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Marco Nilsson
Jönköping University, marco.nilsson@ju.se

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The Magnitude of Warfare Revisited – System Polarity and War Duration

Abstract

One of the intractable debates in the study of international conflict is the linkage between polarity and magnitude of interstate warfare. Speculations about the effects of the structure of the international system can be traced back to the Treaty of Westphalia. This article revisits this debate with a focus on war duration, which has received little attention in the literature, and presents the first theoretical discussion of the connection between polarity and war duration. It also uses a hazards model to statistically test whether five different measures of polarity are associated with war duration (1816-1992). The results provide initial support for the hypothesis that an increase in the number of poles in the state system is associated with longer wars on average. The empirical analysis and the theoretical discussion are important for understanding the consequences of the declining U.S. hegemony.

Introduction

One of the intractable debates in the study of international conflict is the linkage between polarity and the magnitude of warfare. Bueno de Mesquita and Lalman traced speculation about the effects of the structure of the international system back to the Treaty of Westphalia.[1] This article revisits this debate with new theoretical arguments, testing this linkage using new empirical methods. The concept of magnitude consists of several components, such as the number of wars, the number of states involved, and war duration, all of which are potentially associated with polarity. This article uses a hazards model to test whether five different measures of polarity are associated with war duration, an important measure of the peacefulness of the international state system. Rather than analyzing the risk and prevalence of war, which have received attention in several studies, the focus is on the risk of wars becoming protracted, which has not been explored thoroughly in the literature. The results provide initial support for the hypothesis that an increased number of poles in the state system is associated with longer wars on average.

This article also presents the first theoretical discussion of the relationship between polarity and war duration. The argument is based on a two-stage process derived from the realist and rational-choice perspectives. The first stage determines what types of wars are likely to emerge given different forms of systemic polarity, while the second stage determines how fast a bargaining space potentially emerges to resolve these conflicts. The empirical analysis and the theoretical discussion are important for understanding the consequences of the declining U.S. hegemony.

The role of power relations has been central to political realists' understanding of international politics. Indeed, some scholars argue that the distribution of power in the anarchical system is "the most powerful explanation for patterns of a variety of global outcomes."[2] Based on the idea that it is possible to measure concentration of power, for example, by counting the number of particularly powerful states or coalitions of states, scholars have identified at least three ideal types of polarity: Unipolarity (only one dominant state), bipolarity (two dominant states), and multipolarity (three or more dominant states).[3]

The influence of polarity on outcomes, however, has been a moot point among political realists. Based on the views of classical balance-of-

power theorists such as Carr and Morgenthau, Kaplan stated that multipolar systems are less war prone.[4] Deutsch and Singer also argued that multipolarity decreases the risk of war, whereas Waltz, observing the relative stability of great power relations during the cold war, instead favored bipolarity.[5] In addition, Mearsheimer, Levy, and Kegley and Raymond claimed that multipolarity increases the risk of war.[6]

Waltz considered bipolarity less war prone, assuming that multiple poles or stimuli can confuse states and create uncertainty.[7] In bipolarity, there is less uncertainty about the consequences of one's actions and a smaller risk of miscalculating the intent and aggressive capabilities of other states.[8] In contrast, Deutsch and Singer argued that arms races are less likely to escalate to war in multipolarity because states must divide their attention between several competing states.[9] They therefore expected uncertainty to have the opposite effect and create cautious behavior. Moreover, crosscutting cleavages and alliances create diversity in interstate relations, whereas bipolarity increases the risk of war as conflicts can escalate to involve all states on both sides.

Empirical evaluation of these classical positions has taken several forms and achieved mixed results. Haas argued that bipolarity brings fewer wars, and Hopf also argued that bipolar systems are marginally less warlike.[10] In contrast, Thomson argued that unipolarity is associated with increased stability whereas multipolarity is the most war prone system.[11] Ostrom and Aldrich found a curvilinear relationship, in which bipolarity is the most unstable system.[12] However, Bueno de Mesquita, focusing on the tightness of alliance commitments, and Bueno de Mesquita and Lalman argued that neither the number of poles nor the level of uncertainty is associated with the risk of war, because most decision makers are risk neutral.[13] Levy also found no connection between the number of poles and the frequency of war.[14] Moreover, Huth, Bennett, and Gelpi found that polarity had no effect on the likelihood of dispute initiation or of states' escalating militarized disputes.[15]

Some scholars use nation-months of war as the dependent variable. Whereas Levy found no connection between this measure and polarity, Singer, Bremer, and Stuckey argued that in the 20th century, high power concentration was associated with fewer nation-months of war, though the association was reversed for the 19th century.[16] Wayman used nation-months to analyze the impact of the concentration of

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capabilities, arguing that power multipolarity is associated with more nation-months of war than is power bipolarity in both the 19th and 20th centuries.[17]

Focusing on nation-months of war during a given period is a useful way to measure the magnitude of warfare in the state system, as it yields different kind of information than does merely assessing the number of wars. Indeed, the prevalence of wars is not the only variable that affects the magnitude of warfare. The magnitude concept consists of three components, namely, number of wars, number of states involved, and war duration, all of which influence how many nation-months of war the state system experiences during any given period.

