pact did not have a secretariat or a standing body on foreign affairs, the PCC offered the East European allies their only formal venue for making their voices heard (Crump 2015, 143) . Yet, the Soviets convened meetings of the PCC only when they saw fit and completely controlled the agenda. Therefore, the weaker partners had virtually no opportunity to influence the alliance's END strategy.

A key aspect in Moscow's strategy of nuclear unilateralism was the link between the Soviet nuclear arsenal and the role of the supreme commander within the eastern alliance. When the Pact came into existence in May 1955, the " Statute of the Warsaw Pact Unified Command," which describes the duties and responsibilities of the supreme commander, had not yet been written. Four months later, Khrushchev, sent his East European allies a draft of the Statute drawn up in Moscow; there had been no prior consultation with them on the substance of the text (Mastny and Byrne 2005, 5). At the first meeting of the Pact in Prague in January 1956, the members unanimously approved the Soviet version of the Statute. Although it did not specify the nationality of the supreme commander, the position could only go to a high-ranking Soviet military officer (Kramer 1985, 46) . Moscow sought to make sure that no one from outside the Soviet Union, including their allies Warsaw Pact, had any decision-making authority when it came to the Soviet nuclear arsenal. In short, the institutional set-up in the Pact, was designed to guarantee a top-down approach to decision-making, with all power concentrated into Moscow ' s hands.

The Poles, however, began to contest the institutional structure of the Eastern alliance soon after it was put in place, all for the purpose of increasing the input of the weaker members in the alliance's decision-making process. Specifically, they suggested that the position of supreme commander should rotate among the different countries of the Warsaw Pact and not just be confined to senior Soviet generals (Mastny and Byrne 2005, 10). Polish leaders also called for the creation of a Military Consultative Committee (MCC), which would have superseded the PCC and given the East European members at least some say in designing the END strategy of the alliance (Library of Congress 1957) . The Poles also maintained that the chairmanship of the MCC should be handled on a rotational basis. These suggestions, which were motivated by liberal institutionalist ideas about intergovernmentalism, would have given the junior partners significant influence on END strategy, and even control over the nuclear arsenal that underpinned the Warsaw Pact. At the core of these proposals for a rotational nuclear command lay the idea of removing decision-making power on END issues from the sole hands of the Soviets and transferring it to the institution itself.

The Soviets, ever keen on maintaining the Warsaw Pact as an imperial alliance, quickly dismissed Warsaw's demands. They refrained from punishing the Poles in any meaningful way (Mastny 2001, 12 – 13). Polish leaders, including reform-minded generals, escaped Moscow's wrath because they did not question the primary goal of the military alliance: the defense of communism against Western imperialism (Archiwum Akt Nowych 1956). The Poles were firmly committed to maintaining the Eastern alliance, because of their fear of a rearmed West Germany, which was closely integrated into a rival alliance that was armed to the teeth with nuclear weapons (Mastny 2001, 12). This is not to say, however that Warsaw and Moscow always had harmonious relations, because they did not. For example, large-

scale demonstrations erupted in Poland in June 1956, because of the Polish Communists' inability to improve living standards (Machcewicz 2009, 75). Khrushchev considered a military intervention but opted not to intervene in the end (Rossiyskiy Gosudarstvennyy Arkhiv Noveyshey Istorii 1956). Nevertheless, the Soviets and the other Pact states treated Poland as the *bête noire* of the alliance for much of 1957, giving it the cold shoulder at PCC meetings (Mastny and Byrne 2005, 9).

If an East European ally overstepped its bounds and threatened to defect from the alliance or undermine it fundamental ways, the Soviets invariably turned to coercion. The case of Hungary in 1956 offers a telling example that stands in marked contrast to what happened to Poland that same year. Fed up with the policies imposed on Budapest by Moscow, including the exploitation of its uranium ore for the benefit of the Soviet nuclear arsenal, a student protest broke out in Budapest on October 23, 1956, which quickly turned into a national uprising (Békés, Byrne, and Rainer 2002, 13). The Soviets tried to defuse the crisis by issuing a public declaration on October 30, 1956, effectively proclaiming their support for the pursuit of equality among socialist states and respect for their sovereign rights (RGANI 1956) .

