Democracy, autocracy and the likelihood of international conflict*

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Abstract

This is a game-theoretic analysis of the link between regime type and international conflict. Democratic leaders can credibly be punished for bad conflict outcomes, whereas autocratic leaders cannot. Due to the fear of being thrown out of office, democratic leaders are (*i*) more selective about the wars they initiate and (*ii*) on average win more of the wars they start. Foreign policy behaviour is found to display strategic complementarities. Therefore, the likelihood of interstate war is lowest in the democratic dyad (pair), highest in the autocratic dyad with the mixed dyad in between. The results are consistent with empirical findings.

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1 Introduction

One of the most robust findings in the study of international politics is that the likelihood of war between two democracies is smaller than the likelihood of war between two countries where at least one is autocratic.[1,2] Bremer (1992) calculates the historic frequency of war between dyads (pairs) of non-democratic states to 0.70, decreasing to 0.18 for dyads in which one country was democratic and further to 0.05 for democratic dyads (all frequencies multiplied by 1000). The finding that democracies are more peaceful towards each other than towards non-democracies extends well beyond the observation that democracies rarely fight each other.[3] There appears to be a general relationship between regime type and foreign policy behaviour (Leeds and Davis, 1999). For example, democracies tend to be involved in militarized dispute (including war) with each other less often than with non-democracies (Maoz and Abdolali, 1989).

This paper investigates, within a game-theoretic framework, how nations' decisions to engage in international conflict depend on the regime type. Two state leaders simultaneously and independently decide whether to attack the other country. The losing country is forced to pay a penalty to the winner. The prospect of additional income is what creates the incentive for initiating a war. The ruler does not have to bear the direct cost of conflict and therefore has a tendency to engage in conflict too often.

The game is an agency problem between the *selectorate*, i.e., the members of the polity selecting the ruler (Shirk, 1993), and the state leader. The principal (the selectorate) must design policies so as to prevent the agent (the leader) from abusing power for his own purposes. The principal can use post-conflict reselection probabilities to discipline behaviour, since the leader derives rent

[1] The first empirical report on the connection between regime type and the likelihood of interstate conflict was Babst (1964). Scholars have proposed that there is no direct link between regime type and conflict. Rather, democracy proxies some other fundamental determinant, such as contiguity (Huntington, 1989), common alliance bonds (Ray, 1989), political stability (Huth and Russett, 1993), wealth (Mueller, 1989) or economic growth (Maoz and Russett, 1992). However, the degree of democratization has been shown to significantly affect the likelihood of conflict even after controlling for these factors, thus indicating a separate role for democracy (Bremer, 1992; Maoz and Russett, 1992, 1993; Oneal et al., 1996; Ward et al., 2007). However, Werner (2000) argues that political similarity is what is of importance for conflict. For example, similar types of autocracies are less likely to be involved in militarized disputes than mixed autocracies (Peceny et al., 2002).

[2] The most widely used data source for indicators of the degree of democratization in regimes is the Polity data set compiled by Gurr (1974) and subsequently updated. An indicator of autocracy and democracy is constructed based on measures of executive recruitment, executive constraints and political competition.

[3] Modern history has recorded very few instances of wars fought between democracies. Chan (1984) merely finds one war onset between democracies in the period 1816-1980, the Franco-Thai war of 1940. Gurr (1974), covering roughly the same time-span, identifies two wars between democratic states, the Spanish-American war of 1898 and the Second Kashmir war of 1965.

from holding office. Unfortunately, there are no means through which the principal can commit to a policy. The admissible reselection probabilities are required to be post-conflict rational, i.e., *time-consistent*.

The difference between democracy and autocracy here lies in the set of credible reselection policies. In all regimes, post-conflict political competition leads to full convergence in the platforms of the incumbent and the challenger(s). Hence, the only reason for replacing the incumbent would be to punish him for past opportunistic behaviour. In autocracy, the ruler is never up for reselection. He can only be ousted at a considerable cost and individual risk to anyone who purports to do so. Hence, the only time-consistent policy in autocracy is to reselect the ruler independently of past behaviour. In democracy, on the other hand, the leader is constantly evaluated in general elections. Any member of the electorate can cast her ballot in the incumbent's disfavour at no cost and at no personal risk. Since all contestants offer identical policies, replacing the leader is individually rational. Hence, all reelection policies are credible in democracy.

The democratic electorate's superior ability to punish the leader holds the implication that the state leader in democracy will be comparatively less inclined to attack a foreign country, in the sense that he requires a higher military capability for this purpose. The democratic leader has to face the danger of being ousted, whereas the dictator knows he will never be punished for any foreign policy endeavour. These results are consistent with three empirical findings about international conflicts. First, democratic leaders face a larger post-conflict risk of being replaced than autocratic leaders (Bueno de Mesquita et al., 1992 and 2003; Bueno de Mesquita and Siverson, 1995). Second, democracies are less aggressive than autocracies (Rousseau et al., 1996). Third, democracies, on average, win comparatively more of the wars they start (Bueno de Mesquita and Siverson, 1995; Reiter and Stam, 1998).

Foreign policy behaviour is found to display strategic complementarities: the more peaceful a country is perceived to be in its foreign relations, the less likely it is to be attacked by a foreign power. The decision of the home country is important if and only if the foreign country has decided to remain at peace. Otherwise, war will break out independently of whether the home country declares war. Foreign autocracies are more aggressive than foreign democracies in that the military capability required for declaring war is lower. But then foreign autocracies are weaker than foreign democracies (in terms of expected military capability) precisely in the circumstances

under which the foreign policy of the home country is of importance: when the foreign country has decided to remain peaceful. As the net benefit of declaring war is higher when the opponent is expected to be weaker, the home country will be more aggressive towards foreign autocracies than towards foreign democracies.

As democracies tend to be more peaceful than autocracies in their international relations, strategic complementarity implies the most dangerous dyad to be the autocratic one and the most peaceful dyad to be the democratic one, with the mixed dyad somewhere in between. This is the key pattern we sought to explain. In addition, democracies are more likely to attack autocracies than fellow democracies. This finding is well in line with the empirical findings; see e.g. Reiter and Stam (1998).

This is the first theoretical model of international conflict which jointly reproduces five empirical regularities: (i) democratic dyads are more peaceful than other dyads; (ii) democracies are more selective about the wars they initiate; (iii) democracies on average win more of the wars they start; (iv) democracies more often attack autocracies than fellow democracies and (v) political survival depends on conflict outcomes.