Because the magnitude of warfare can affect the level of systemic stability and the associated risk of change, understanding the magnitude of warfare and its three components in the state system is an important task in the study of international politics. Waltz defined systemic stability in terms of both the length of time during which the number of great powers remains intact and the risk of war among great powers.[18] Levy also pointed out that the concept can mean both "the maintenance of the status quo and the relative absence of war in the system."[19] According to the former option, the level of systemic stability is the probability of variation in the relative standing and number of great powers. Clearly, protracted fighting among many states, such as during the world wars, increases the risk of such systemic change, whereas short and limited wars are more likely to leave the system intact. War duration therefore not only affects the magnitude of warfare in the state system (the level of peacefulness) by increasing the nation-months of warfare, but also possibly affects the risk of systemic change, both of which make the analytical task important.

Despite its possible implications for the stability of the state system, in terms of both the magnitude of warfare and systemic change, the connection between polarity and war duration has received little attention apart from initial studies by Haas and Levy.[20] Both Haas and Levy argued that multipolarity brings the shortest wars. However, their statistical tests lacked control variables and Levy merely measured the number of years of war beginning in the average one-year period. To address this knowledge gap, this article tests the impact of five different measures of polarity on the length of wars by conducting a duration analysis that includes several control variables.

Theory

Why can polarity be associated with war duration? While Haas and Levy argued, based on their empirical results, that multipolarity is associated with the shortest wars, they did not theoretically discuss why they expected to see this connection.[21] Accordingly, this article presents the first theoretical discussion of the connection between polarity and war duration. Contrary to Haas and Levy, it argues that multipolarity is more likely to be associated with increasing war duration. The argument is based on a two-stage process derived from the realist and rational-choice perspectives. The first stage determines what types of wars are likely to emerge given different forms of systemic polarity, while the second stage determines how fast a bargaining space potentially emerges to resolve these conflicts.

In the first stage, systemic polarity has an impact on what types of wars are likely to erupt. As Monteiro pointed out, unipolarity often produces conflict "between the unipole and recalcitrant minor powers."[22] Such a selection bias is likely to create an imbalance in the belligerents' military capabilities, which makes it easy for the unipole to defeat the minor power. Examples of such asymmetric confrontations that give rise to short wars include the Kuwait War of 1991 and the Iraq War of 2003. This selection bias is unlikely to be as great in bipolarity because of the strict alliance structures or spheres of interest that the two poles' conflicting interests can create. For example, an attack on Iraq and the Kuwait War became possible only after the weakening of the Soviet Union led to a foreign policy change in Moscow and ultimately to the end of the Cold War.

However, with more poles, external balancing by means of alliances becomes more flexible as the number of available alliance partners increases. As Snyder argued, "in a multipolar system, who allies with whom is structurally indeterminate…each state is logically eligible to be either friend or enemy of any other state."[23] Indeed, if unipolarity increasingly brings asymmetric conflicts, the role of a balancer becomes more prominent in multipolarity, which creates symmetric wars. Especially after the Napoleonic wars, and even earlier, Great Britain played the role of a balancer within the European multipolar system and could throw its support behind one side at one time, and behind another side at another time.[24] Such balancing in multipolarity increases war duration by creating symmetric conflicts in which the

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warring parties are more equal in power and find it difficult to quickly defeat each other.

While asymmetric conflicts can end without long negotiations, as the stronger side can quickly override the weaker side, symmetric conflicts more often involve the process of creating a bargaining space, that is, finding a mutually acceptable negotiated solution. Polarity can affect the duration of this process, as the amount of information that the systemic structure provides about the expected outcome of a war varies. Mearsheimer argued that the international state system "is peaceful when it is obvious that the costs and risk of going to war are high, and the benefits of going to war are low" and that the distribution of power between states "is at the heart of this incentive structure."[25] Fearon further developed this rational-choice perspective, claiming that as fighting is costly and risky, "rational states should have incentives to locate negotiated settlements that all would prefer to the gamble of war."[26] His answer to this puzzle of why rational states start wars relies on the widespread uncertainty in anarchy: Rational state leaders start wars when they miscalculate due to both a lack of information and disagreement about relative power.