It quickly became clear, however, that appeasing the protesters would not work. The Soviets, prodded by China's Mao Zedong and with support from their other East European allies, invaded Hungary to crush the rebellion (Arkhiv Prezidenta Rossiyskoy Federatsii 1956). The Soviet leadership had already given the orders to invade when Hungarian Prime Minister Imre Nagy publicly announced that Hungary would pull out of the Warsaw Pact and declare itself neutral, like neighboring Austria (Békés, Byrne, and Rainer 2002, 212). Hungarian neutrality would have compromised the security of the alliance 's southwestern flank and also might have been interpreted by other Soviet allies as evidence that they too might be able to exit the Pact. Soviet leaders claimed that fascist elements were attempting to take control in Budapest, which would threaten other socialist countries in the region, weakening the alliance from within. They replaced Nagy with János Kádár to guarantee that Hungary would toe the line imposed by Moscow and remain a member of the Pact. The invasion of Hungary shows that if it was necessary to use force to maintain the integrity of the Warsaw Pact, the Soviets would do so, although as the Polish case illustrates, they preferred to deal with disputatious allies without resorting to coercion if possible (C. D. Jones 1977, 239) .

In sum, the Soviet Union dominated its imperial alliance in Eastern Europe between 1949 and 1956, which accordingly adopted an END strategy of nuclear unilateralism. This strategy meant that Soviet leaders kept the degree of consultation with their allies to a minimum, largely ignored their concerns, resisted their calls for accommodation, and used force when necessary to keep them from threatening Moscow's vital interests. Soviet nuclear weapons provided protection for the junior members of the Eastern alliance, but that protection derived from policies that were first and foremost designed to serve Soviet interests, not their allies' interests.

The focus in the next section will be on explaining how the Warsaw Pact turned into a hegemonic alliance between 1957 and 1989, and as my theory predicts, adopted a nuclear umbrella strategy to extend deterrence to its East European allies.

The Warsaw Pact and Nuclear Umbrella (1957-1989)

The Soviet-dominated Warsaw Pact converted from an imperial alliance into a hegemonic one beginning in about 1957. The underlying cause was a dramatic change in the balance of power inside the Pact, which was in turn prompted by a dramatic change inside NATO in 1955. As a result of German rearmament and the incorporation of German troops into NATO, that alliance began to grow substantially in size and by the early 1960s was a much more formidable enemy than it had been in previous years. Therefore, NATO posed a much greater threat to the Pact than it had posed in the first half of the 1950s. This transformation prompted Moscow to find a way to improve the Pact's conventional forces to counter the growing threat from the West. Soviet leaders did not deal with this problem by increasing the number of troops in the Pact to offset the increased number of NATO troops that resulted from the Germans coming on line.

They instead opted to meet the challenge by markedly improving the quality – not the quantity – of the Pact's fighting forces. Specifically, Moscow fundamentally altered its approach to dealing with the armies of its East European allies, which had previously been used for internal security, but not much else. The principal aim was to arm and train the Czech, East German, and Polish militaries to fight a major conventional war on the Central Front, side-by-side with the Soviet military.⁷ Toward that end, Moscow moved to give its allies greater autonomy and allow them to build truly national armies by removing Soviet personnel from their ranks (C. D. Jones 1992, 108–9) . The Soviets, for example, agreed to remove Marshal Rokossovki from the helm of the Polish military and also signed a more favorable status-of-forces agreement with Poland (Mastny and Byrne 2005, 9). With respect to the other Pact members, the Soviets recalled their special military advisers from those East European allies that no longer wanted them, as promised in October 1956 (C. D. Jones 1977, 198–99) . Moscow also developed extensive plans for how the four armies would fight together, and began large-scale joint training exercises (Mastny and Byrne 2005, 19). Finally, it provided its allies with modern weaponry of all kinds, which would help them stand up to NATO's forces in the event of a war (Meyer 1987, 517) .

By the early 1960s, the Soviet Union could rely on its allies to help it fight a war against NATO (C. D. Jones 1992, 112) . The extent to which the Soviets were no longer going it alone, and instead depending on their allies to fight a major European war is reflected in the fact that by 1976, the Soviets provided just 46% of the combat divisions and 43% of the combat aircraft on the Central Front.⁸ The Soviet Union remained the dominant state in the Warsaw Pact, but it was no longer the only member with the capability to fight a major war on the Central Front.

