

Leaders, Interstate Conflict, and Spatial Interdependence*

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Abstract

I argue that hawkish and dovish leaders should diffuse and cluster throughout the international system. Hawks represent a national security threat to nearby states due to their greater likelihood of initiating conflicts and domestic populations generally prefer hawkish politicians when they feel threatened by an external actor. These observations imply hawks and doves should diffuse and lead to spatial interdependence in the leaders we observe. Consistent with expectations, I find that having a relatively hawkish leader or a relatively dovish leader results in geographically proximate states having relatively more hawkish leaders or dovish leaders. Further analysis is consistent with the key assumption of my theoretical argument that nearby hawkish leaders represent a larger national security threat to states than do dovish leaders or geographically distant hawks. My results suggest that the diffusion and clustering of interstate conflicts in time and space are likely driven by the diffusion and clustering of hawks and doves.

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1 Introduction

While traditional explanations of conflict and cooperation focus on the role of the international system and states, over the last twenty years something approaching a consensus has emerged that political leaders play a central role in determining patterns of foreign policy and interstate conflict. National executives have been linked to systematic variation in the initiation, escalation, prosecution, termination, and outcomes of interstate conflicts (among others, Bueno de Mesquita et al. 2003, Chiozza and Goemans 2011, Croco 2011, Weeks 2014). Going beyond the basic claim that leaders matter, scholars have demonstrated that leaders' personal attributes, background experiences, political orientations, and/or psychological traits influence, among other things, conflict initiation (Colgan 2013, Horowitz, Stam and Ellis 2015, Heffington 2018), intervention in ongoing wars (Kertzer 2016), the pursuit of nuclear weapons (Fuhrmann and Horowitz 2014), and the outcome of interstate conflicts (Ausderan 2015). Thus, there is strong evidence that leaders in general and leaders possessing specific characteristics and traits in particular influence world politics in important ways.

At the same time, scholars across the discipline increasingly appreciate how geography, and space more generally, shape politics. For example, scholars of comparative and international political economy find that trade and tax policies and financial fragility diffuse and cluster in space and networks (Franzese and Hays 2008, Chaudoin, Milner and Pang 2015, Bauerle Danzman, Winecoff and Oatley 2017). Civil conflict appears to cluster geographically, often in poor regions populated with non-democracies, and diffuse across international borders (Gleditsch 2007, Buhaug and Gleditsch 2008, Maves and Braithwaite 2013). The idea that interstate conflicts and wars cluster and diffuse is not new (Siverson and Starr 1990), and has been confirmed by recent research using more advanced statistical methods (Braithwaite 2005, Braithwaite 2006).

I argue that political leaders, like government policies, economic liberalization, civil conflicts, and interstate conflicts, diffuse and cluster in space and time. More specifically, I argue hawks and doves diffuse due to a set of mutually reinforcing relationships among leaders, interstate conflict, and how external threats influence citizens' preferences for hawkish and dovish leaders. Hawkish

leaders are more likely to involve their countries in interstate conflicts than are dovish leaders (e.g., Heffington 2018). Hawkish leaders then represent a threat to the national security of nearby countries in a way that dovish leaders do not. During times of threat by an external actor, individuals are more supportive of hawkish politicians and aggressive policies that they believe will make them safe (among others, Huddy, Feldman and Cassese 2009, Getmansky and Zeitsoff 2014, Albertson and Gadarian 2015). It follows that domestic populations will prefer relatively hawkish leaders over relatively dovish leaders when nearby states have relatively hawkish leaders. This should result in the diffusion and clustering of hawkish and dovish leaders throughout the interstate system. To provide some very preliminary evidence of this claim, Figure 1 presents the mean hawkishness of leaders in countries around the world in the 1990s based on a measure of leaders' latent willingness to use military force that incorporates information about leaders' personal attributes and experiences, political orientations, and psychological characteristics (Carter and Smith 2018).¹ Darker shades of red in Figure 1 represent more hawkish leaders.

Figure 1 makes it clear that hawks and doves were not randomly distributed around the world during the 1990s. Overall, the variable *Leader Hawkishness* has a mean value of -0.04 among leaders in the decade. However, the standard deviation of this measure is 0.76 and values of the measure systematically vary across regions of the world. For example, the average value of *Leader Hawkishness* for North and Central American leaders during the 1990s was -0.38. In contrast, the mean value of *Leader Hawkishness* for leaders of Northern African states was 0.54 in the 1990s. Thus, a cursory look at the data suggests that there exists clustering in the relative hawkishness and dovishness of leaders around the world.

¹This measure is described below in more detail.

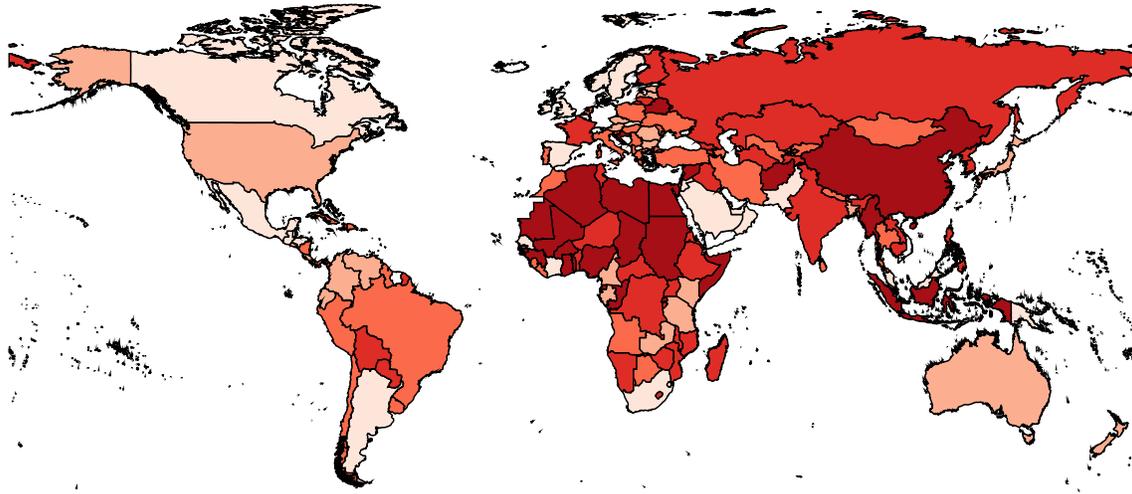


Figure 1: Leader Hawkishness around the world in the 1990s. Darker shades of red represent increasingly hawkish leaders.