The same logic also applies to the puzzle of why belligerent states cannot quickly reach a negotiated settlement when a war has already started. According to Huth, Gelpi and Bennett, the structure of the international state system creates an uncertainty that is at the core of the realist perspective: "As the number of actors in the system increases, it becomes more difficult to predict the outcome of an armed conflict since state leaders must correctly predict the behavior of many independent actors."[27] Uncertainty can also vary during ongoing wars, depending on the structure of the international system. Uncertainty becomes increasingly great in multipolarity, in which there are several major powers whose possible interference complicates states' ability to calculate outcomes in ongoing wars. Ideally, battlefield events should quickly reveal the belligerents' relative power, with defeats lowering the expected utility of continued warfare and victories increasing it. As the weaker side rationally lowers its war aims, a bargaining space should quickly emerge.[28] However, an increase in the number of poles can complicate this process and affect how belligerents predict future battlefield outcomes. Either the current actions of several belligerents or the anticipated interventions by external actors, in the form of future balancing or bandwagoning, make it increasingly difficult to calculate the expected outcome and utility of continued warfare. Such

uncertainty makes wars longer as it is possible for both sides to believe in victory and have high war aims, hampering the prospects of quickly creating a bargaining space.

The self-selection of risk-acceptant decision makers when conflict escalates to wars increases the impact of such uncertainty in multipolarity further. Huth, Gelpi, and Bennett argued that how uncertainty affects state behavior depends on the risk propensity of leaders when deciding whether to escalate to war. However, wartime leaders are more often risk-acceptant, as those who choose to escalate to war are less likely to be risk-averse.[29] The greater systemic uncertainty in multipolarity is therefore potentially associated with decisions to continue warfare rather than with cautiousness.

The length of the second stage, which involves creating a bargaining space, also depends on the willingness of external actors to mediate and on the efficacy of such mediation. In unipolarity and bipolarity, the great powers are likely to be status quo powers that have an interest in preventing the escalation of ongoing conflicts into world wars. In a classical statement of neorealism, Grieco wrote that, assuming rational behavior by states, realism finds that "states in anarchy must be in a greater or lesser measure…'defensive positionalists'" concerned about relative gains.[30] However, defensive positionalism does not only manifest itself in relative gains concerns that make cooperation among states difficult. States can also lose relative power through extensive military confrontations that often have uncertain outcomes. The major powers that are content with the status quo therefore have an interest in preventing wars from escalating to a protracted world war that can lead to systemic change. The more power one has, the stronger the tendency, and it being strongest for a unipole that has reached a hegemonic position. Even though the two poles in bipolarity find themselves in competition, they are likely to be more wary of losing their position than they are in multipolarity. In multipolarity, the system lacks dominant actors that have the same will to enforce the status quo and use their influence to bring wars between other states to a quicker end.

According to Wohlforth, "as the system leader, the United States has the means and the motive to maintain key security institutions in order to ease local security conflicts and limit expensive competition among the other major powers."[31] Indeed, the status quo great powers not only have an interest in mediating but also the ability to do so in ongoing

conflicts. Gelpi argued that the greater the military power of the mediator, the more likely the mediation will be successful.[32] This favors not only a unipole but also the two great powers in bipolarity. In unipolarity, and to some extent also in bipolarity, the poles can therefore control their clients and act as stabilizers that mediate ongoing conflicts. This applies even to proxy wars, as poles can prevent them from spreading to other states, becoming protracted, and jeopardizing the international order. In line with this, the United States was described often as the global policeman, with reference to its strategy throughout the 1990s.[33]

On balance, considering the impact of polarity on both the kinds of wars likely to erupt and how quickly states are likely to resolve these conflicts, multipolarity is potentially associated with the longest wars. Contrary to Haas' and Levy's findings, multipolarity is likely to lead to longer wars than does bipolarity, whereas unipolarity brings the shortest wars.[34] This leads to the following testable hypothesis: An increase in the number of poles in the state system leads to longer interstate wars on average.