Jackson and Morelli (2007) analyse a game of complete information where the leader in each country is biased in favour of conflict, as he has a (weakly) larger benefit-cost ratio of war than the country as a whole. The main result is that two unbiased leaders will always make transfers to avoid war if they can commit to peace subsequent to the transfer payment.[4] There is a number of circumstances under which it is either impossible to make transfers or impossible to commit to remaining peaceful after the transfer has been paid out. The dispute could be over some indivisible object, e.g. a territory of sentimental value, or there are no international organizations sufficiently strong to enforce international peace treaties. The present paper analyses conflict under the assumption than transfers cannot be used to eliminate the threat of conflict. For simplicity, I assume away transfers altogether. In the Jackson and Morelli (2007) model, political bias may or may not lead to conflict when commitment is impossible. Political bias makes a leader more aggressive, but will also induce the opponent to accept a higher transfer. Which effect is dominating depends on the conflict technology. In the present analysis, autocracies are always more

[4]Bester and Wärneryd (2006) analyse the extent to which transfers can be used to eliminate conflict when the two parties are asymmetrically informed about each other's strength. A main result is that conflict cannot always be fully avoided, even when unrestrained divisions of the surplus can be made.

aggressive than democracies, even with general conflict technologies. What is more important, Jackson and Morelli (2007) cannot explain why democracies tend to be more aggressive towards autocracies than towards other democracies (Reiter and Stam, 1998). In Jackson and Morelli (2007), no transfers are paid out in conflict. Absent transfers, the incentive for going to war is independent of the political bias in the target country. Hence, a democracy (unbiased leadership) is equally likely to attack a democracy as it is to attack an autocracy (biased leadership). In the present model, democracies are comparatively less likely to attack each other since foreign policies are strategic complements and democracies are more peaceful than autocracies.

Levy and Razin (2004) consider a model where state leaders are privately informed about the benefits of conflict. The decision whether to engage in conflict is assumed to be taken by the public in democracy, but is delegated to the leader if the regime is non-democratic. In autocracy, the ruler cannot credibly convey his strength to the adversary *prior to conflict*, whereas the democratic ruler can. Hence, autocracies tend to initiate conflict too often. By assumption, decisions are strategic complements; hence, the democratic dyad is the most peaceful.

The present paper considers how *post-conflict* events may shape the incentives of political leadership. There is ample evidence to suggest that the political survival of leaders depends on conflict outcomes; see the above references. Rational leaders should foresee this possibility when deciding on policy. If the removal of a democratic leader is less costly than dismantling an autocrat, the democratic leader should be comparatively selective about the conflicts in which to engage. Since conflict decisions are strategic complements (this is derived, rather than assumed), democratic dyads are more peaceful. Conflict decisions probably depend both on pre- and post-conflict incentives. The present analysis, therefore, is complementary to Jackson and Morelli (2007) and Levy and Razin (2004), each emphasizing different aspects of democracy. In addition, I derive a few results not found in the other two papers. In particular, political survival of the leader is endogenous, and the likelihood of a country being attacked depends on its regime type.

Bueno de Mesquita et al. (1999 and 2003) also stress the importance of post-conflict events for international policy. In their model, the incumbent secures his reselection by satisfying a critical mass of the selectorate, the winning coalition. The larger is the winning coalition, the more will the incumbent rely on public goods provision than on private benefits for survival. Conflict outcomes are public goods by assumption. Therefore, the effort devoted to warfare is increasing in the size of

the winning coalition. If democracies have larger winning coalitions than autocracies, democracies devote more effort to warfare and win more of the wars in which they are engaged. There are no general results concerning coalition size (regime type) and war initiation. The present paper therefore adds to the results of Bueno de Mesquita et al. (1999 and 2003) by demonstrating that democracies are more docile than autocracies, everything else equal.[5]

The remainder of the paper is organized as follows. Section 2 presents the model. Section 3 analyses the incentives of the head of state for engaging in conflict, whereas Section 4 addresses the same issue from the viewpoint of the selectorate and derives the optimal time-consistent policy. Section 5 characterizes and analyses the equilibria of the game. Finally, Section 6 concludes the paper.

2 The model

Two countries, a home and a foreign one, are involved in a militarized dispute with one another. The state leaders simultaneously decide whether to engage in conflict (wage war) with the other country. Conflict arises if initiated by at least one of the antagonists.

The likelihood $p(\boldsymbol{\theta})$ that the home country wins the conflict depends on the pair of military capabilities $\boldsymbol{\theta} = (\theta, \theta')$, where θ is the home country's military capability and θ' the military power

[5] Baliga et al. (2007) extend Bueno de Mesquita et al. (1999 and 2003) to include so-called limited democracies. In a limited democracy, the leader can, by assumption, secure his political survival by appealing to a hawkish minority. As a result, conflict is more likely the more limited democracies are involved in a dispute. Downs and Rocke (1994) are the first to view conflict as an agency-theoretic problem between the public (the principal) and the leadership (the agent). The study is partial in the sense that the strategic interplay between belligerent states is ignored. They make no formal distinction between autocracies and democracies, but expect information asymmetries between the leader and the public to be more severe in autocracies than democracies. It is probably true that the general public is better informed about policy in democracies than in autocracies, due to the existence of a free press, political opposition and so on. However, it is generally not the public that makes or breaks a dictator, it is an influential elite. Whether the autocratic elite is more or less informed about policy than the general public in democracy is not so obvious. Garfinkel (1994) studies complementarities in military investments across regimes, but she does not investigate nations' incentives for declaring war. The build-up of military power is important for understanding international conflict, but does not give a complete picture. Regime type significantly affects the likelihood of conflict, even after controlling for military expenditures (e.g., Bremer, 1992; Maoz and Russett, 1993; Oneal et al., 1996; Rousseau et al., 1996). The present analysis treats military capability as exogenous and emphasizes regime type and the incentives for engaging in conflict. Bueno de Mesquita and Lalman (1992) is the first theoretical analysis of the interplay between regime type and interstate war. The analysis rests on two assumptions that do not seem to hold up to empirical scrutiny. First, it is assumed that democratic leaders would rather capitulate outright than fight a war on their home soil (Reiter and Stam, 1998). Second, the fear of exploitation leads democracies to launch preemptive strikes against autocratic enemies (Reiter, 1995). Here, I employ the realistic assumption that war is better than outright capitulation and any artificial first or second mover advantage is removed by the assumption that players move simultaneously. Other models of conflict include Richards et al. (1993), Smith (1993), Leeds (1999) and Hess and Orphanides (1995, 2001), all of which analyse state leaders' incentives for engaging in diversionary international warfare. None of them perform a comparative analysis across regimes.

of the adversary. The probability of winning a conflict is increasing in own military capability, $p_\theta(\boldsymbol{\theta}) > 0$, and decreasing in the opponent's military capability, $p_{\theta'}(\boldsymbol{\theta}) < 0$ (subscripts on functions denote partial derivatives throughout). Military capability is exogenously given and is assumed to be private information for the leadership in each country. However, it is commonly known that θ and θ' are independently and identically distributed on the interval $\Theta = [\underline{\theta}, \overline{\theta}]$ according to the continuous density function $f(\cdot) > 0$ and the cumulative distribution function $F(\cdot)$, with $F(\underline{\theta}) = 0$.