I assess spatial interdependence among the hawkishness and dovishness of national leaders in the international system between 1960 and 1999 using a multi-parameter spatio-temporal autoregressive (m-STAR) model (Hays, Kachi and Franzese 2010). Consistent with expectations, I find that hawkish and dovish leaders diffuse across space over time. I also provide evidence consistent with my assumption that geographically proximate hawks represent a national security threat to states in a way that other leaders do not. My findings have multiple implications for our understanding of world politics. Perhaps most importantly, my results suggest that patterns of conflict and cooperation across time and space likely are driven by the diffusion and clustering of hawkish and dovish leaders.

The remainder of this paper proceeds as follows. The next section provides an overview of research on the relationship between leaders' latent hawkishness and interstate conflict. I then present my argument for why relatively hawkish leaders and relatively dovish leaders should diffuse

and cluster together. The fourth section describes my research design while the fifth presents my analysis of spatial interdependence in patterns of hawkish and dovish leaders. The sixth section provides evidence consistent with the mechanism driving the diffusion of hawks and doves in my theoretical argument. The paper concludes with a brief summary and a discussion of some of the larger implications of my findings.

2 Hawks, Doves, and Interstate Conflict

One of the least controversial findings in the literature on domestic politics and interstate conflict is that hawkish leaders are more likely to initiate conflicts than are dovish leaders. While specific explanations of this relationship differ, the basic theoretical argument is straightforward: hawkish leaders are more likely to initiate interstate conflicts than are dovish leaders because decision-makers' valuations of possible outcomes influence their choices and hawks pay a lower subjective cost for participating in a military conflict than do doves (Bueno de Mesquita and Lalman 1992, Wolford 2007, Heffington 2018).

Three strands of scholarship provide empirical support for the claim that hawkish leaders are more likely to initiate interstate conflicts than are doves. The first approach links differences in leaders' personal attributes and background experiences to patterns of interstate conflict. For example, leaders who served in the military prior to assuming power are more likely to initiate conflicts than are leaders with civilian backgrounds (Horowitz and Stam 2014, Horowitz, Stam and Ellis 2015, Carter and Nordstrom 2017). While combat experience mitigates this relationship (Horowitz and Stam 2014, Horowitz, Stam and Ellis 2015), military training and experience socialize individuals to see using force as a more viable and less costly policy option than most civilians (Huntington 1957, Bachman, Blair and Segal 1977, Sechser 2004).² Leaders who rebelled against their governments (Horowitz, Stam and Ellis 2015) and those that led revolutions (Colgan 2013, Colgan and Weeks 2015) before obtaining office also are more likely to initiate conflicts than leaders without those experiences. The logic underlying these relationships is that individuals who rebel

²There is evidence that relatively hawkish individuals are more likely to select into military service than are relatively dovish individuals as well (Bachman et al. 2000).

against the government and lead revolutions tend to be relatively risk-acceptant and more willing to use violence to pursue their goals than other individuals. Thus, leaders with personal attributes and background experiences associated with hawkish beliefs and/or preferences are more likely to initiate conflicts than are other leaders.

A second line of scholarship concludes that leaders with hawkish political orientations are more likely to start interstate conflicts than are leaders with dovish orientations. Much of this research links democratic leaders' general orientations towards the use of military force to their political ideology and/or partisanship based on the observation that political parties on the right are more hawkish, on average, than political parties on the left (Budge et al. 2001, Schultz 2001). Consistent with this, democratic governments led by right parties are more likely to initiate conflicts and fight longer conflicts than those led by parties on the left (Palmer, London and Regan 2004, Arena and Palmer 2009, Clare 2010, Koch and Sullivan 2010). Taking a slightly different approach, Heffington (2018) finds that leaders of parties whose platforms more explicitly advocate for international peace and/or less military engagement abroad are less likely to initiate interstate conflicts. Accordingly, there is evidence that democratic leaders from more hawkish, right-wing parties are more likely to start conflicts than are democratic leaders from more dovish, left-wing parties.

A third approach, typically associated with the foreign policy analysis tradition (Hudson 2005, Houghton 2017, Schafer and Smith 2017), argues that variation in psychological traits and dispositions makes some leaders more hawkish and likely to initiate conflicts than other leaders. Analyses of leaders' psychological traits and their implications for interstate conflict are closely associated with the work of Margaret Hermann. Hermann argues leaders differ along a number of dimensions (e.g., nationalism, cognitive complexity, and need for power) that shape variation in their underlying willingness to challenge political constraints, openness to new information, and motivation for pursuing policies (among others, Hermann 1980, Kaarbo and Hermann 1998, Hermann et al. 2001). Empirically, individuals who are more willing to challenge political constraints, have lower levels of cognitive complexity, or have higher levels of distrust, are more likely to pursue aggressive foreign policies (Kowert and Hermann 1997, Keller 2005, Keller and Foster 2012, Foster and Keller 2014). A related strand of research focuses on political leaders' operational codes.

(George 1969, Walker 1983, Renshon 2008). Scholars argue that a leader’s operational code influences her decisions and her state’s foreign policies. For example, leaders who believe the world is fundamentally one of competition and goals are best pursued with aggression are more likely to engage in conflictual behavior (Schafer and Walker 2006).

The preceding discussion makes clear that research from multiple traditions concludes that leaders who possess more hawkish traits in terms of personal experiences, political orientations, and/or psychological attributes and dispositions are more likely to initiate interstate conflicts than are leaders with dovish characteristics. The next section argues that this relationship between hawkish leaders and other countries’ security contributes to the diffusion and clustering of hawks and doves.

3 Why Hawks and Doves Should Flock Separately

Hawkish leaders and dovish leaders should diffuse and cluster in time and space because of the respective threats they represent to other countries’ national security and how the security environment influences individuals’ preferences for hawkish and dovish leaders. It is useful at this point to be clear about the concepts of diffusion and clustering. Clustering exists when a trait or policy is more likely to be observed among units that are close to one another than in units that are distant from one another (Elkins and Simmons 2005, Franzese and Hays 2008). Clustering can arise through two data generating processes that are conceptually distinct but difficult to empirically distinguish between. First, clustering can occur due to common shocks, or “correlated responses to correlated unit-level, contextual, or context-conditional factors” (Franzese and Hays 2008, 752). Second, clustering can occur due to diffusion, or when the “prior adoption of a trait or practice in a population alters the probability of adoption for remaining non-adopters” (Strang 1991, 325). Elkins and Simmons (2005, 39) identify two broad classes of diffusion mechanisms: adaptation and learning. Within these broad categories, scholars often distinguish among diffusion through coercion, competition, learning, emulation, or migration (Simmons, Dobbin and Garrett 2006, Franzese and Hays 2008, Thies, Chyzh and Nieman 2016). Hawkish and dovish leaders should

diffuse through adaptation/competition and learning.