Data analysis

Scholars disagree not only about the effects of polarity; perhaps even more fundamentally, they also disagree as to what factors they should consider when defining and measuring polarity. For example, Waltz argued that the ranking of states can depend on the size of population and territory, resource endowment, economic capability, military strength, political stability, and competence.[35] However, as Grieco pointed out, some of these components are difficult to define and measure.[36] Therefore, this article uses five different measures of polarity suggested by Modelski, Levy, Kegley and Raymond, Mearsheimer, and Monteiro.[37]

Mearsheimer, Levy, Monteiro, and Kegley and Raymond based their periodization of polarity in the international system on their study of history. Mearsheimer proposed three categories of polarity: Unbalanced multipolarity (multipolarity with a potential hegemon), balanced multipolarity (multipolarity without a potential hegemon), and bipolarity. Levy and Monteiro also arrived at three variants: Multipolarity, bipolarity, and unipolarity. Levy's data end in 1985, but it is possible to expand the data by assuming that bipolarity extended at least until 1989. Monteiro agreed with Levy's classification but added

the post-1989 era as one of unipolarity. While his measure is more precise, differentiating between two forms of multipolarity, Mearsheimer also noted that Levy's periodization is widely accepted: "It is generally agreed that the state system was multipolar from its inception in 1648 until the Second World War ended in 1945. It was only bipolar during the Cold War, which began right after the Second World War and ran until 1989."[38] Kegley and Raymond focused on multipolarity, so they define all other forms as non-multipolarity. This smaller number of categories reduces the amount of information but it is still possible to use them in empirically testing the hypothesis.

Modelski instead used four categories to measure capability distribution in the state system: Dispersed/pluralistic, multipolarity, bipolarity, and unipolarity. He also resorted to more objective criteria in determining the periodization of history. The system is unipolar if one state has at least 50 percent of the available military power and bipolar if two states together hold more than 50 percent of the power (each holding at least 25 percent). It is multipolar if three or more states together have at least 50 percent and each hold 5–25 percent of the power, and otherwise it is dispersed/pluralistic. While Modelski published his work in 1974, Zhang calculated these values between 1885 and 1992, which this article uses for testing the impact of Modelski's measure of polarity on the length of wars.[39] The different classifications of the international system are in Appendix 1.

This article uses hazard analysis to evaluate the effect of polarity on war duration. The literature has also referred to hazard analysis as survival, transition, duration, failure time, or reliability analysis. Many social science research questions have an interest in the duration of events, leading to the consideration of hazards models. For example, if something such as a war persists, what variables are associated with the risk of its subsequently ending? The strength of hazards models for the analysis of war duration is that they can analyze variables that assume different values over the span of the observed period.[40]

The most complete work on war duration thus far is that of Bennett and Stam.[41] To perform an adequate test of polarity's potential impact on how long wars last, the best approach is to use Bennett and Stam's variables as statistical controls. The article uses the same hazard analysis technique with time-varying covariates, as the available data include variables with annually measured values. It also applies the same Weibull specification, which parameterizes the hazard rate as not

constant and allows for both positive and negative duration dependence, and fits the model in the accelerated failure time metric.

The available data include the same interstate wars that started between 1816 and 1992 as in the updated model of Bennett and Stam.[42] War duration is measured in months. The data generally follow Small and Singer's procedures, which identify the starting and ending dates of wars by a combination of when actual continuous fighting began and ended and information about declarations of war and signed armistices. If there is a considerable difference between actual fighting and the legal dates of declarations and treaties, priority is given to when actual fighting occurred.[43] The included wars and their lengths are in Appendix 2.

In the statistical analysis, Mearsheimer's unbalanced multipolarity is coded as 1, balanced multipolarity as 2, and bipolarity as 3. The number of poles is the same in balanced and unbalanced multipolarity. However, Mearsheimer argued that states are more prone to buck-passing in the case of conflict in balanced multipolarity.[44] Buck-passing hampers the creation of a balance of power and increases the risk of asymmetric wars, which are likely to be shorter than in unbalanced multipolarity. Kegley and Raymond's multipolar periods are coded as 1 and non-multipolar periods as 2. Levy's measure of polarity is coded as follows: Multipolarity 1 and bipolarity 2 (there are no instances of unipolarity). For both Monteiro's and Modelski's models, multipolarity is coded as 1, bipolarity as 2, and unipolarity as 3 (there are no instances of dispersed/pluralistic capability distribution in Modelski's data).

Control variables and their hypothesized effects on war duration, presented in Table 1, come from Bennett and Stam.[45] They include four dummy variables codifying combinations of the observed strategies of both the attacker (offensive) and the defender (defensive). There are three possible strategies: Maneuver, for instances of Blitzkrieg; attrition, if states fight meeting engagements against each other; and punishment, if civilians are the principal target and the belligerents use guerilla warfare. Terrain is a dummy variable, where 0 stands for open terrain and 1 for impassable terrain. To measure the interaction of terrain and strategy, Bennett and Stam multiplied a single ordinal-scaled strategy variable by terrain. Balance of forces is the ratio of the largest side's total capability to all the belligerents' total capability. Correlates of war (COW) capability scores are discounted according to

the distance from a state to the battlefield. Total military capabilities use COW national capability measures of both sides' total military personnel in millions. Total population measures the states' total populations as indicated in the same dataset. Bennett and Stam also calculated the population ratio of the larger side to that of the smaller side.