Each country is endowed with exogenous income I. The incentive for waging war stems from the winner's possibility of expropriating resources from the loser. The value of winning the war in terms of net additional income is $B > 0$, and the cost for the loser is $L \in (0, I)$, with $B \neq L$ in general.[6] The inhabitants of the country incur a cost K of warfare, except the ruler who does not face any direct costs of warfare. As will be apparent below, the asymmetric distribution of costs has the implication that the ruler tends to wage war too often.

The political regime R is either democratic, $R = D$, or autocratic, $R = A$. In the democratic regime, the leader is selected by majority voting in general elections and in competition with multiple contestants. There are many types of dictatorships, ranging from kleptocratic or "tinpot" regimes such as Zaire under Mobutu, Noriega's Panama or the Philippines under Marcos, via totalitarian regimes such as Nazi Germany or Stalin's Russia, to tyrannies such as Pinochet's Chile.[7] Although these dictatorships vary in nature and scope, they all share the feature of the leader not being up for reelection. The dictator can only be replaced at a considerable cost and personal risk to anyone who purports to do so. As in democracy, succession might be a political fight between multiple contestants manoeuvring to gain support from a majority of the influential members of the polity, the *selectorate* (Shirk, 1993). The autocratic selectorate, however, generally consists of a small and influential elite. Hence, the power base of the selected autocrat might differ substantially from that of an elected democratic leader. Consequently, the ability and incentives to replace a leader might vary across regimes. Denote by ϕ^{RP} the probability that the ruler in the home country is reselected conditional on regime type $R \in \{D, A\}$ and on a peaceful outcome of

[6] Symmetry on resources and on the distribution of military capabilities is mainly introduced for notational convenience. All that is required for the results to go through is identical lower bounds $\underline{\theta}$ on the two countries' military capability.

[7] The examples are from Wintrobe (1998). He classifies dictatorships along two dimensions: repression of the subjects and loyalty to the ruler. The tinpot utilises just enough repression and buys just enough loyalty to stay in power and extract maximum rents. The totalitarian maximises power by creating a highly repressive regime with extremely loyal subjects sustained by a costly bureaucratic system. The tyrant relies on repression alone. Finally, the timocrat (of which there are few historical examples) focuses on loyalty to remain in power.

the conflict game, and let ϕ^{RW} and ϕ^{RL} be the reselection probabilities following a win and defeat, respectively, under regime type R.[8] Write $\Phi^R = \{\phi^{RP}, \phi^{RW}, \phi^{RL}\}$ and $\Phi^{R'}$ the vector of reselection probabilities in the home country and the foreign country, respectively. As the leader tends to go to war too often, the selectorate could use the reselection probabilities as a disciplining device against the leader. This might work due to the value $b > 0$ attached by the leader to remaining in office.

The present game is an agency problem where the uninformed principal (the selectorate) delegates the decision to engage in conflict to an informed agent (the leader) (Downs and Rocke, 1994). The principal is constrained by incomplete contracting; the only available instrument is the set of reselection probabilities. Moreover, the principal lacks the ability to commit to the contract it proposes. The reselection probabilities are credible only to the extent that they are post-conflict rational. Hence, the selectorate is constrained to offering time-consistent punishment strategies. I assume that Φ^R and $\Phi^{R\prime}$ are common knowledge, although we only need to assume that they are correctly anticipated in equilibrium.

Post-conflict disposable income is equal to $X \in \{I - L, I, I + B\}$, independently of whether the incumbent is reselected or replaced. Moreover, political competition in both regimes ensures that the challengers and the incumbent all position themselves exactly at the location at which they are ensured support from at least half of the selectorate, i.e., the median location. Thus, post-conflict spending is independent of the identity of the post-conflict leader. As the identity of the "median selector" tends to vary across regime types, so will equilibrium spending. To simplify matters and highlight the effects of the replacement, all differences are assumed away. The entire population is homogenous with disposable income X spent on a public good equally beneficial to everyone. To simplify even further, all economic agents are assumed to be risk neutral.[9]

The timing of the game is as follows. Nature draws capability $\boldsymbol{\theta}$ and the rulers learn their own capability. Second, the selectorates in the two countries announce a vector of reselection probabilities Φ^R and $\Phi^{R'}$, respectively. Next, the game moves into the conflict stage. A strategy at the conflict stage is a mapping from the set of types Θ into (a potential mix of) the set of actions {"*attack*", "*remain peaceful*"}, conditional on the leader's assessment of the actions in the foreign

[8] In principle, reselection probabilities could depend even on the regime type $R' \in \{D, A\}$ of the foreign country and who initiated the conflict. I assume that the selectorate cannot observe who initiated the conflict. The selectorate cannot benefit from conditioning the reselection probability on the foreign regime type; see below.

[9] The assumption of risk-neutrality is of no importance; any utility function strictly increasing in wealth will do.

country and his beliefs about future reselection prospects and expected income. Reselection takes place immediately after the conflict stage.

The equilibrium concept applied is that of a Bayesian Nash Equilibrium (BNE). A set of strategies constitutes a BNE if beliefs and actions are consistent: the optimal actions of a country, given its beliefs about the actions of the adversary, correspond to the beliefs the adversary holds about its enemy's actions and vice versa.

3 The ruler

Suppose that the ruler in regime R holds the subjective belief that his adversary will remain peaceful with probability $q'(z)$ as a function of military capability $z \in \Theta$. If the ruler remains peaceful with probability q, his expected utility is given by

$$\begin{aligned} V(\theta, q, q'(z), \Phi^R) &= \int_\Theta [qq'(z)(I + \phi^{RP}b) + (1 - qq'(z))(p(\theta, z)(I + B + \phi^{RW}b) \\ &\quad + (1 - p(\theta, z))(I - L + \phi^{RL}b))]dF(z). \end{aligned}$$

With probability $qq'(z)$ peace prevails, income remains at I and the ruler is reselected with probability ϕ^{RP}. Otherwise war breaks out, is won with probability $p(\theta, z)$ and lost with probability $1 - p(\theta, z)$. In case of a win, income increases to $I + B$ and the reselection probability is ϕ^{RW}, in case of a loss income falls to $I - L$ and the reselection probability is ϕ^{RL}. Differentiate with respect to q to obtain

$$v(\theta, q'(z), \Phi^R) = \int_\Theta q'(z)[p(\theta, z)(B + (\phi^{RW} - \phi^{RP})b) - (1 - p(\theta, z))(L + (\phi^{RP} - \phi^{RL})b)]dF(z), \quad (1)$$

the leader's marginal incentive for declaring war. The ruler's choice is of only importance in case the adversary remains peaceful. In that case, the *upside* of war, the income expansion associated with victory and the marginal effect of a victory on reselection, is traded off against the *downside*, the income loss plus the political cost of a loss. The relative magnitude of the two effects depends on the country's military capability:

Lemma 3.1 *If the probability of retaining office is at least as large following a victory as it is following a defeat ($\phi^{RW} \geq \phi^{RL}$), the ruler will attack if and only if military capability is sufficiently high.*