Once the Warsaw Pact became a hegemonic alliance, the Soviets had little choice but to listen more carefully to what their junior partners had to say, accommodate their demands as much as possible, and greatly limit their use of coercion. Accordingly, the alliance's END

⁷Regarding the fundamental transformation that took place in the Czech, East German and Polish militaries starting in 1957, see Wolfe 1966; 1970; Johnson, Dean, and Alexiev 1982; Mackintosh 1984; Rice 1984.

⁸These numbers are calculated from the tables in Fischer 1976, 8, 31.

strategy shifted from nuclear unilateralism to nuclear umbrella, which meant that the Soviets had to pay serious attention to their allies' interest and could not just focus on theirs alone. Thus, Moscow agreed to link its security to the security of its junior partners, promising to defend them with Soviet nuclear weapons in the even of a war (Kramer 1995, 113) . In effect, the Soviet Union was putting itself at risk of getting dragged into a nuclear war for the sake of its East European allies. The Soviets also placed nuclear weapons on their allies' territory and committed to allowing those allies – under the right circumstances – to use those warheads, alongside Soviet troops, in case of a war on the Central Front (Arkin and Fieldhouse 1985, 264 – 67; Vojenský ústřední archiv 1959; VÚA 1964, 1 – 18).

The East European allies did not have their own nuclear weapons, so the Soviets did not have to be concerned with figuring out how to integrate other country's nuclear arsenals with their own. The Soviets, like the Americans, sought to prevent their junior partners from acquiring their own nuclear deterrents (Potter 1985, 468) . Moscow also maintained the right to launch nuclear weapons without the approval of its allies (Mastny and Byrne 2005, 30). There was no question that the Soviet Union remained the dominant state in the Warsaw Pact, although its allies were now more powerful than they had been in the early Cold War.

This section will examine the interactions between Moscow and its East European allies from 1957 until the end of the Cold War, an interval when the Pact was a hegemonic alliance. The Soviets should engage in substantial consultation with their junior partners and accommodate them as much as possible. Nonetheless, there will be times when Soviet leaders dismiss their allies' concerns, and even instances where they either do not consult their allies and act unilaterally as well or coerce them with threats of punishment or actual punishment.

There are numerous instances where the Soviets not only consulted with their allies, but also made a serious effort to accommodate them. This pattern of behavior is evident with regard to the all-important issue of the Warsaw Pact's nuclear strategy. Starting in 1957, Moscow began engaging in meaningful dialogue with its junior partners about the alliance's END strategy. The members discussed the Pact's plans for fighting a nuclear war and the various ways to employ nuclear weapons to defend the alliance (VÚA 1959; 1964) . The Warsaw Pact also held command post exercises, which facilitated coordination among the allies as well as a deeper grasp of what the alliance would do in case of a war (Archiwum Instytucji and Centralnych MON 1963). Thus, the Soviets gave their junior partners an important role to play on the battlefield that involved them using nuclear weapons.

Starting in 1959, the Soviets provided nuclear-capable aircraft to some of their East European allies (Kramer 1995, 112) . In the early and mid-1960s, the Soviets also deployed the necessary nuclear warheads, but in peacetime, they kept them on Soviet bases located on allied territory, under Soviet control. In wartime, however, key allies like Czechoslovakia, East Germany, and Poland would be given some of these nuclear weapons, which they would then mount on delivery systems they had purchased from the Soviet Union for use against an agreed-upon target list (VÚA 1964) . The junior partners were trained by the Soviets on how to use these weapons in wartime (VÚA 1957) . The final decision on whether any of the Soviet warheads would be used rested with the Pact's supreme commander, who had to

secure approval from the national command authority in Moscow (VÚA 1964) . This *modus operandi*, which was fundamentally different from the one that existed in the early years of the Eastern alliance, served to reassure the weaker allies that they would not be cannon fodder in the event of a major war on the Central Front.

The Soviets attempted to adjust other policies related to extended deterrence to suit their junior partners. For example, in 1962, Khrushchev offered to pull Soviet troops out of Poland and Hungary, in part because he knew that their presence aggravated Polish nationalists, which might lead to a major uprising that would badly damage the Pact (*Prezidium TsK KPSS 1954-1964* 2003, 1:1169). Withdrawal was also attractive to Moscow, because it would have freed up money that could have been used for other military purposes. But Polish and Hungarian leaders asked Khrushchev to keep the Soviet troops in their countries, mainly because they provided protection against possible West German aggression (Arhivele Naționale Istorice Centrale 1962) . The USSR honored the requests of its junior partners and 6 divisions remained stationed in those countries.