Table 1. Control Variables

Name	Explanation
Strategy: OADM	Offensive attrition, defensive maneuver.
Strategy: OADA	Offensive attrition, defensive attrition.
Strategy: OADP	Offensive attrition, defensive punishment.
Strategy: OPDA	Offensive punishment, defensive attrition.
Terrain	Open terrain shortens war duration.
Terrain X Strategy	Strategy fitting the terrain shortens war duration.
Balance of forces	Imbalance of forces shortens war duration.
Military personnel (millions)	The more forces involved, the longer the war.
Population (billions)	The greater the total populations, the longer the war.
Population ratio	Disparity in the belligerents' population sizes shortens war duration.
Quality ratio	Difference in the belligerents' military quality shortens war duration.
Surprise	Strategic surprise shortens war duration.
Salience	Low issue salience shortens war duration.
Repression	Repressive states fight risky wars that are short.
Democracy	Increased total level of democracy among the belligerents shortens the war.
Previous disputes	Previous disputes prolong the war.
Number of states	A high number of belligerents shortens war duration.

Source: Author, based on information in Bennet and Stam (2006).

Bennet and Stam estimated the difference in the quality of the military forces by dividing a state's military expenditure by the number of military personnel and then creating a ratio of the superior side's quality to that of the inferior side. Surprise is a measure of strategic surprise at any time during the war; it ranges from 0 (no or symmetrical surprise) to 1 (large and asymmetrical surprise). Issue salience is coded as 0 (salient to neither side), 1 (salient to one side), or 2 (salient to both sides) using Holsti's categorization.[46] Bennet and Stam obtained a measure of the repressiveness of the governments by summing the repressiveness measures of each side using the Polity II dataset's competitiveness of participation variable. It ranges from −5 (significant and regular political competition) to −1 (no significant

opposition activity permitted). They also constructed a democracy variable by summing the democracy value of each side using the Polity II dataset's institutionalized democracy variable, which ranges from 0 (high level of democracy) to 10 (low level of democracy).

Bennet and Stam measured previous disputes using the COW militarized interstate dispute (MID) dataset by counting the average number of disputes lasting at least thirty days in the ten years before each war between all pairs of states on the opposing sides. They then divided the total number of disputes by the number of states in each war. The number of states indicates how many states were involved in the war based on the COW interstate war dataset.

There is no single best measure of fit in hazards models. Still, in accordance with Bennett and Stam, this article estimates a proportional reduction in error as a proportion of actual war duration (PRE%) as a measure of how well the different models fit the data.[47] This provides an intuitively appealing measure of model fit. The article calculates PRE% by first estimating a constant-only model and summing the absolute prediction error across all wars. It then estimates the complete models with control variables and different measures of polarity and sums the absolute prediction errors across all wars. The proportional reduction in error (PRE) is obtained by subtracting a complete model's prediction error from the constant-only model's prediction error and dividing the result by the constant-only model's prediction error. Finally, PRE% is arrived at by dividing the sum of prediction error by the actual war duration.

Comparing the full models in Table 2, including the five measures of systemic polarity, with Bennett and Stam's analysis reveals no substantial differences.[48] One control variable, strategy multiplied by terrain, is no longer statistically significant. However, the main result of the analysis in Table 2 partially corroborates the hypothesis, indicating that there is a statistically significant association between Mearsheimer's, Levy's, and Monteiro's measures of polarity and war duration.[49] That multipolarity brings about the longest wars contradicts not only Haas's but also Levy's findings that were based on the same classification of polarity in the international state system as used in this analysis.[50]

Positive coefficients indicate longer war durations and negative coefficients shorter war durations. Exponentiating Mearsheimer's

coefficient, −0.804, results in a hazard ratio of 2.104, which means that the hazard of war termination increases by 110 percent when moving from unbalanced multipolarity to balanced multipolarity or from balanced multipolarity to bipolarity. Levy's and Monteiro's coefficients, −1.058 and −0.954, yield hazard ratios of 2.850 and 2.440, respectively, which means that the hazard of war termination increases by 185 or 144 percent when moving from multipolarity to bipolarity or from bipolarity to unipolarity, respectively. These three models therefore indicate that an increase in the number of poles in the state system leads to longer wars on average. Wars waged during bipolarity are shorter than those waged during multipolarity, and wars are the shortest when the system is unipolar.