Proof.

$$v_\theta(\theta, q'(z), \Phi^R) = \int_\Theta q'(z) p_\theta(\theta, z)[B + L + (\phi^{RW} - \phi^{RL})b]dF(z) > 0$$

by $p_\theta > 0$ and by $\phi^{RW} \geq \phi^{RL}$ if $q'(z) > 0$ for a subset of Θ with positive measure. Hence, $q(\theta) = 0$ if θ is sufficiently large and 1 otherwise. ■

The intuition is straightforward. The stronger is the army, the more (less) likely it is that the war will be won (lost). Since it is better to win a war than to lose it, the value of engaging in conflict increases with military power. Although this is a straightforward, almost trivial, theoretical result, there is a lack of consensus as to its empirical validity. Morgan and Campbell (1991) show that major democratic powers were less frequently involved in conflict than minor democratic powers in the period 1816-1976. Bueno de Mesquita and Lalman (1992: p.146-147) rely on this evidence when they propose "...the seeming paradox that the states most capable of winning in a violent confrontation are least likely to resort to that means of settling their differences". However, not only were the period's major democratic powers France, England and the US,[10] military powerful, they were even wealthy. As shown by Maoz and Russett (1993), wealth and conflict are negatively correlated. Therefore, it is plausible that the Morgan and Campbell (1991) study picks up a significant wealth effect. Rousseau et al. (1996) and Gelpi (1997) use data on the number of troops and the size of military expenditures to construct a measure of power. Their results confirm the above proposition: the likelihood that a country initiates the use of force against an adversary increases when the balance of power tips in its favour.

The fact that the net utility of declaring war is monotonic in military capacity has the implication that for any set of beliefs about the opponent's actions, there exists a cutoff point or *trigger* β such that a country's leadership will declare war with certainty whenever military capability is above this threshold and remain peaceful otherwise, provided that $\phi^{RW} \geq \phi^{RL}$. For beliefs to be consistent, each player must hold the belief that a threshold also exists for the opponent. Suppose that $\phi^{R'W} \geq \phi^{R'L}$ also holds and that the expected trigger of the adversary is θ'. Impose this belief structure on (1) to obtain:

$$v(\boldsymbol{\theta}, \Phi^R) = \int_{\underline{\theta}}^{\theta'} [p(\theta, z)(B + (\phi^{RW} - \phi^{RP})b) - (1 - p(\theta, z))(L + (\phi^{RP} - \phi^{RL})b)]dF(z). \quad (2)$$

$v(\boldsymbol{\theta}, \Phi^R)$ is the leadership's expected net benefit of going to war, given its capacity θ, the belief

[10] See Small and Singer (1982: p. 44-45) for the list of the major powers during the period 1816-1980 used by Morgan and Campbell (1991).

that the enemy remains peaceful if and only if its military capacity is below θ' and the replacement structure Φ^R. For future reference, define the (implicit) function $\beta^R(\theta')$ in the following way:

$$\beta^R(\theta') = \begin{cases} \underline{\theta} & \text{if } v(\underline{\theta}, \theta', \Phi^R) \geq 0 \\ \beta^R | v(\beta^R, \theta', \Phi^R) = 0 & \text{if } v(\overline{\theta}, \theta', \Phi^R) > 0 > v(\underline{\theta}, \theta', \Phi^R) \\ \overline{\theta} & \text{if } v(\overline{\theta}, \theta', \Phi^R) \leq 0 \end{cases},$$

$$\beta^R(\underline{\theta}) = \lim_{\theta' \downarrow \underline{\theta}} \beta^R(\theta').$$

$\beta^R(\cdot)$ is a continuous function defined on the compact space Θ by the assumptions on p and f. It defines the trigger for which the ruler in a regime of type R will attack as a function of the beliefs about the opponent's trigger. The threshold is an interesting object of study because it reveals the ex ante (i.e. before the revelation of military capabilities) likelihood that a country will attack another country. The lower it is, the higher is the ex ante probability that the country will declare war.

Proposition 3.1 *If the probability of retaining office is at least as large following a victory as it is following a defeat in both countries, the threshold for declaring war is increasing in the enemy's threshold for conflict ($\beta^R_{\theta'}(\theta') > 0$ for all $\beta^R \in (\underline{\theta}, \overline{\theta})$ and $\theta' > \underline{\theta}$).*

Proof. $\beta^R_{\theta'} = -v_{\theta'}/v_\theta$. $v_\theta > 0$ from the assumption that $\phi^{RW} \geq \phi^{RL}$, see Lemma 3.1. Hence, $sgn\{\beta^R_{\theta'}\} = -sgn\{v_{\theta'}\}$. Define two new variables,

$$C^R = \tfrac{L+(\phi^{RP}-\phi^{RL})b}{B+L+(\phi^{RW}-\phi^{RL})b} \text{ and } M(\boldsymbol{\theta}, C^R) = \int_{\underline{\theta}}^{\theta'} [p(\theta, z) - C^R] dF(z). \tag{3}$$

By definition, $v(\boldsymbol{\theta}, \Phi^R) = (B+L+(\phi^{RW}-\phi^{RL})b) M(\boldsymbol{\theta}, C^R)$, so $M(\beta^R, \theta', C^R) = 0$ for all $\beta^R \in (\underline{\theta}, \overline{\theta})$. Perform an integration by parts:

$$M(\beta^R, \theta', C^R) = [p(\beta^R, \theta') - C^R] F(\theta') - \int_{\underline{\theta}}^{\theta'} p_{\theta'}(\beta^R, z) F(z) dz = 0.$$

$p_{\theta'}(\beta^R, z) < 0$ and $F(z) > 0$ for all $z > \underline{\theta}$ imply $p(\beta^R, \theta') < C^R$ for all $\beta^R \in (\underline{\theta}, \overline{\theta})$ and $\theta' > \underline{\theta}$. $v_{\theta'} = (B + L + (\phi^{RW} - \phi^{RL})b)[p(\beta^R, \theta') - C^R] f(\theta') < 0$ completes the proof. ■

The proposition reveals the fact that foreign policies display strategic complementarities; the likelihood of the home leader being docile is increasing in the perception of the foreign leader as docile. The action of the home country is of importance if and only if the foreign country has decided to stay peaceful. Otherwise, war will break out independently of whether the home country declares war. The more aggressive a foreign country is perceived to be, i.e., the lower

is the foreign country's threshold for declaring war, the lower is its expected military capability in the circumstances under which the foreign policy of the home country is of importance: when the foreign country has decided to remain peaceful. As the net benefit of declaring war is higher when the opponent is expected to be weaker, the home country will be more aggressive towards aggressive foreign countries than towards less aggressive foreign countries.

4 The selectorate

The first part of this section derives the optimal war probabilities from the viewpoint of the selectorate. The second part considers the question of whether reselection probabilities exist that implement the preferred war policy. The final part takes feasibility into account; the chosen policy is required to be time consistent.