Diffusion via adaptation occurs when the decision(s) of one actor alters the value or payoffs associated with the policies of other actors (Elkins and Simmons 2005, Thies, Chyzh and Nieman 2016). Both rational deterrence theory and the bargaining model of conflict suggest that interacting with hawks and doves influences the payoffs an actor receives during crisis bargaining. A simple immediate deterrence game holds that, all else equal, a challenger is more likely to choose the status quo and less likely to attack a target as the target's expected utility for war increases (Achen and Snidal 1989, Huth 1999). As hawks pay lower subjective costs for fighting a war than do doves, a hawkish leader's expected utility for war is higher than a dovish leader's expected utility for war. Accordingly, the logic of immediate deterrence implies that states should be less likely to challenge hawkish leaders than dovish leaders and that, if war occurs, a hawkish leader will obtain a better payoff than a dovish leader. In terms of the bargaining approach to conflict, the value of an actor's outside option (war) increases as the costs of fighting decrease (Fearon 1995, Muthoo 1999). This allows hawkish challengers to credibly demand more than dovish challengers and, because they are less willing to make concessions in crisis bargaining, results in hawkish targets being more successful at deterring challengers than dovish targets (Carter 2018). Thus, domestic populations can expect different payoffs in times of crisis bargaining depending on whether they have a relatively hawkish or dovish leader.

Diffusion due to learning occurs when a change in an actor's behavior imparts information about the environment (Simmons, Dobbin and Garrett 2006, Franzese and Hays 2008). Whether the domestic population of one country chooses a relatively hawkish or dovish leader could signal their intentions to the domestic populations of nearby states. There is a long standing idea among IR scholars that domestic populations prefer tough, hawkish leaders when they are involved in a crisis or preparing for war (Vasquez 1993, Huth 1996, Senese and Vasquez 2005). If this is the case, then the presence of a hawkish leader or multiple hawkish leaders in a geographic area could signal hostile intentions or a dangerous security environment to the domestic populations of other states in the area. Alternatively, the presence of a dovish leader or multiple dovish leaders in an area could signal that states want to cooperate and there are minimal threats to international security

in the region. Importantly, either of these scenarios could provide information about the security environment that could induce the diffusion of hawkish or dovish leaders.

Research on individuals' responses to external threats provides microfoundations for why hawks or doves should diffuse and cluster in space and time. As hawkish leaders are more likely to start interstate conflicts than are dovish leaders, hawks represent a threat to the national security of nearby states in a way that doves do not. At a very general level, "threats and the anxieties that accompany those threats lead to a public ... more supportive of public policies they believe will return security" (Albertson and Gadarian 2015, 4-5). In the context of national security, politicians and parties associated with hawkish policy positions typically are viewed as better able to protect citizens from external threats and, therefore, tend to garner greater political support than their dovish counterparts when the public feels threatened.³ Huddy, Feldman, and co-authors find that higher levels of perceived threat were associated with greater support for more aggressive national security policies and military action among the U.S. public in the wake of the September 11th terrorist attacks (Huddy et al. 2005, Huddy, Feldman and Weber 2007, Huddy, Feldman and Cassese 2009). Beyond the 9/11 context, higher levels of perceived threat increase support for aggressive military policies (Merolla and Zechmeister 2009) and reduce support for politicians with less aggressive traits, especially when they are from the party perceived as weaker on national security issues (Holman, Merolla and Zechmeister 2011). Gadarian (2010*a*, 2010*b*) demonstrates that higher levels of threat are associated with individuals adopting more hawkish foreign policy preferences and an increased probability of voting for politicians who espouse hawkish foreign policy positions. Relatedly, Albertson and Gadarian (2015, pgs. 117-124) find that higher levels of anxiety (which is a function of how threatened an individual feels) is associated with greater support for using military force instead of diplomacy, higher defense spending, stronger homeland security policies, and the Iraq war.

Importantly, the relationship between external threats and support for hawkish politicians and policies exists outside of the United States and extends beyond public opinion to election outcomes

³This claim can be viewed as an implication of the concept of "issue ownership," where individuals are more likely to support politicians who are viewed as better able to handle salient issues (Petrocik 1996).

and the leaders we observe. Drawing on data from the World Values Survey that covers seventy countries, Miller (2017) finds that, on average, citizens favor stronger, less constrained political executives during periods of territorial threat. Moving beyond public opinion, political candidates from relatively hawkish Israeli parties receive a higher vote-share in areas that suffer from terrorist attacks in general (Berrebi and Klor 2008) and rocket attacks in particular (Getmansky and Zeitzoff 2014). Finally, Carter (2018) finds that states that are likely to be targeted in an interstate dispute have relatively more hawkish leaders than states that are unlikely to be challenged in a crisis. Considered jointly, the consistent nature of the above findings across research methodologies, independent and dependent variables analyzed, and samples strongly suggests that individuals prefer hawkish leaders over dovish leaders when threatened.

The preceding discussion suggests that diffusion should lead to spatial interdependence in the observation of hawkish leaders and dovish leaders. Both hawkish and dovish leaders influence bargaining dynamics and provide information about the security environment in a region. Hawkish leaders represent a greater national security threat to nearby states than do dovish leaders because hawks are relatively more likely to initiate interstate conflicts. Further, individuals have a relative preference for hawkish leaders, parties, and policies when they feel threatened by an external actor (Gadarian 2010a, Getmansky and Zeitzoff 2014, Albertson and Gadarian 2015). If hawkish leaders represent a security threat to nearby states, then domestic populations' preference for hawkish politicians and policies when an external threat exists should lead to hawks flocking with hawks and doves flocking with doves.

Before moving on, it is important to note that there are at least three reasons why hawkish and dovish leaders might not diffuse and cluster in the way implied by my argument. First, it is possible that spatial interdependence in the observation of hawks and doves is due to the existence of common shocks and not diffusion (Franzese and Hays 2008). Hawkish and dovish leaders would cluster due to common shocks if the citizens in proximate states (broadly defined) respond to the presence of the same factors by selecting the same types of leaders. For example, consider the relationship between leaders and regime type. A number of scholars have argued that the leaders elected in democracies tend to be less hawkish and less risk-averse than many of

the leaders that come to power in non-democratic regimes (Hermann and Kegley Jr 1995, Keller 2005, Weeks 2012). There is strong evidence that democracies diffuse and cluster in space and time (for example, Gleditsch and Ward 2006). Considered jointly, these two observations suggest that clustering in democracies and non-democracies could result in spatial interdependence in the distribution of the leaders we observe even if hawks and doves do not diffuse. More generally, this example highlights the importance of accounting for state-level factors that could influence the types of leaders states select and, therefore, could represent common shocks that lead to spatial interdependence in hawkish and dovish leaders.