In a similar case, Romania asked the Soviets to withdraw their troops from Romanian territory. Budapest's first request was made in 1955, but Khrushchev quickly rebuffed it (Deletant 2011) . The Romanians tried again after the October 1956 Soviet Declaration (Granville 2010) . Moscow finally agreed in August 1957 and one year later the Soviet army left Romania. Yet, the Romanians remained embedded in the Warsaw Pact and continued to benefit from the Soviet nuclear umbrella. The reason the Soviets could provide protection for Romania from afar was that they successfully flight tested the first ICBM in August 1957. After that date, "the possibility for withdrawing Soviet troops emerged, because now the USSR could counter-attack from Soviet territory" (ANIC 1962) . The Soviet could thus accommodate their junior partners' requests and, at the same time, ensure their survival, the security of the Warsaw Pact, and Moscow's position as the hegemon in that alliance.

Moscow also tried to accommodate its allies by experimenting with some supranational arrangements that would bolster their confidence in the Pact's extended deterrence strategy. One proposal was aimed at developing a capability similar to NATO's MLF. Specifically, on November 22, 1957, Khrushchev told Randolph A. Hearst, the American media mogul, that the Soviet Union would share its nuclear weapons with its allies if the United States shared its nuclear arsenal with its NATO allies (Mastny and Byrne 2005, 11 – 12). A few years later in April 1962, anticipating that NATO would create the MLF, the Soviets threatened to retaliate by creating an MLF of their own, which meant sharing their nuclear weapons with their allies (Pravda 1962; Scînteia 1962). The Hungarian leader, Kádár, reacted enthusiastically to the idea, as did the Albanian leader, Enver Hoxha (AAN 1964, 626; Stiftung Archiv der Parteien und Massenorganisationen 1965). On the other hand, the Polish leader, Gomulka, had serious doubts about the political and military utility of a maritime multilateral nuclear force for the Pact (AAN 1964, 630) .

Soviet leaders eventually let their MLF proposal die for two main reasons. First, the need to use it as a threat against NATO disappeared in 1966 when United States put an end to its own mixed-manning experiment. Second, like the United States, the Soviet Union did not want to relinquish full control over its nuclear arsenal, since doing so would endanger its survival, fuel nuclear proliferation, and strip it of its hegemonic role in the alliance

(Kramer 1995, 113) . Ultimately, the idea of an MLF did not make good strategic sense for either superpower, although both Moscow and Washington flirted with the idea as a way of accommodating their allies, who worried that their alliance’s nuclear umbrella would not cover them on a rainy day.

Although the Soviet Union sought to accommodate its allies when possible, it did not hesitate to dismiss proposals that were not in Moscow’s strategic interest. For example, after the idea of building an MLF inside the Warsaw Pact withered away, another intergovernmental arrangement was put forward by a junior partner. In 1966, Romania recycled the Polish proposal from a decade earlier, calling for rotating the Pact’s supreme commander position among all the members. The rotational nuclear command proposal meant that the Romanians and other junior partners would have a finger on the nuclear button for some appreciable period of time (ANIC 1966, 122–23) . This situation created the possibility that Soviet warheads might be used without the Kremlin’s permission. The Soviets once again rejected this idea, for the simple reason that they did not want any other country deciding when the Pact’s nuclear weapons would be used, since their survival would be at risk in a nuclear war.

Soviet leaders remained aware, however, that their allies worried about the credibility of Moscow’s commitment to the alliance’s nuclear umbrella strategy. To assuage their junior partners’ fears, the Soviets resorted to a variety of minor gestures, including verbal assurances. For example, in May 1966, when the Soviets were giving the cold shoulder to the Romanian proposal to rotate the supreme commander position, Brezhnev urged Romanian leader Nicolae Ceausescu to have faith in the Soviet nuclear umbrella: “if a bomb is dropped on Romania, then in 30 seconds a retaliatory bomb drops on the country in which the first strike originated. [...] The USSR has nuclear weapons and took upon itself the task of defending the entire [communist] community with its atomic weapons” (ANIC 1966, 122–23) . The Soviet Union also pretended to accommodate Romania’s request by including a provision about a rotational command in the reforms package adopted in March 1969 (ANIC 1969, 26) . In reality, this concession did not amount to much, as the rotational command principle only applied to the newly created MCC. The supreme commander position remained the prerogative of the Soviet Union. Moscow kept its nuclear weapons outside the control of its junior partners and maintained its position as a hegemon in the alliance.