Consider a representative member of the selectorate in regime R. Let $q'(z)$ be the subjective belief that the foreign country will remain peaceful as a function of its military capability, $z \in \Theta$, and $q(\theta)$ the perceived likelihood that the ruler in the home country stays peaceful as a function of military capability, $\theta \in \Theta$. Expected utility is

$$\begin{aligned} U(q(\theta), q'(z)) &= \int_\Theta \int_\Theta [q(\theta)q'(z)I + (1 - q(\theta)q'(z))(p(\theta, z)(I + B) \\ &\quad + (1 - p(\theta, z))(I - L) - K)]dF(z)dF(\theta). \end{aligned}$$

Differentiate U with respect to $q(\theta)$ to find the selectorate's net incentive for declaring war

$$u(\theta, q'(z)) = \int_\Theta q'(z)[p(\theta, z)B - (1 - p(\theta, z))L - K]dF(z)$$

at military capability θ. The selectorate strictly prefers the leader to attack the foreign country if and only if $u(\theta, q'(z)) > 0$. By remaining peaceful, the selectorate saves on the cost K of warfare and the income loss L in case of defeat. On the negative side, the potential income gain B is missed in cases where the war would, in fact, have been won. The incentive for declaring war depends on the country's military capability in an intuitive manner (the proof is analogous to the proof of Lemma 3.1 and is thus omitted):

Lemma 4.1 *The selectorate prefers war if and only if the country's military capability is sufficiently high.*

Each country thus has a trigger level above which they prefer war. Let θ' be the anticipated trigger level of the foreign country. The net incentive for declaring war is

$$u(\boldsymbol{\theta}) = \int_{\underline{\theta}}^{\theta'} [p(\theta, z)B - (1 - p(\theta, z))L - K]dF(z). \tag{4}$$

For any anticipated threshold θ' in the foreign country, the selectorate's preferred threshold level β is found exactly at the point at which the selectorate is indifferent between war and peace, i.e., at $u(\beta, \theta') = 0$.[11]

The selectorate neither has the information nor sufficient instruments to instruct the leader to attack contingent on β. Instead, it is forced to use the ruler's strive for remaining in power to shape incentives. The question is whether reselection incentives are sufficient to align the preferences of the leader and the selectorate. Let $\Phi = \{\phi^P, \phi^W, \phi^L\}$ be any vector of reselection probabilities. With these instruments,

$$v(\boldsymbol{\theta}, \Phi) - u(\boldsymbol{\theta}) = \int_{\underline{\theta}}^{\theta'} [p(\theta, z)(\phi^W - \phi^P)b - (1 - p(\theta, z))(\phi^P - \phi^L)b + K]dF(z)$$

measures how the leader's incentive for declaring war deviates from the preferences of the selectorate. If $v(\boldsymbol{\theta}, \Phi) > u(\boldsymbol{\theta})$, the leader is too aggressive from the selectorate's point of view; if the difference is negative, he is too soft. The above expression also shows how the electorate can use Φ to align preferences. The higher are the post-conflict reselection probabilities ϕ^W and ϕ^L, the more aggressive does the ruler tend to be. An increase in the peaceful reselection probability ϕ^P induces a more peaceful ruler.

Concerning the optimal reselection probabilities, consider first the case where the cost of warfare is large, i.e. $K > b$. Assume also that the selectorate has chosen a policy so as to minimise the likelihood of war, i.e. $\phi^W = \phi^L = 0$ and $\phi^P = 1$. With these reselection probabilities, $v(\boldsymbol{\theta}, \Phi) - u(\boldsymbol{\theta}) = (K - b)F(\theta') > 0$. Even with maximal punishment, certain replacement in case of war and certain reselection in case of peace, the leader still tends to pick wars too often. As the selectorate cannot do anything more to minimize the risk of war, $\phi^W = \phi^L = 0$ and $\phi^P = 1$ are optimal when wars are costly. Assume next that war is not so costly, i.e. $K \leq b$. Consider a policy where the leader is reselected with certainty if war does not break out, and is ousted with

[11] β is uniquely defined and the selectorate prefers the implemented trigger to be as close to the preferred one as possible: U is strictly quasi-concave in β for any set of subjective beliefs $q'(\theta')$.

probability Kb^{-1} in every post-conflict state. In this case, $v(\boldsymbol{\theta}, \Phi) = u(\boldsymbol{\theta})$ and preferences are perfectly aligned. Thus, I have established:

Proposition 4.1 *The following reselection policy is optimal: the leader is reselected with certainty if peace prevails ($\phi^P = 1$) and is ousted with positive probability if war breaks out, irrespective of whether the war is won or lost ($\phi^W = \phi^L = \max\{1 - Kb^{-1}; 0\}$).*

These reselection probabilities are the ones the selectorate would choose if able to commit to the policy. However, the set of policies is required to be sequentially rational. Under the assumptions of our model, the set of credible policies varies across regimes. Consider first the autocracy. The dictator knows that post-conflict political competition leads to full convergence between himself and any challenger. Moreover, replacing the incumbent is associated with significant costs to the selectorate. Knowing this, the dictator realizes that the selectorate is best off keeping the incumbent, independent of his previous conflict management history. Therefore, reselection in all states of the world is the unique sequentially rational replacement strategy in autocracy. Even in democracy, political competition leads to full convergence between the incumbent and the challenger(s). However, voting for one candidate or the other is costless. As all candidates are associated with identical future policies, it is rational to replace the incumbent independently of the history. Hence, democracies can credibly replace their leaders and thus, the socially optimal policy is time consistent in democracy. I collect these result in a proposition:

Proposition 4.2 *In equilibrium, the autocratic leader is always reselected ($\phi^{AP} = \phi^{AW} = \phi^{AL} = 1$). The democratic leader is reselected with certainty if and only if war has been avoided. Otherwise, he is replaced with positive probability ($\phi^{DP} = 1$ and $\phi^{DW} = \phi^{DL} = \max\{1 - Kb^{-1}; 0\}$).*

Several insights can be drawn from these results. First, democratic leaders would be expected to face a comparatively large risk of being replaced following war. This is consistent with findings (e.g. Bueno de Mesquita et al., 1992 and 2003; Bueno de Mesquita and Siverson, 1995) of leaders in democracies tending to have a shorter post-war tenure than autocratic rulers. The theory further predicts post-war political survival in democracy to depend negatively on the direct cost K of conflict, but the political survival in autocracy to be independent. Hence, the post-war tenure of democratic leaders would be expected to be more sensitive to the costs of conflict than the

post-war tenure of autocratic leaders. Bueno de Mesquita et al. (1992) and Bueno de Mesquita and Siverson (1995) find a negative relation between the per capita number of battle deaths and political survival, although they do not test the joint effect of democracy and the cost of warfare.