Modelski's measure of polarity was not statistically significant, even though the coefficient points in the same direction. A possible reason for this is that Modelski considered all the participants in the state system. However, polarity is arguably "a function of the distribution of power only among major powers."[51] In that case, Modelski's seemingly objective measure of polarity may include too much information, as compared with Mearsheimer's, Levy's, Monteiro's, and Kegley and Raymond's analyses of history. Kegley and Raymond's measure of polarity was not statistically significant, even though their coefficient also points in the same direction.

Looking at the PRE%, rather than merely at PRE, the three models with statistically significant measures of polarity also seem to fit the data best and are clear improvements on Bennett and Stam's analysis of war duration.[52] The reduction of prediction error relative to the constant-only model, as a proportion of actual war duration, is 63 percent in Mearsheimer's model, 74 percent in Levy's, and 70 percent in Monteiro's, as compared with 45 percent in Bennett and Stam's original model. Therefore, adding these measures of systemic polarity to the original model improves its explanatory power.

Table 2. Hazard Analysis: The Effect of Systemic Polarity on War Duration

Variable	Mearsheimer	Levy	Kegley and Raymond
Strateg. OADM	2.703 (0.608)***	2.453 (0.541)***	2.181 (0.537)***
Strateg. OADA	2.763 (0.550)***	2.628 (0.531)***	2.308 (0.545)***
Strateg. OADP	4.504 (1.213)***	4.647 (1.211)***	4.549 (1.129)***
Strateg. OPDA	9.429 (2.183)***	9.702 (2.012)***	8.226 (2.052)***
Terrain	0.439 (3.173)	1.727 (2.917)	1.765 (2.700)
Terrain X strategy	-0.790 (0.732)	-1.008 (0.683)	-0.883 (0.685)
Balance of forces	-4.864 (1.205)***	-5.256 (1.274)***	-4.672 (1.227)***
Military personnel	0.108 (0.039)***	0.105 (0.041)**	1.147 (0.044)***
Total population	1.534 (0.588)***	1.531 (0.687)**	0.956 (0.583)
Population ratio	0.015 (0.011)	0.018 (0.012)	0.012 (0.012)
Quality ratio	0.004 (0.005)	0.005 (0.006)	0.006 (0.006)
Surprise	0.207 (0.593)	0.438 (0.597)	0.075 (0.610)
Salience	0.500 (0.224)**	0.533 (0.207)**	0.443 (0.202)**
Repression	-0.250 (0.116)**	-0.206 (0.118)*	-0.218 (0.118)*
Democracy	-0.119 (0.053)**	-0.099 (0.054)*	-0.094 (0.057)
Previous disputes	0.003 (0.054)	-0.020 (0.048)	-0.012 (0.054)
Number of states	-0.249 (0.102)**	-0.207 (0.102)**	-0.226 (0.096)**
Polarity	-0.804 (0.261)***	-1.058 (0.471)**	-0.381 (0.375)
Constant	4.409 (1.571)	4.347 (1.622)	3.384 (1.477)
Log-likelihood	-124.6	-122.4	-132.1
p (duration param.)	0.925	0.988	0.929
SD of *p*	0.079	0.080	0.081
Mean error (months)	-4.2	-2.6	-4.0
SD of mean error	23.4	23.5	18.3
Mean absolute error	12.1	11.5	10.4
SD of absolute error	20.4	20.6	15.6
Median error	-0.1	-0.1	-0.4
Median absolute error	3.7	3.9	3.9
PRE	0.121	0.174	0.236
PRE%	0.632	0.736	0.548
Number of wars	79	79	80
Data points	170	170	171

Source: Author.

Notes: Coefficients reported and standard errors in parentheses. All significance tests one-tailed in accordance with Bennett and Stam (2006). Calculations made with STATA 11.2.