The Soviets occasionally acted unilaterally on important matters relating to the Pact without even consulting their allies. Unsurprisingly, this behavior caused great anxiety among the junior partners. For instance, Khrushchev sent his son-in-law and *Izvestia* editor-in-chief, Alexey Adzhubei, to Bonn in the summer of 1964 to talk with West German leaders about Soviet-German relations (Zubok 2009, 211). During these conversations, Adzhubei implied that “ Khrushchev was willing to forego the longstanding security interests of both Poland and the GDR – including the prevention of West German access to nuclear weapons – for the sake of a rapprochement with Bonn ” (Selvage 2001, 32:10) . For starters, allowing West Germany to acquire nuclear weapons would have immediately created an existential threat to countries on the Central Front, especially East Germany and Poland. Moreover, a Soviet-West German rapprochement would have drastically reduced the threat the West presented to Moscow, which would have weakened the Soviet’s commitment to the Warsaw

Pact, thus further undermining the security of its East European allies.

In the eyes of the Poles and the East Germans, Khrushchev's move amounted to nothing less than the Soviets selling out their two most important allies. After Khrushchev was deposed in October 1964, the Poles and the East Germans expressed their anger about this egregious lack of consultation to the new leadership in Moscow (*Prezidium TsK KPSS 1954-1964* 2003, 1:1201). The new head of the Soviet Union, Leonid Brezhnev, committed to taking the East European allies' interests into account more seriously in the future and consulting with them.

Some of the junior partners in the Pact saw Soviet behavior in the Cuban Missile Crisis as evidence of Moscow's failure to consult with its allies and instead act on its own. The Albanians and the Romanians complained bitterly that Khrushchev completely ignored the interests of the other members of the Pact when he decided to deploy nuclear weapons in Cuba without informing them. Khrushchev's adventurism, they believed, put all the countries in the Eastern alliance in "a situation that would lead them to a state of war." (Mastny and Byrne 2005, 30) These charges, however, were only partially correct. Khrushchev had actually consulted with the Poles and the Bulgarians, simple because they were vacationing in the same place as the Soviet leader (ANIC 1964, 209) . Regardless, this case demonstrates that even though Moscow was no longer operating in an imperial alliance, it still sometimes took unilateral actions that had potentially catastrophic consequences for its allies without even informing them about what was happening.

Finally, there is the matter of coercion, where the Soviets had to pick their battles especially carefully. The junior partners had increased autonomy in a hegemonic alliance, which translated into more disagreements between them and the Soviet Union. At the same time, however, Soviet leaders understood that Moscow could not invade an ally's territory whenever there was a profound difference of opinion on an important issue. In effect, the Soviets' tolerance threshold rose considerably.

Albania and Romania were probably Moscow's two most troublesome allies, but the Soviets refrained from using military force to coerce them. As Khrushchev put it, Bucharest and Tirana kept making demands, but gave no evidence that they would be loyal allies if Moscow acceded to their demands. Those two allies, the Soviet leader remarked, "grab us by the balls and ask us to help them. They say: you are the big brother and you must give us what we are asking for [. . .], and then they spit us in the face. And now [the Romanians] want to pull me by the balls until [they] break them" (ANIC 1964, 209) . Khrushchev's complaints reveal an important dilemma the Soviet Union faced: how to give its allies more influence in the Pact's decision-making process, without allowing their demands to continue escalating to the point where they would disrupt and damage the alliance.

What happened with Albania in 1961 illustrates this problem. The Soviets stationed naval forces at Albania's Pasha Liman naval base, which gave them direct access to the Mediterranean Sea. In early 1961, the Albanian leader Enver Hoxha accused the Soviet Union and the Warsaw Pact more generally of failing to fulfill their collective security responsibilities to Tirana. In particular, he maintained that Moscow did not respond to his requests to thwart an imminent threat to Albania from Greece, the United States and Yugoslavia. To punish the Soviets, Hoxha expelled their naval forces from Pasha Liman and

seized the four Whiskey-class Soviet attack submarines that were stationed on that base (AAN 1961, 341–49) . Subsequently, Albania de facto left the Warsaw Pact. But the Soviet Union did hardly anything in response, mainly because the costs of using force outweighed the benefits. Albania was not located anywhere near the all-important Central Front, and invading it would not only have consumed precious resources, but also would have alienated and frightened other Pact allies.