Second, it is plausible that citizens might prefer hawkish leaders when nearby countries are led by doves. Because of their relative willingness to fight, hawks can credibly demand more in a bargaining situation than doves (Schultz 2005, Wolford 2007). At the same time, doves are relatively willing to accept a negotiated settlement during crisis bargaining given their relative unwillingness to fight (Clare 2014). This implies domestic populations could benefit from having a hawkish leader when neighboring states are led by doves as hawks could take advantage of doves' willingness to make concessions to avoid fighting. Thus, the presence of nearby dovish leaders might spur a domestic population to select a hawk.

Third, the presence of hawkish leaders in nearby countries could lead some countries to adopt dovish leaders. While individuals generally prefer hawkish politicians and policies when facing an external threat (among others, Albertson and Gadarian 2015, Getmansky and Zeitzoff 2014), the downside to selecting a hawkish leader is that they are more likely to start an interstate conflict than a dovish leader (e.g., Heffington 2018). One way for a state's citizens to potentially defuse tensions in a neighborhood with relatively hawkish leaders would be to select a dovish leader. Although a dove would be more likely to grant concessions to his or her neighbors than a hawk, selecting a dovish leader would make it more likely that a domestic population could avoid fighting an interstate conflict or war. Accordingly, some domestic populations might select a relatively dovish leader when neighboring countries are led by hawks.

The three data generating processes just outlined run counter to my claim that hawkish leaders and dovish leaders should flock separately. Ultimately, whether and how hawkish and dovish

leaders diffuse and cluster are empirical questions. The next section describes how I estimate spatial interdependence in patterns of hawks and doves.

4 Research Design

My claim that hawkish and dovish leaders should diffuse and cluster is assessed among 137 states in the international system between 1960 and 1999.⁴ The base data set is taken from the replication materials associated with Thies, Chyzh and Nieman (2016).⁵

4.1 Estimator

I use an m-STAR (multi-parameter spatio-temporal autoregressive) model (Hays, Kachi and Franzese 2010) to assess whether hawkish and dovish leaders diffuse throughout the international system. The m-STAR model explicitly accounts for spatial and temporal dependence among observations and allows unit-level variables to influence the dependent variable in a given state and all other states in the system over time.⁶ More formally, the m-STAR estimator is defined as follows:

$$\mathbf{y} = \mathbf{W}\mathbf{y} + \phi\mathbf{V}\mathbf{y} + \mathbf{X}\beta + \epsilon, \text{ where} \quad (1)$$

$$\mathbf{W} = \sum_{r=1}^R \rho_r \mathbf{W}_r, \quad (2)$$

where \mathbf{y} is a vector of the dependent variable, ρ_r the coefficients associated with the spatial lags, \mathbf{W}_r the $NT \times NT$ matrices whose elements identify the weighted relationship between states i and j , ϕ the coefficient on the first-order temporal lag $\mathbf{V}\mathbf{y}$, \mathbf{V} the $NT \times NT$ matrix with 1's on the minor diagonal and 0's elsewhere, \mathbf{X} the NT matrix of k exogenous state-level variables, β the vector of

⁴Data and code required to replicate all analyses associated with this paper will be made available upon publication.

⁵Replication materials available at <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/VPTT0B>.

⁶The following discussion of the m-STAR estimator draws heavily on Hays, Kachi and Franzese (2010) and Thies, Chyzh and Nieman (2016).

coefficients, and ϵ is a vector of randomly distributed errors (Hays, Kachi and Franzese 2010, Thies, Chyzh and Nieman 2016).

The spatial and temporal lags on the right-hand side of the m-STAR model produce two substantively important features that allow me to assess interdependence in patterns of leader hawkishness. First, the value of the dependent variable in one cross-sectional unit can affect the values of all other cross-sectional units. Second, the values of unit-level variables in one cross-sectional unit can influence the values of the dependent variable in every cross-sectional unit over time. These characteristics of the m-STAR model exist because state-level variables have a direct, contemporaneous effect on a state's dependent variable in a given year through $\mathbf{X}\beta$ in Equation 1 and the value of a state's dependent variable in a given year influences the values of the dependent variables in other states through the spatial connectivity matrices (see $\mathbf{W}\mathbf{y}$ in Equation 1 and Equation 2). The temporal lag of the dependent variable and the spatial connectivity matrices combine to create a feedback loop in which past values of the dependent variable in a given state, which also are a function of past values of the state-level variables, indirectly influence the contemporaneous values of the dependent variable in a given state through its influence on the past values of the dependent variables for other states. This implies, for example, the hawkishness of France's leader in year t is a function of the values of its state-level covariates in year t , the hawkishness of France's leader in year $t - 1$, and the hawkishness of Germany's leader in year t , which is a function of the values of Germany's state-level covariates in year t , the hawkishness of Germany's leader in year $t - 1$ and the hawkishness of France's leader in year $t - 1$, and so on.

4.2 Dependent Variable

My dependent variable, *Leader Hawkishness*, measures leaders' latent willingness to use military force. Empirically identifying leaders' underlying hawkishness is difficult. As discussed above, scholars typically take one of three approaches. The first approach is to measure leaders' willingness to use force as a function of their objective attributes and background experiences (Horowitz,

Stam and Ellis 2015, Carter and Nordstrom 2017).⁷ This strategy is based on the idea that an individual's worldview, attitudes, and preferences are shaped by his or her life experiences. The second is to use a measure of a leader's government's left-right orientation (Palmer, London and Regan 2004, Arena and Palmer 2009, Clare 2010). The logic behind this approach is that parties on the right generally hold more hawkish foreign policy preferences than parties on the left (Schultz 2001, Palmer, London and Regan 2004). The third commonly used strategy is to construct measures of a leader's personality or operational code (Renshon 2008, Keller and Foster 2012). Unfortunately, measures of government orientation and leaders' personality traits and operational code have limited temporal and spatial domains and are rarely available for non-democratic countries.