The selectorate cannot benefit from conditioning the survival probability on the conflict outcome in this model. If war is costly ($K > b$), the selectorate wants to minimize the probability that the leader attacks, which implies punishing him in all post-conflict states. If war is not so costly ($K \leq b$), preferences can be perfectly aligned even without conditioning political survival on war outcome. The model's prediction, that political survival is independent of the conflict outcome, is at odds with Bueno de Mesquita and Siverson (1995), Bueno de Mesquita et al. (2003) and Chiozza and Goeman's (2004) findings that conflict outcomes affect the tenure of political leaders. The model could be extended in at least three directions to generate outcome dependent reselection probabilities. First, the likelihood of winning a war could depend on some unobservable war-fighting capability or competence of the leader. If the selectorate attributes a positive value to such a capability, a leader might have an incentive to launch a war to signal his war-fighting competence. To avoid incompetent leaders gambling for a lucky conflict outcome, the selectorate could benefit from rewarding good conflict outcomes and punishing bad ones. Second, the war outcome might depend on some unobservable war-fighting effort of the leadership. The selectorate would always prefer the leader to devote maximal effort to winning the war, although the leader might not. This moral hazard problem can be mitigated by reselecting the leader with higher probability in case of a win. The third extension is easily incorporated into the current framework. Assume that the income loss $\overline{L}$ of the selectorate in case of defeat is larger than the corresponding income loss L of the leader, i.e. $\overline{L} > L$. The following combination of reselection probabilities

$$\phi^W - \phi^L = (\overline{L} - L)b^{-1} > 0,\ \phi^P - \phi^L = (\overline{L} - L + K)b^{-1} > 0$$

leads to a full alignment of preferences, $v(\boldsymbol{\theta}, \Phi) = u(\boldsymbol{\theta})$, in the case $b \geq K + \overline{L} - L$.

Note, finally, that the leadership's incentives for going to war may also vary across democratic institutions. In a presidential system with term limits, for example, the reselection probability is zero in the final term, independently of policy outcomes, i.e. $\Phi^D = \mathbf{0}$. Here, $v(\boldsymbol{\theta}, \mathbf{0}) - u(\boldsymbol{\theta}) = KF(\theta') > 0$, and thus, the model predicts an excessive incentive for going to war in the final term. I am not aware of any study which tests how term limits affect foreign policy behaviour.

5 War

This section is concerned with the main issue of the paper, namely the likelihood of international conflict. Recall from the previous section that the autocratic and democratic selectorates optimally set reselection probabilities such that the post-war likelihood of reselection is independent of whether the war was lost or won. This has two implications for the ruler's propensity to attack the foreign country: (i) the leader will attack if and only if military capability is sufficiently high, see Lemma 3.1; and (ii) the propensity to attack is decreasing in the adversary's perceived threshold for declaring war, see Proposition 3.1.

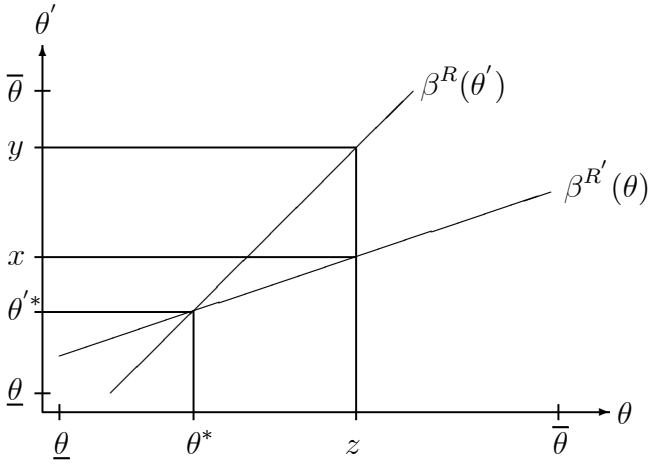

Figure 1

Figure 1 is a mapping of the two countries' best reply functions (these are non-linear in general). Suppose that the leadership in country R ascertains that the strategy of country R' is to attack iff its military capacity rises above y. $z = \beta^R(y)$ defines the level at which R is indifferent between war and peace, given the beliefs about the opponent's actions. Thus, a best reply to the strategy of R' is to attack iff $\theta > z$. (z, y) cannot be an equilibrium. The best reply of R' to the adversary's strategy "attack iff $\theta > z$" is "attack iff $\theta' > x$". $x \neq y$ renders strategies inconsistent. $\boldsymbol{\theta}^* = (\theta^*, \theta'^*)$, on the other hand, constitutes a vector of equilibrium threshold values since "attack iff $\theta > \theta^*$" is a best reply to "attack iff $\theta' > \theta'^*$" and vice versa. In view of the above arguments, the following lemma is obvious:

Lemma 5.1 *Any (interior) BNE of the conflict game is a vector $\boldsymbol{\theta}^*$ of equilibrium thresholds such that $\theta^* = \beta^R(\theta'^*)$ and $\theta'^* = \beta^{R'}(\theta^*)$.*

We are now ready to analyse the types of conflict equilibria that arise in this model. First, if both rulers are convinced that the adversary will declare war no matter what, the respective ruler's own actions are of no importance, there will be war anyway. Hence, "always declare war" is a best response to the adversary's strategy "always declare war". Consequently:

Proposition 5.1 *Always declare war constitutes a BNE.*

This is a negative result and if it were to be the unique equilibrium outcome, the model would be flawed since countries do not find themselves constantly involved in violent interstate conflicts. Let a *Partially Peaceful Equilibrium* (abbreviated PPE) be defined as an equilibrium with a positive (ex ante) probability of peace, i.e. with $F(\theta^*)F(\theta'^*) > 0$. PPE exists under fairly general symmetry assumptions:

Proposition 5.2 *For any dyad, if (i) the conflict technology is symmetric, in the sense that $p(\underline{\theta}, \underline{\theta}) = 1/2$, and (ii) the income loss L in case of defeat is at least as large as the income gain B in case of a win, $L \geq B$, there exists at least one PPE.*

Proof. Recall the definitions of C^R and $M^R(\boldsymbol{\theta}, C^R)$ in (3). First, I show that a PPE exists in the RR' dyad if $p(\underline{\theta}, \underline{\theta}) = 1/2$ and $\min\{C^R, C^{R'}\} \geq 1/2$. Note that

$$\begin{aligned} M(\theta', \theta', C^R) &= \int_{\underline{\theta}}^{\theta'} [p(\theta', z) - C^R] dF(z) \\ &= \int_{\underline{\theta}}^{\theta'} [p(\theta', z) - C^R] dF(z) + p(\theta', \underline{\theta})F(\theta') - p(\theta', \underline{\theta})F(\theta') \\ &= (p(\theta', \underline{\theta}) - C^R)F(\theta') + \int_{\underline{\theta}}^{\theta'} \int_{\underline{\theta}}^{z} p_{\theta'}(\theta', y) dy dF(z). \end{aligned}$$