When the alliance’s vital interests were threatened by the behavior of a renegade member, Soviet leaders were almost certain to use coercion to remedy the situation. Consider what happened in 1968 regarding Czechoslovakia – a front line state on the Central Front. The reform-minded elite surrounding the Czech leader Alexander Dubček, including some of his generals, expressed doubts about the desirability of the Soviet nuclear umbrella. A refusal to host Soviet troops threatened the deployment of Soviet nuclear warheads to Czechoslovakia, as agreed in 1965, and unraveled Warsaw Pact war plans (RGANI 1968, 121–53) . Moreover, increasing contacts between Czechoslovakia and West Germany greatly worried the East Germans and the Poles, who thought that Bonn was bent on driving a wedge between them and the Czechs (Wilke 2010, 356–63) .

East Germany and Poland urged Moscow to act against Dubček and restore order within the alliance (Kramer 1998a, 127). Brezhnev agreed, albeit reluctantly. The Soviet Union, East Germany, Poland, Hungary, and Bulgaria joined forces to form a “ coalition of the willing ” and together they invaded Czechoslovakia (Crump 2015, 249) . Through a change of the ‘guard’, the Soviets got the Czechoslovaks to come back to the fold and implement the security agreements they committed to prior to the Prague Spring. According to the Soviet leadership, this successful use of military force against a disruptive ally ensured the security of the alliance, by preventing fragmentation and exposure to outside adversaries like West Germany (McDermott and Stibbe 2018, 8). Furthermore, by agreeing to carry out the invasion, the Soviet Union accommodated its key junior partners’ requests, and it also bolstered the Pact’s defensive capacity with the new nuclear deployments in Czechoslovakia (Meyer 1987, 518) . Most importantly, Moscow made it known to the other junior partners that they would share Czechoslovakia’s fate if they tried to undermine the Pact’s extended deterrence strategy. The Romanian leadership got the message and soon after the invasion, it professed its willingness to resolve its differences with the Soviets as soon as possible (ANIC 1968, 4–5) . The invasion of Czechoslovakia thus allowed the Soviets to tighten the reins of the Warsaw Pact and reinforce Moscow’s position as the hegemon.

To sum up, even though the Pact was a hegemonic alliance, not an imperial alliance, after 1957, Moscow maintained a freedom of action for itself that it denied to the weaker members of the alliance. While the use of coercion was less frequent in this second phase of the Pact’s history, the Soviet Union refused to completely abandon this heavy-handed instrument of alliance management. The junior partners, of course, could help shape the contours of extended nuclear deterrence, but there were real limits to what they could ultimately do. The intra-alliance balance of power still decisively favored the Soviet Union, which meant that the hegemon could still dismiss its allies’ proposals and act without consulting them. This kind of behavior by Moscow left enduring doubts among the junior members about whether it would indeed deliver on its extended nuclear deterrence promises in the crunch.

The Soviets tried hard to alleviate those fears, but could only do so much, because they wanted to be in complete control of the alliance's nuclear arsenal for good strategic reasons.

Conclusion

This paper addressed the following question: how do nuclear alliances provide extended deterrence to all their members?. This is an especially difficult matter when not all the allies have their own nuclear weapons, as was the case during the Cold War with both the Western alliance or NATO as well as the Eastern alliance or the Warsaw Pact. The conventional wisdom regarding these two alliances is that we should have expected them to have adopted fundamentally different END strategies because NATO was composed of democracies, while the Pact was composed of authoritarian states.

The problem with this explanation is that the democratic alliance and the authoritarian alliance pursued strikingly similar END strategies throughout the Cold War. Both alliances initially adopted a strategy that I call nuclear unilateralism, and then in the mid-1950s altered course and pursued a strategy I label nuclear umbrella. An explanation that focuses on regime type cannot explain this similarity in END strategies between the two alliances, and it also cannot account for the changes in strategy that took place inside each alliance. After all regime type was a constant in each alliance, but the strategy changed; and a constant cannot explain variation.