Arguably the principle difficulty of measuring a leader's underlying willingness to use force is that it is not directly observable. Motivated by this insight, the measure of leaders' hawkishness used here was developed using latent variable modeling techniques by Carter and Smith (2018). Latent variable models increasingly are used in political science to measure concepts that are not directly observable; including but certainly not limited to legislators' ideology (Poole and Rosenthal 1991, Clinton, Jackman and Rivers 2004), judges' ideology (Martin and Quinn 2002), regime type (Treier and Jackman 2008, Pemstein, Meserve and Melton 2010), states' preferences over the international status quo (Reed et al. 2008), and standards of human rights accountability (Fariss 2014). Carter and Smith (2018) use a hierarchical Rasch model implemented with Bayesian methods in Stan (Carpenter et al. 2016) to estimate leaders' latent willingness to use military force based on data from leaders' personal attributes and background experiences, political orientations, and/or psychological traits. Data on leaders' personal attributes and background experiences are drawn from the LEAD project (Ellis, Horowitz and Stam 2015). The LEAD project contains data on a range of personal attributes and experiences for 2,965 national political executives between 1875 and 2004. These variables cover leaders' military service, involvement in a rebel movement, sex, family life, occupations, and other experiences. Information about leaders' general political orientations towards the use of military force from two data sets. The first, Seki and Williams's (2014) Annual Government Partisanship data set, includes measures of a leader's general political

⁷This is a natural extension of research that links individual leader attributes to the probability his or her country initiates an interstate conflict (Colgan 2013, Horowitz and Stam 2014).

orientation (*Right-Left*), support for peaceful international relations in general or with respect to specific countries (*International Peace*), and net support for military engagement with other countries (*Hawk*) based on data from the Manifesto Data Project (Volkens et al. 2013, version 16a). The Seki and Williams data includes information on 398 political executives from 37 democracies between 1944 and 2014. The second source of information about leaders' political orientations is the Heads of Government (HoG) data set (Brambor, Lindvall and Stjernquist 2017). The HoG data identify the ideological orientations (left/right/center) of 1,199 political executives from 33 countries, including some non-democracies, between 1870 and 2012. Finally, information about leaders' psychological willingness to challenge constraints is drawn from Keller (2005). Keller's data is derived from Hermann's (2005) leadership trait data and covers 42 national leaders between 1937 and 1998. This measure, and the underlying data from Hermann, are based on an analysis of at least 50 speeches by each national political executive. Speeches were coded for what they revealed about leaders' underlying "need for power," "task emphasis," "distrust of others," and "nationalism." Keller standardized and combined leaders' scores on these four indicators to create a single index that represents leaders' "willingness to challenge potential pacifying constraints in the pursuit of aggressive foreign policy behavior" (Keller 2005, pg. 211-212).

The spatial and temporal coverage of data on leaders' background experiences, orientation/ideology, and psychological traits varies considerably. This results in very little overlap across the data sets, especially among measures that tap leaders' political orientations and psychological willingness to challenge constraints. This presents a problem for developing a measure of leaders' latent hawkishness based on all three types of data. Carter and Smith's (2018) approach is to use a variant of the classic Rasch model (Rasch 1960) centered around the LEAD data (available for all leaders between 1875 and 2004) and incorporate information about leaders' orientation/ideology and psychological traits as covariates that affect leaders' latent willingness to use force whenever information from those sources are available. This allows one to estimate from the data what (if any) contribution the added information makes to the underlying latent variable and use the estimates to structure the information's contribution to a one-dimensional measure of leaders' latent hawkishness. My dependent variable *Leader Hawkishness* is a state-year version of the leader-level variable that best

predicts MID initiation created by Carter and Smith (2018).⁸

4.3 Spatial and Temporal Lags

Spatial interdependence is estimated in the m-STAR model through the spatial connectivity matrices \mathbf{W}_r . I include two spatial lags in the model estimated here. The first measures the logged distance between states i and j . This variable captures the idea that the relative hawkishness of a state's leader is influenced more by the relative hawkishness of the leaders of geographically proximate states. The second spatial lag identifies whether states i and j have fought a MID against one another in the past five years (Ghosn, Palmer and Bremer 2004). This variable captures the idea that domestic populations care more about the relative hawkishness of the leaders of states that their country has recently fought in an interstate conflict than states their country has not recently fought.

4.4 State-Level Variables

My statistical model estimates *Leader Hawkishness* as a function of several state-level variables that could plausibly systematically influence the presence of hawkish or dovish leaders in a country. The first identifies whether or not a country is involved in a strategic interstate *Rivalry* (Thompson and Dreyer 2011). *Territorial Dispute* is a dichotomous variable that is coded 1 if a state is involved in an ongoing territorial dispute and 0 otherwise (Hensel 2001, Territorial Claims Data, version 1.01). The variables *Interstate War* and *Civil War*, respectively drawn from Sarkees and Wayman (2010) and Fearon and Laitin (2003), account for a state's participation in an interstate or civil war in a given year. *Number of Borders* (Debs and Goemans 2010) is included because states are more likely to fight neighbors than non-neighbors and, thus, it is plausible that citizens of countries that have many neighbors have a relative preference for hawkish leader compared to citizens of states with few neighbors. The model also controls for a state's *Capabilities* (proxied by its CINC score (Singer, Bremer and Stuckey 1972)). The model accounts for a state's level of

⁸More specifically, I collapsed the leader-year variable θ_1 from Carter and Smith (2018) down to a state-year variable.

Democracy (identified with the polity2 index (Marshall and Jaggers 2005)) based on the argument that, in general, democratic leaders are less aggressive and risk-acceptant than are non-democratic leaders (Keller 2005, Weeks 2012). A state's *Economic Growth* and *Economic Development* (GDP per capita) (Heston, Summers and Aten 2012) also are included as state-level variables. Finally, the model estimates *Leader Hawkishness* as a function of a linear time trend to capture secular patterns, a set of regional dummy variables (with Europe as the excluded category), and a set of country-fixed effects. In combination, the state-level variables and state- and region-fixed effects should strongly reduce the likelihood that any estimated spatial interdependence among hawkish and dovish leaders is due to common shocks among states (e.g., Franzese and Hays 2008, Hays, Kachi and Franzese 2010).

5 Results

Table 1 reports the parameter estimates associated with the m-STAR model. The results for the temporal lag and spatial lags are presented in the top portion of the table. As one might expect, the temporal lag of the dependent variable is positive and statistically significant; that is, the hawkishness of a state's leader in year t is a function of the hawkishness of its leader in year $t - 1$. Consistent with expectations, the spatial lag associated with the (logged) distance between two countries is negative and statistically significant. This indicates that the hawkishness of a leader in a given state is influenced more by the relative hawkishness of leaders in geographically proximate states than the relative hawkishness of leaders in geographically distant states. The spatial lag that identifies whether two countries have fought against each other in a recent MID is positive but insignificant.

Taken together, the statistically significant estimates on the temporal lag of the dependent variable and the spatial lag associated with the geographic distance between two states indicate the existence of a feedback loop between the relative hawkishness of the leaders of geographically proximate countries. This is because the hawkishness of state i 's leader in year t is a function of 1) the hawkishness of its leader in year $t - 1$ and 2) the hawkishness of state j 's leader in year t .