*p < .10

**p < .05

***p < .01

Table 2. Continued

Variable	Modelski	Monteiro	Bennett and Stam (2006)
Strateg. OADM	1.515 (0.819)*	1.600 (0.666)**	2.287 (0.539)***
Strateg. OADA	1.634 (0.840)*	1.492 (0.790)*	2.489 (0.489)***
Strateg. OADP	4.229 (2.141)**	2.528 (1.519)*	4.857 (1.084)***
Strateg. OPDA	5.757 (3.548)	5.518 (2.621)**	8.495 (2.063)***
Terrain	-0.351 (3.965)	-2.756 (3.737)	2.323 (2.571)
Terrain X strategy	-0.068 (1.098)	0.127 (0.883)	-1.002 (0.669)*
Balance of forces	-6.237 (1.843)***	-4.582 (1.246)***	-4.470 (1.226)***
Military personnel	0.122 (0.045)***	0.110 (0.042)***	0.123 (0.039)***
Total population	1.346 (0.726)*	1.653 (0.830)**	0.825 (0.552)*
Population ratio	0.021 (0.025)	0.017 (0.013)	0.008 (0.012)
Quality ratio	-0.028 (0.017)	0.004 (0.006)	0.007 (0.006)
Surprise	0.498 (0.649)	0.418 (0.660)	-0.176 (0.559)
Salience	0.207 (0.415)	0.492 (0.205)**	0.387 (0.207)**
Repression	-0.247 (0.234)	-0.237 (0.120)**	-0.223 (0.113)**
Democracy	-0.093 (0.108)	-0.108 (0.057)*	-0.104 (0.055)**
Previous disputes	-0.079 (0.072)	-0.020 (0.053)	-0.006 (0.057)
Number of states	-0.221 (0.095)**	-0.221 (0.102)**	-0.193 (0.092)**
Polarity	-0.118 (0.705)	-0.954 (0.525)*	
Constant	4.890 (2.446)	4.793 (1.817)	2.641 (1.233)
Log-likelihood	-102.1	-130.0	-132.5
p (duration param.)	0.888	0.936	0.923
SD of *p*	0.095	0.077	0.083
Mean error (months)	-3.9	-3.4	-4.2
SD of mean error	20.6	21.0	18.0
Mean absolute error	11.2	10.8	10.5
SD of absolute error	17.6	18.3	15.2
Median error	-0.1	-0.2	-0.5
Median absolute error	3.4	3.6	4.5
PRE	0.372	0.205	0.228
PRE%	0.605	0.703	0.453
Number of wars	61	80	80
Data points	127	171	171

Conclusion

The empirical results about the effect of polarity on the frequency of wars remain unclear.[53] The present results, however, provide initial support for the hypothesis that an increase in the number of poles in the state system is associated with longer wars. Especially Mearsheimer's, Levy's, and Monteiro's measures of polarity indicate that wars waged during multipolarity are the longest. The results of the duration analysis with several control variables therefore contradict Haas' and Levy's claim that multipolarity brings the shortest wars.[54] Moreover, by focusing on war duration rather than war frequency, the results support a reformulation of Waltz's classical argument that multipolarity is the most unstable state system.[55] If an increase in the number of poles is associated with greater war duration, even systemic stability defined as the peacefulness of a system can decrease, as the system experiences more nation-months of warfare with longer wars. The stability or peacefulness of the state system (magnitude of warfare) is measured by both how many wars erupt and by how quickly they end.

The results are also interesting because war duration can potentially affect systemic stability defined in terms of the risk of systemic change. As long conflicts such as world wars increase the risk of systemic change, the longevity of the status quo should be affected negatively by multipolarity. However, it is not clear that multipolar periods in the state system are the shortest ones, as bipolarity and unipolarity also have their own sources of instability that limit their prospects of enduring for long. The Soviet fall from superpower status showed that the cost of maintaining such a position can be high, and the current rising power of China is indicative of uneven economic development in the state system. Indeed, Gilpin pointed out the high costs of sustaining preeminence and loss of comparative edge as the causes of hegemonic decline.[56] Wohlforth argued that the United States-led unipolar moment might last quite long.[57] Waltz, however, held that dominant powers tend to take on too many tasks and that balancing tendencies by other states are already taking place as "unbalanced power, whoever wields it, is a potential danger to others."[58] It is clear that U.S. hegemony has been eroding with the rising economic power of China, increasing military expenditures of both China and Russia, and Russia's more active role in, for example, Syria. However, it is still unclear when the unipolar moment will end, if it has not already ended, and what kind of polarity will emerge in the future.

The results of this study suggest that a retreat to multipolarity with several great powers would increase the risk of dire consequences in terms of increased average war duration. Longer wars often not only cause more human suffering but also create a greater economic burden for the belligerents, decreasing the expected benefits of warfare. Longer wars are also associated with a greater risk that the initiator will lose.[59] Warfare is a possible foreign policy option in the realist tradition. However, classical realism directly prescribes, and structural realism assumes, rational decision making in response to the problems of anarchy. If the international state system is headed for multipolarity, rational decision making in response to the challenges of the international state system should strive to recognize the diminished expected utility of starting a war. Bueno de Mesquita and Lalman argue that there is no connection between the frequency of wars or dispute initiation and polarity.[60] In that case, decision makers are probably more aware of the risks of warfare, as compared with, for example, Waltz's claim that warfare is more frequent in multipolarity.[61]

In sum, the fact that this study had to test several statistical models suggests that the field is still under-theorized, as scholars have different views of how to define and operationalize systemic polarity. Dyad-level variables are also important for understanding states' conflict behavior and realists often find it necessary to supplement their theories with non-structural variables.[62] An analysis of how polarity is associated with war duration demonstrates, however, that political realism's traditional focus on the structural correlates of war and stability has significant explanatory power.