The second term on the last line is negative for all $\theta\prime > \underline{\theta}$ and the first term becomes non-positive as θ' converges to $\underline{\theta}$ by the assumption that $p(\underline{\theta}, \underline{\theta}) = 1/2$ and $C^R \geq 1/2$. Thus, for $C^R \geq 1/2$ $\exists \theta'^c > \underline{\theta}$ such that $M(\theta', \theta', C^R) < 0$ for all $\theta' \in (\underline{\theta}, \theta'^c]$, and, consequently, $\beta^R(\theta') > \theta'$ $\forall \theta' \in (\underline{\theta}, \theta'^c]$ by $M_\theta > 0$. By the same argument, there exists $\theta^c > \underline{\theta}$ with symmetric properties, i.e. $\beta^{R'}(\theta) > \theta$ $\forall \theta \in (\underline{\theta}, \theta^c]$. Let $a = \min\{\theta^c, \theta'^c\}$. Consider the continuous mapping $h(z) = \beta^R(\beta^{R'}(z)) - z$. By Lemma 5.1, $\boldsymbol{\theta}^*$ constitutes an interior equilibrium if $h(\theta^*) = 0$ and $\theta'^* = \beta^{R'}(\theta^*)$. $\beta^R(a) > a$, $\beta^{R'}(a) > a$ and $\beta^R_{\theta'}(\theta') \geq 0$ imply $\beta^R(\beta^{R'}(a)) \geq \beta^R(a) > a$, hence $h(a) > 0$. Moreover, $\beta^R \in [\underline{\theta}, \overline{\theta}]$ implies $h(\overline{\theta}) \leq 0$. It follows from the Mean-Value Theorem that there exists a $\theta^* > a > \underline{\theta}$, such that $h(\theta^*) = 0$. Moreover, $\theta'^* = \beta^{R'}(\theta^*) \geq \beta^{R'}(a) > a > \underline{\theta}$. Finally, $F(\theta^*)F(\theta'^*) > 0$ by $f(\cdot) > 0$. This completes the first part of the proof. Utilising the equilibrium Φ^R, see Proposition 4.2, $C^D \geq 1/2$ is equivalent to $2\max\{Kb^{-1}; 1\}b + L \geq B$ and $C^A \geq 1/2$ is equivalent to $L \geq B$. ■

If the income loss L outweighs the income gain B, and the conflict technology is symmetric, a country will attack only if it has an expected military advantage over the adversary. This requirement of military superiority is indicated in Figure 1 as $\beta^R(\underline{\theta}) > \underline{\theta}$ and $\beta^{R'}(\underline{\theta}) > \underline{\theta}$. Therefore, an equilibrium exists in which both countries remain at peace if they are sufficiently weak. The remainder of the paper assumes the existence of PPE.

The conflict game has multiple equilibria, and thus, the problem of equilibrium selection arises. This paper restricts the attention to the properties of the *Maximal Equilibrium* (ME), that is, the equilibrium that maximizes the likelihood of a peaceful outcome. I show in an appendix (available upon request) that the ME satisfies two standard equilibrium selection criteria, pay-off dominance and risk-dominance (Harsanyi and Selten, 1988). Every ruler prefers the adversary to be as peaceful as possible because there is always the option of going to war. Therefore, the ME pay-off dominates every other equilibrium. If uncertainty exists about the adversary's threshold strategy, playing a soft strategy provides a higher expected payoff. War can then be avoided in circumstances when it might otherwise have been lost, i.e., when the opponent is strong. Therefore, the ME strategy risk-dominates any other equilibrium threshold strategy. The following characterization is the main result of the paper:

Proposition 5.3 *The likelihood of war in the Maximal Equilibrium is (i) lowest in the democratic dyad, highest in the autocratic dyad, with the mixed dyad in between; (ii) increasing in the benefit B of winning and decreasing in the cost L of losing the war; (iii) decreasing in the benefit b of holding office and the direct cost K of warfare if and only if at least one of the countries in the dyad is democratic.*

Proof. I first prove the existence of a Maximal Equilibrium (ME) $\boldsymbol{\theta}^m = (\theta^m, \theta^{m\prime})$, assuming that PPE does exist. Define the function $\boldsymbol{\gamma}(\boldsymbol{\theta}) = (\beta^R(\theta') - \theta, \beta^{R'}(\theta) - \theta')$. It is continuous by continuity of β^D and β^A. Write $\Theta^* \subset \Theta^2$ the non-empty set of PPE equilibrium thresholds and $\Theta^c = \{\boldsymbol{\theta} \in \Theta^2 | \boldsymbol{\gamma}(\boldsymbol{\theta}) \neq \mathbf{0}\}$ the complement of Θ^*. By definition $\boldsymbol{\theta}^m \in \arg\max_{\boldsymbol{\theta}^* \in \Theta^*} F(\theta^*)F(\theta'^*)$. $F(\cdot)$ is continuous, so the maximization program has a solution if Θ^* is compact. By continuity of $\boldsymbol{\gamma}$ $\exists$ a neighborhood $N(\boldsymbol{\theta}, r)$ around every $\boldsymbol{\theta} \in \Theta^c$, such that $\boldsymbol{\gamma}(\mathbf{z}) \neq \mathbf{0}$ $\forall$ $\mathbf{z} \in N(\boldsymbol{\theta}, r)$. Thus, Θ^c is an open set, rendering Θ^* closed. Θ^* is a closed subset of the compact set Θ^2; hence itself compact.

I next consider the comparative statics of the ME. I first show that any parameter which makes a country less aggressive (increases the threshold for conflict) leads to a lower likelihood of conflict in ME. This result is due to strategic complementarity. All parameter changes affect the likelihood of conflict through C^R (see the proof of Proposition 3.1). Since some parameters (I, B and L) affect both countries simultaneously, it is necessary to consider their joint effect. Compare two states of the world $\mathbf{C}_1 = (C_1, C_1')$ and $\mathbf{C}_2 = (C_2, C_2')$ and assume, without loss of generality, that

$C_1 < C_2$ and $C_1' \leq C_2'$. Let $\beta^1(z)$ and $\beta^2(z)$ be the home country's threshold levels of conflict in the two situations $\mathbf{C}_1$ and $\mathbf{C}_2$, respectively, given the belief that the foreign country's threshold level of conflict is z. $\beta'^1(z)$ and $\beta'^2(z)$ are similarly defined. Write $\boldsymbol{\theta}^m = (\theta^m, \theta'^m)$ the ME in the first state, and let $\boldsymbol{\theta}^* = (\theta^*, \theta'^*)$ be an equilibrium in the second state. Define the function $h'^2(z) = \beta'^2(\beta^2(z)) - z$. $\boldsymbol{\theta}^*$ is an equilibrium in the second state if $h'^2(\theta'^*) = 0$ and $\theta^* = \beta^2(\theta'^*)$. We show below that there exists an equilibrium $\boldsymbol{\theta}^*$ such that $\theta^* \geq \theta^m$ and $\theta'^* \geq \theta^m$.