Accordingly, the hawkishness of state j 's leader in year t will directly influence the hawkishness of state i 's leader in year t through the spatial lag and indirectly influence the hawkishness of state i 's leader through the temporal lag in years $t + 1$, $t + 2$, etc. Thus, the top portion of Table 1 is consistent with my claim that hawkish and dovish leaders should diffuse and cluster in space and time.

The bottom half of Table 1 reports the short-term effects of the state-level variables on *Leader Hawkishness*. All else equal, democracies, more economically developed countries, states with a larger number of borders, and states in the Middle East tend to have more dovish leaders. Additionally, it appears that there has been a small but significant secular increase in the average hawkishness of the leaders we observe.

A key feature of the m-STAR estimator is its ability to identify how unit-level factors influence the larger system (Hays, Kachi and Franzese 2010, Thies, Chyzh and Nieman 2016). In the case at hand, this means that we can identify how changing the values of a state-level factor in a given country influences the relative hawkishness of the leaders it has over time and the hawkishness of the other leaders we observe in the international system. I conducted two sets of post-estimation simulations to demonstrate how hawkish leaders and dovish leaders can diffuse across the international system over time.⁹

⁹The following simulations were conducted by modifying the replication code associated with Thies, Chyzh and Nieman (2016).

Table 1: Multi-parametric Spatio-Temporal Autoregression on Leader Hawkishness, 1960-1999.

<i>Spatial or Temporal Lags</i>	$\beta/(s.e.)$
Leader Hawkishness $_{t-1}$	0.845*** (0.007)
Distance Spatial Lag	-0.125** (0.056)
Recent MID Spatial Lag	0.006 (0.008)
<i>Unit Level Variables</i>	
Rivalry	-0.017 (0.017)
Territorial Dispute	-0.007 (0.015)
Interstate War	0.005 (0.022)
Civil War	0.008 (0.014)
Democracy	-0.019*** (0.001)
Number of Neighbors	-0.011** (0.005)
Capabilities	0.351 (1.128)
Economic Development	-0.073*** (0.017)
Economic Growth	-0.032 (0.073)
Time Trend	0.001** (0.001)
Americas	-0.066 (0.057)
Africa	-0.059 (0.095)
Middle East	-0.801*** (0.176)
Asia	-0.238 (0.173)
Constant	-1.956* (1.092)
σ	0.236*** (0.003)
Log-likelihood	98.555
Observations	4098

Two-tailed: *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$.

Coefficients for fixed country effects not reported for space purposes.

The first set of simulations estimated the expected change in *Leader Hawkishness* in states throughout the world over a four-year period (mean duration of leader tenure) given a one-standard deviation reduction in China's level of *Economic Development*.¹⁰ Figure 2 reports the results of this simulation, with darker shades of red representing increasingly hawkish leaders. Per Table 1, there is a negative relationship between *Economic Development* and *Leader Hawkishness*. Accordingly, the simulations indicate that reducing China's GDP per capita by one-standard deviation is associated with China having a more hawkish leader. Importantly, though, reducing China's level of development also influences the relative hawkishness of the leaders we observe in countries throughout the international system. Naturally, the largest effects are concentrated in countries geographically close to China, with Mongolia, India, Pakistan, and Russia seeing greater increases in the expected hawkishness of their leaders than, for example, Brazil. However, note that the effects of China's development on the expected hawkishness of U.S. and Australian leaders is greater than it is on the expected hawkishness of Indonesian and Malaysian leaders, despite the fact that the U.S. and Australia are geographically further from China. This is due to the positive effect of past interstate conflicts between countries on the diffusion of hawkish and dovish leaders.

¹⁰I note here that this was a panel specific shock and that the standard deviation was calculated exclusively based on China's values on the variable *Economic Development*.

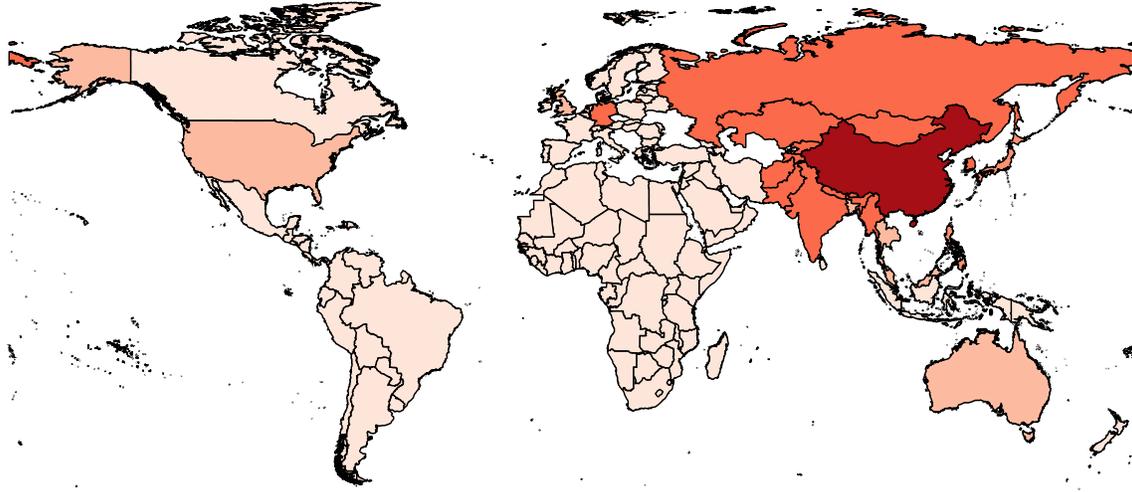


Figure 2: The Effect of Reducing Economic Development in China on Leader Hawkishness.
 Darker shades of red represent increasingly hawkish leaders.

My second set of simulations estimated the expected change in *Leader Hawkishness* in states throughout the world over a four-year period given a one-standard deviation increase in China's level of *Democracy*.¹¹ Figure 3 reports the results of this simulation, with darker shades of blue representing increasingly dovish leaders. Recall from Table 1 that there is a negative relationship between *Democracy* and *Leader Hawkishness*. Consistent with this, the simulations suggest that increasing the level of democracy in China would result in China having a more dovish leader. As above, the effect of China becoming more democratic also influences the relative hawkishness of the other leaders we observe in the international system. The largest effects again are concentrated in countries geographically close to China, with larger reductions in the expected hawkishness of the leaders of Russian, North Korea, and South Korean than in states located further from China. However, we again see that past MID involvement has an influence on the relationship between the relative hawkishness of China's leader and the hawkishness of other leaders in the

¹¹As above, this was a panel specific shock based on China's values on *Democracy*.

international system. This is most clearly seen through the greater effect democratizing China has on the expected hawkishness of U.S. leaders compared to its effects on the expected hawkishness of the leaders of geographically closer states that China has not fought in an interstate conflict.