Appendix 1. Classification of Systemic Polarity, 1816–1992

Scholar	Period	Polarity
Mearsheimer (2001)	1816–1902	Balanced multipolarity
	1903–1918	Unbalanced multipolarity
	1919–1938	Balanced multipolarity
	1939–1944	Balanced multipolarity
	1945–1990	Bipolarity
Levy (1985)	1816–1945	Multipolarity
	1946–1989	Bipolarity
Kegley and Raymond (1994)	1816–1914	Multipolarity
	1915–1918	Non-multipolarity
	1919–1939	Multipolarity
	1940–1992	Non-multipolarity
Monteiro (2012)	1816–1945	Multipolarity
	1946–1989	Bipolarity
	1990–1992	Unipolarity
Modelski (1974)	1885–1918	Multipolarity
	1919–1919	Unipolarity
	1920–1929	Multipolarity
	1930–1931	Unipolarity
	1932–1937	Multipolarity
	1938–1938	Bipolarity
	1939–1941	Multipolarity
	1942–1944	Bipolarity
	1945–1946	Unipolarity
	1947–1951	Bipolarity
	1952–1953	Unipolarity
	1954–1974	Bipolarity
	1975–1981	Multipolarity
	1982–1988	Bipolarity
	1989–1992	Multipolarity

Source: The information in the appendix comes from Mearsheimer (2001), Levy (1985), Kegley and Raymond (1994), Monteiro (2012), and Modelski (1974).

Appendix 2. Interstate Wars in Bennett and Stam's Dataset

War name	Start year	Length in months
Franco–Spanish	1823	4
Mexican–American	1846	22
Austro–Sardinian	1848	16
1st Schleswig–Holstein	1848	6
Roman Republic	1849	2
La Plata	1851	12
Crimean	1854	28
Anglo–Persian	1856	6
Italian Unification	1859	5
Italo–Roman	1860	10
Italo–Sicilian	1860	2
Franco–Mexican	1862	58
2nd Schleswig–Holstein	1864	6
Lopez	1864	63
Spanish–Chilean	1866	6
Seven Weeks	1866	1
Franco–Prussian	1870	10
Russo-Turkish	1877	9
Pacific	1879	58
Central American	1885	4
Serbo–Bulgarian	1885	3
Sino–Japanese	1894	9
Greco–Turkish	1897	5
Spanish–American	1898	4
Boxer Rebellion	1900	15
Russo–Japanese	1904	16
Central American	1906	3
Central American	1907	11
Italo–Turkish	1911	12
First Balkan	1912	7
Second Balkan	1913	2
World War I	1914	52
Hungarian–Allies	1919	5
Greco–Turkish	1919	41
Russo–Polish	1920	6
Sino–Soviet	1929	4
Manchurian	1931	19
Chaco	1932	36
Sino–Japanese	1937	96
Changkufeng	1938	1
German–Czech	1938	0.033
German–Austrian	1938	0.1
Nomohan	1939	4
Russo–Finnish	1939	4
World War II, German–Polish	1939	1

War name	Start year	Length in months
World War II, German–Belgian	1940	0.11
World War II, German–Netherlands	1940	0.1
World War II, German–Danish	1940	0.033
World War II, German–Norwegian	1940	2
World War II, German–French	1940	1.5
World War II, Italo–Greek	1940	2
World War II, Pacific	1941	45
World War II, Western	1942	60
World War II, Eastern	1941	46
World War II, German–Yugoslav	1941	0.33
World War II, German–Greek	1941	0.67
Franco–Thai	1940	3
1st Kashmir	1947	24
Palestine	1948	8
Korean	1950	36
Russo–Hungarian	1956	1
Sinai	1956	1
Sino–Indian	1962	1
Vietnamese I	1964	121
Second Kashmir	1965	5
Six Day	1967	0.2
Israeli–Egyptian	1970	0.25
Football	1969	0.15
Bangladesh	1971	2
Yom Kippur	1973	3
Turko–Cypriot	1974	1
Vietnamese II	1975	3
Ethiopian–Somalian	1977	8
Ugandan–Tanzanian	1978	6
Iran–Iraq	1980	96
Falklands	1982	3
Israeli–Syria (Lebanon)	1982	2
Sino–Vietnamese	1985	60
Kuwait War	1990	0.1
Gulf War	1991	2.83

Source: The information in the appendix comes from Bennet and Stam's (2006) updated dataset.

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