Since $\beta(\cdot)$ shifts upward with upward shifts in C^R, it follows that $\beta^2(\theta'^m) \geq \beta^1(\theta'^m) \equiv \theta^m$ (with strict inequality if $\theta^m < \overline{\theta}$). Invoking Proposition 3.1, one further obtains $\beta'^1(\beta^2(\theta'^m)) \geq \beta'^1(\theta^m) \equiv \theta'^m$ (with strict inequality if $\theta_1^m < \overline{\theta}$ and $\theta_2^m < \overline{\theta}$). Finally, $\beta'^2(\beta^2(\theta'^m)) \geq \beta'^1(\beta^2(\theta'^m))$ by $C_1' \leq C_2'$. Summarize all these effects to obtain $h'^2(\theta'^m) \geq 0$ (with strict inequality if $\theta^m < \overline{\theta}$ and $\theta'^m < \overline{\theta}$). Note next that $h'^2(\overline{\theta}) \leq 0$ since $\beta'^2(z) \in [\underline{\theta}, \overline{\theta}]$. Thus, from the Mean-Value Theorem there exists $\theta'^* \in [\theta'^m, \overline{\theta}]$ such that $h'^2(\theta'^*) = 0$ ($\theta'^* > \theta'^m$ if $\theta^m < \overline{\theta}$ and $\theta'^m < \overline{\theta}$). $\theta'^* \geq \theta^m$ implies $\theta^* = \beta^2(\theta'^*) \geq \beta^1(\theta'^*) \geq \beta^1(\theta'^m) \equiv \theta^m$ (the inequality is strict if $\theta^m < \overline{\theta}$ and $\theta^m < \overline{\theta}$).

Turning to the comparative statics results, one only needs to demonstrate the partial effects. Result (i), $\beta^A(\theta') \leq \beta^D(\theta')$: $v(\beta^D, \theta', \Phi^A) - v(\beta^D, \theta', \Phi^D) = \max\{Kb^{-1}; 1\}bF(\theta') > 0$ and $v_\theta(\boldsymbol{\theta}, \Phi^A) > 0$ imply $\beta^A(\theta') < \beta^D(\theta')$ for all $\beta^A \in (\underline{\theta}, \overline{\theta})$. Results (ii) and (iii): Plug the equilibrium values of Φ^R into $v(\beta^R, \theta', \Phi^R)$ to get

$$v^R(\beta^R, \theta', \Phi^R) = \int_{\underline{\theta}}^{\theta'} [p(\beta^R, z)B - (1 - p(\beta^R, z))L - W^R \min\{Kb^{-1}; 1\}b]dF(z) = 0,$$

where W^R is an indicator function, $W^D = 1$ and $W^A = 0$. By implicit differentiation, $sgn\{\beta_B^R\} = -sgn\{v_B^R\} < 0$, $sgn\{\beta_L^R\} = -sgn\{v_L^R\} > 0$, $sgn\{\beta_b^R\} = -W^R sgn\{v_b^R\} \geq 0$, $sgn\{\beta_K^R\} = -W^R sgn\{v_K^R\} \geq 0$, which completes the proof. ■

Strategic interaction between the countries has the consequence that changes in one country affect both countries. However, partial effects are transformed into equilibrium effects in a predictable manner. Any change in an underlying parameter that makes a country more reluctant to initiating conflict is reinforced by a strategic effect, by which even the opponent becomes increasingly reluctant to start a war. This result is an implication of the "peace fosters peace" Proposition 3.1, which establishes peaceful behaviour as strategic complements.

Democracies are universally more peaceful than autocracies owing to the electorate's unique possibility to punish opportunistic behaviour by the democratic country's leaders. The democracy's higher threshold for initiating conflict spills over to the adversary through strategic complementarity. Consequently, increasing the number of democracies in the dyad leads to a lower equilibrium likelihood of war.

In addition to accounting for the empirical regularity that democratic dyads are more peaceful than other dyads, the model sheds some light on two intriguing observations. Democracies attack autocracies more frequently than they attack fellow democracies (Reiter and Stam, 1998), and

democracies tend to win a larger number of the wars they initiate than non-democracies (Bueno de Mesquita and Siverson, 1995; Reiter and Stam, 1998). As autocracies are more aggressive than democracies and actions are strategic complements, the model predicts democracies to be more aggressive towards autocracies than towards other democracies. Second, as the democratic threshold in terms of military capability is higher than the autocratic threshold, the conflict initiating democracy on average has a higher military capability than a conflict initiating autocracy, everything else equal. Democracies on average win more of the wars they start because they are more selective about the wars they initiate than autocracies.

An interesting implication of the additional comparative statics results above is that an autocratic leader's incentive for waging war might be more sensitive to the potential cost of conflict in the target country than in the home country. As the autocratic leader cannot be punished ex post, he cannot be forced to internalise his selectorate's cost of conflict; hence he should be expected to be largely negligent about it. If the target country is a democracy, the dictator knows that the democratic leader will be less reluctant to starting a war the higher are the costs of conflict. Due to strategic complementarity, this reluctancy spills over to the autocratic ruler, who also becomes less inclined to go to war. Hence, the autocratic ruler to a certain extent internalises the cost of conflict in the foreign country. Plausible or not, this result points to a key aspect of dyadic theory. Factors that affect the likelihood that one country initiates a conflict affect all countries, not just the country where the change has taken place.

6 Conclusion

This paper has developed a simple theory of democracy and autocracy and applied it to a two-country conflict game where state leaders simultaneously decide whether to attack the other country. In a democracy, the leader can be costlessly replaced in general elections, whereas autocratic leaders can only be replaced at a considerable cost to the selectorate. War is more costly to the selectorate than to the leader. Hence, the ruler has an inclination to wage war too often, in democracy as well as in autocracy. The ability to costlessly reward the political leadership through reselection provides a mechanism through which the democratic selectorate can control the actions of the leadership to an extent which is impossible in autocracy.

The theory predicts that democratic leaders, for the fear of being thrown out of office, tend to be more selective about engaging in war than autocratic leaders and are more sensitive to the costs of warfare. In terms of military capability, the threshold for initiating conflict is higher in democracy than in autocracy. It has been shown that policies are strategic complements. The perception of one country being peaceful also makes the adversary more peaceful. Consequently, democratic dyads are more peaceful than autocratic dyads, with mixed dyads in between.

The model emphasizes the importance of strategic spillover effects. Domestic factors that serve to reduce the danger of a country initiating conflict also serve to reduce the likelihood of conflict initiation by the adversary. These spillover effects have implications for empirical testing. An empirical analysis of conflict initiation should not only control for domestic factors, but also for the characteristics of the potential target beyond estimators of military balance and regime type. Second, the model predicts that the ruler's sensitivity to domestic factors sometimes depends on regime type, e.g. democratic regimes are more sensitive to the costs of conflict than dictators. Joint effects should therefore be taken into account in the empirical specification.

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