I have put forward a theory based on realist logic that attempts to explain why nuclear alliances – such as NATO and the Warsaw Pact – adopt different END strategies. I start with the key assumption that states are primarily concerned about their survival, which means they seek hegemony, nuclear monopoly and alliances that can check dangerous adversaries and protect their interests. Given these underlying incentives, how states interact with each other inside a nuclear alliance to produce an END strategy is largely a function of the intra-alliance balance of power.

There are ultimately three kinds of nuclear alliances and each usually pursues a different END strategy. Imperial alliances, which are dominated by an exceptionally powerful state that allows it allies little agency, adopt nuclear unilateralism as an extended deterrence strategy. Hegemonic alliances, which are dominated by a powerful state, but where the junior partners have considerable power and autonomy, invariably opt for a nuclear umbrella strategy. Finally, balanced alliances, where power is distributed roughly equally among the members, embrace nuclear partnership as their END strategy.

My explanation for what happened in the Cold War is that both NATO and the Warsaw Pact started out as imperial alliances and pursued the same END strategy – nuclear unilateralism. In the mid-1950s, however, the balance of power inside both alliances markedly changed, thanks to the revived military capabilities of each side's junior partners. Both Cold War alliances then became hegemonic alliances that adopted a nuclear umbrella strategy. In essence, the intra-alliance balance of power inside NATO and the Pact explains their choice of END strategies, and ultimately why their choices over the course of their intense rivalry were so remarkably similar.

The analysis in this paper not only challenges the claim that authoritarian and democratic alliances behave differently when it comes to formulating their END strategies, it also casts doubt on the two key liberal institutionalist theories that explain how alliances extend deterrence to their members: intergovernmentalism and supranationalism. Both NATO and the Pact flirted with the idea of a rotational nuclear command. This scheme, which reflects intergovernmentalist thinking, was designed to limit or take away the hegemon's complete control over the decision to initiate nuclear war and give the junior partners some significant role in that process.

Both alliances also contemplated developing an MLF, which effectively would have been a supranational institution that would not have been controlled by either Moscow or Washington, and would have had the authority to initiate nuclear war. Despite extensive negotiations inside each alliance about these two proposals, neither NATO nor the Pact came close to adopting rotational supreme command or building a consequential MLF. Acting according to basic realist dictates, both superpowers sought to keep full control over their alliance's nuclear weapons and make sure that they alone determined when and where those weapons would be used in a war. Moscow and Washington refused to allow any institution to have its own nuclear weapons, much less the power to decide when they could be used.

There is fear today in Europe that the United States might pull its military forces out of that region, not just because President Trump is deeply hostile to NATO, but also because Washington is pivoting to Asia to deal with a rising China. The possibility of an American exit from Europe has sparked renewed discussions about Europe's nuclear future. The debate revolves mainly around Germany, which does not have its own nuclear weapons, unlike Britain and France (Kühn, Volpe, and Thompson 2018). One proposal that has attracted considerable attention calls for creating a "Eurodeterrent," which would effectively be a supranational institution built around Britain and France's nuclear arsenals. That institution would provide extended nuclear deterrence for all its members. The great attraction of this proposed scheme is that Germany would not need to develop its own nuclear weapons, yet it would be represented at the highest levels of the supranational institution, where it would have significant influence over nuclear decision-making.

If the American and Soviet experiences during the Cold War offer any lessons, this idea stands virtually no chance of being adopted, mainly because it violates realist logic. For starters, Britain and especially France are not going to surrender control of their nuclear arsenals to a supranational institution, where other countries like Germany will have influence on when those weapons are used (Tertrais 2018, 4). As one scholar notes, the French nuclear deterrent is "a purely national affair" (Kunz 2019, 2). France's insistence on "strategic autonomy" makes it difficult to imagine Paris giving Berlin any say over the use of its nuclear arsenal. Doing so would effectively put Germany, a country with at least some different interests and a different strategic culture, in a position where it could affect France's survival (Kunz 2018, 1).

It seems likely that if the United States pulls its military forces out of Europe, several additional countries in Europe (possibly including Germany, Turkey, or Poland) would end up possessing nuclear weapons. Together with the UK and France, those countries would find themselves in a situation where they can build a balanced alliance, which would pursue

nuclear partnership as its END strategy. That outcome would be the first instance of that kind of nuclear alliance and it would be far different from the imperial and hegemonic nuclear alliances that have dominated the landscape since 1945. Its success would depend on its ability to comply with the precepts of realist logic.