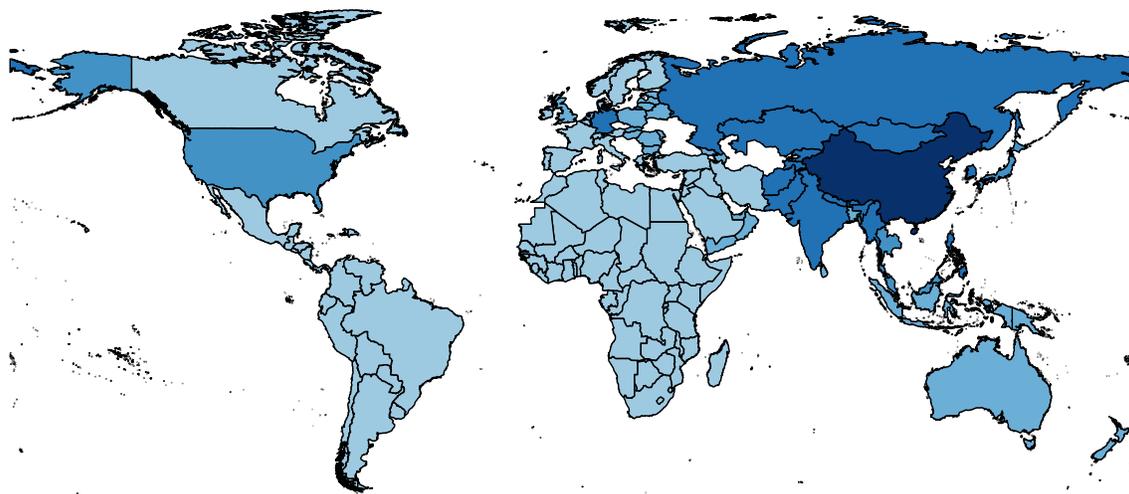


Figure 3: The Effect of Increasing Democracy in China on Leader Hawkishness. Darker shades of blue represent increasingly dovish leaders.

In sum, Table 1 and Figures 2 and 3 are consistent with my claim that hawkish and dovish leaders should diffuse and cluster. The next section offers evidence consistent with a previously untested assumption that underlies my theoretical explanation for the diffusion of hawks and doves.

6 Are Nearby Hawkish Leaders a Security Threat?

The results presented above indicate that the relative hawkishness or dovishness of the political leader in a given state influences the relative hawkishness or dovishness of the political leaders we observe in other states in the international system and that the effect is strongest among geographically proximate states. I argue that the diffusion and clustering of hawks and doves

is driven by two things. First, hawkish leaders represent a national security threat to nearby states. Second, domestic populations prefer hawkish politicians over dovish politicians when they are threatened by an external actor. Unless both of these claims hold, hawkish and dovish leaders should not diffuse. As discussed above, there is substantial evidence that individuals and domestic populations in the aggregate prefer hawkish politicians and policies when facing an external threat (e.g., Gadarian 2010*b*, Berrebi and Klor 2008). However, I am unaware of any research that demonstrates nearby hawkish leaders are viewed as a greater security threat than are nearby dovish leaders or geographically distant hawkish leaders.

It is reasonable to assume that domestic populations view geographically proximate hawkish leaders as a relative threat to their national security. In general, hawks are more likely to initiate interstate conflicts than doves (Heffington 2018) and conflicts are more likely to occur among neighbors and geographically proximate states (among many others, Stinnett et al. 2002). Unfortunately, directly assessing whether these patterns of interstate conflict translate to citizens around the world thinking nearby hawks represent a relative threat to their countries' national security requires cross-national survey data over time that do not exist. It is possible, though, to assess whether nearby hawkish leaders actually represent a larger national security threat to nearby countries than do other leaders. Evidence that states are more likely to be targeted by geographically proximate hawks than either geographically distant hawks or nearby doves would represent a reasonable basis upon which domestic populations would feel threatened more by hawkish leaders in their area than other leaders.

I therefore analyzed whether a state was targeted in a Militarized Interstate Dispute (Palmer et al. 2015) as a function of the relative hawkishness of a potential challenger's leader (*Leader Hawkishness_{Challenger}*), the distance between two countries in logged miles (*Distance*), and an interaction between these two variables.¹² I estimated a logit model with robust standard errors on a directed-dyad year data set of the 137 countries analyzed in my primary analysis during the period between 1960 and 1999. Table 2 presents the parameter estimates yielded by this model.

¹²I coded a state as being targeted in a MID if it was an original participant in the dispute, did not commit the first codeable action in the dispute, and was not seeking a revision to the status quo. This represents the most conservative coding of a state being targeted in an interstate dispute possible with the MID data.

Table 2: Targeted in a Militarized Interstate Dispute, 1960-1999.

	$\beta/(s.e.)$
Leader Hawkishness _{Challenger}	0.25** (0.06)
Distance	-0.53** (0.01)
Leader Hawkishness _{Challenger} *Distance	0.01 (0.01)
Constant	-3.48** (0.06)
Observations	430,190
χ^2	2366.02
$p > \chi^2$	<0.01
Log-Likelihood	-3108.53

Two-tailed: *: $p \leq 0.05$; **: $p \leq 0.01$.

Robust standard errors in parentheses.

Standard results tables limit one’s ability to interpret the results of multiplicative interaction terms (e.g., Brambor, Clark and Golder 2006). I therefore conducted a set of post-estimation simulations to help assess how the hawkishness of a potential challenger’s leader and the distance between two countries influences whether a state is targeted in an interstate dispute. The results of these simulations are reported in Figure 4. Panel A presents the probability that a state will be targeted by a challenger with a hawkish leader (dashed red line) and a dovish leader (solid blue line) across the range of logged miles between two states while Panel B presents the difference in these probabilities (shaded areas represent 95% confidence intervals). The simulations define a hawkish leader and a dovish leader as falling one standard deviation above or below the mean of *LeaderHawkishnessChallenger*, respectively.

The results in Figure 4 are consistent with the claim that geographically proximate hawks represent a greater threat to a state’s national security than other leaders. In particular, states are more likely to be targeted by hawkish leaders than dovish leaders and the difference in the probability of being targeted by a hawk or a dove is decreasing in the distance between two states. For example, given two directly contiguous states, a state will be targeted by a hawkish leader with a probability of 0.037 [0.033, 0.041] and targeted by a dovish leader with a probability of 0.024 [0.021, 0.029]. At the same time, a state will be targeted by a hawkish leader with a probability of

0.0006 [0.0005, 0.0007] and targeted by a dovish leader with a probability of 0.0003 [0.0003, 0.0004] given the mean logged distance between two states in the data set (8.1, which translates to states 3,294 miles apart). Framed differently, the difference in the probability a state will be targeted by a hawkish challenger compared to a dovish challenger is 43.9 times greater given two directly contiguous states than two state that are 3,294 miles apart (0.012 vs. 0.0003). Panel B in Figure 4 nicely illustrates that while a state is statistically more likely to be targeted by a hawkish leader than a dovish leader across the entire range of *Distance*, the magnitude of the difference declines dramatically as the distance between states increases.

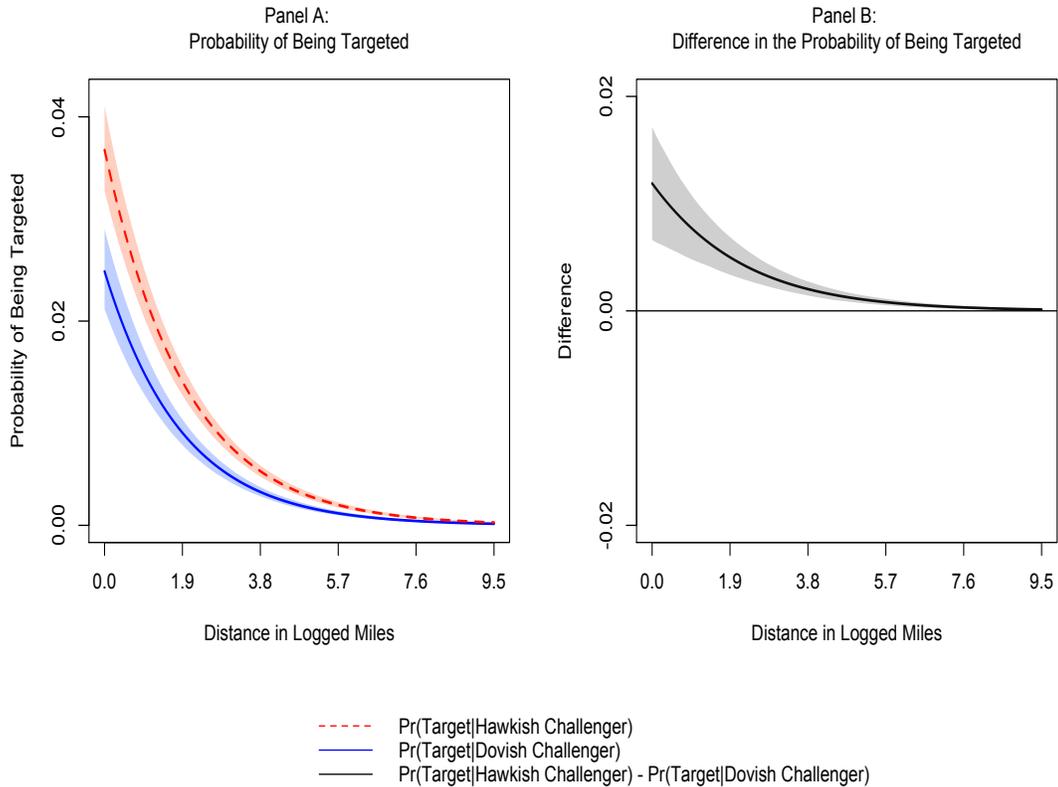


Figure 4: Probability of Being Targeted as a Function of Challenger Hawkishness and Distance.

Figure 4 suggests that individuals should consider hawkish leaders in geographically proximate countries to be a national security threat in a way that dovish leaders and hawkish leaders in distant states are not. Given that domestic populations have a preference for hawkish politicians

when they feel threatened by an external actor (among others, Gadarian 2010*b*, Getmansky and Zeitzoff 2014), the results reported in this section provide a microfoundation for my finding that hawkish and dovish leaders diffuse and cluster in the international system.

7 Discussion and Conclusion

There is now something approaching a consensus that political leaders influence patterns of interstate conflict (among others, Bueno de Mesquita et al. 2003, Chiozza and Goemans 2011, Weeks 2012). Arguably the least controversial result in the recent wave of leader-centric research is that hawkish leaders are more likely to initiate conflicts than are dovish leaders (Horowitz, Stam and Ellis 2015, Heffington 2018). The results reported here indicate that whether countries have hawkish or dovish political leaders is not random. Rather, whether a country has a relatively hawkish leader or a relatively dovish leader is driven by a combination of state-level factors and, importantly, the relative hawkishness and dovishness of the leaders of nearby states. This latter result indicates that hawks beget hawks, doves beget doves, and, consequently, hawkish leaders and dovish leaders cluster in space and time.

My findings have a number of implications for our understanding of interstate conflict processes. At the macro-level, my results offer further evidence that domestic and international politics are inextricably linked. The relative hawkishness of the leaders we observe are influenced not only by domestic factors in their own countries and the relative hawkishness of leaders in geographically proximate countries, but also by domestic factors in these nearby states as they influence the relative hawkishness of their leaders. This implies, for example, the French leaders we observe are a function of domestic factors in France and, due to their influence in determining their respective political leaders, domestic factors in Germany, Italy, Spain, Great Britain, and, to a lesser extent, countries outside of Western Europe. This suggests that an accurate understanding of states' foreign policies and domestic politics requires that we consider both the foreign policies and domestic politics of other states in the international system.¹³

¹³This point is similar to Oatley's (2011) argument that answering questions about the domestic political economy (e.g., an individual's trade policy preferences) requires analysts to explicitly consider international processes because

Beyond the general point that domestic and international politics are intertwined, the results reported here have implications for two important areas of research on interstate conflict processes. The first relates to where and when we observe interstate conflict. As noted in the introduction, there is evidence that conflicts diffuse and cluster in time and space (among others, Siverson and Starr 1990, Braithwaite 2005). Given the well-established relationship between hawkish leaders and interstate conflict, my findings suggest that the diffusion and clustering of interstate conflicts likely are driven, at least partially, by the diffusion and clustering of hawkish and dovish leaders.

My results also have implications for our understanding of the relationship between domestic political institutions and interstate conflict. The most popular explanations for the democratic peace, whether monadic or dyadic, typically focus on how democratic political institutions constrain democratic leaders' ability to participate in conflicts to a greater degree than the political institutions constraining non-democratic leaders (e.g., Russett and Oneal 2001, Bueno de Mesquita et al. 2003). I find that, all else equal, democracies have less hawkish leaders than do non-democracies. Democracies, then, are less likely to have leaders who need to be constrained from initiating conflicts than are non-democracies. This suggests that domestic political institutions might influence patterns of conflict less by how they constrain the behavior of incumbent leaders and more by how they shape who governs a country in the first place.

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states and their economies exist in a complex social system or network.

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