



Munich Personal RePEc Archive

A small victorious war: political institutions and international conflict

Libman, Alexander

CDSE, University of Mannheim

2009

Online at <https://mpra.ub.uni-muenchen.de/17041/>
MPRA Paper No. 17041, posted 01 Sep 2009 17:16 UTC

A Small Victorious War: Political Institutions and International Conflict

Alexander Libman

September 1, 2009

Abstract

The paper provides an extremely simple model of the interaction of international and internal conflicts. However, unlike the dominant approach in the literature, which looks at these two types of conflicts as substitutes in terms of investments of agents, this paper analyzes the situation when these investments are complementary. In this case the existence of internal conflict may in fact trigger international war. The discussion is then placed in the context of the democratic peace theory.

1 Introduction

"We need a small, victorious war to avert a revolution" is a phrase often attributed to Vyacheslav Plehve, minister of interior of the Russian Empire at the edge of the 20th century and one of the strongest proponents of the military engagement against Japan (which turned out to be a disaster for Russia in 1905). However, the idea of a "small victorious war" seems to be present in many non-democratic political systems, when the autocrats use military conflicts (even against superior enemy) as an instrument to ensure the survival of the government. The Falklands War, initiated by the military junta in Argentina, or the attack of Iraq on Kuwait are just some recent examples. Ironically, many autocrats overestimated the power of their military, and the resulting defeat actually triggered regime changes. However, the basic idea underlying the logic of the small victorious war is that the desire to engage in military conflicts abroad may depend upon the internal regime stability. This paper aims to explore the issue in greater detail.

The existence of an interaction between political regimes and international conflicts seems to be obvious. The literature on "democratic peace" claims that the cooperation of states operating in an international anarchic environment is more likely to be an outcome if both parties are democratic. Originally the concept of democratic peace comes from political philosophy, but in the 1970s it was translated in empirical political science and seems to be (at least, partly) a confirmed empirical regularity. The theoretical literature on democratic peace

is, however, relatively small, and there still seems to be place for research. In what follows I first present the existing empirical evidence on the issue of democratic peace and survey the existing models, dealing with this issue. Then I proceed by developing an extremely simple model, extending the democratic peace problem by the considerations of "small victorious war" logic.

2 Democratic peace and internal conflict

2.1 Empirical regularities

There are three main versions of the democratic peace theory, which have been tested empirically. The most popular claim is that of the *dyadic* democratic peace: pairs of democracies are less likely to engage in wars than pairs, where at least one country is non-democratic. This claim is different from the *nation-level* democratic peace, which assumes, that democracies are generally less likely to engage in wars (or at least initiate wars), and has found no support in the data. The third version of the approach, the *systemic* democratic peace, implies that "international systems" (or groups of interconnected countries) with predominance of democracies should be more peaceful than international systems, where democracies form a minority. The systemic democratic peace has been less thoroughly studied in empirical research, also because it obviously depends upon the national-level and dyadic democratic peace (Gleditsch and Hegre, 1997, McLaughlin Mitchell et al., 1999). However, at least in the 20th century most military conflicts have been to a certain extent associated with the interaction of many countries rather than with dealings within one particular dyad (which ends up fighting the real war). Nevertheless, so far the only regularity robustly established seems to be the dyadic democratic peace.

There are several major criticisms regarding democratic peace empirics. First, at least in the 20th century (when the number of democracies increased substantially) most democratic polities happened to be allies in international conflicts (from World War I to the Cold War), and common interests may explain the persistence of peace rather than the political systems (Farber and Gowa, 1997). Second, since democracy is a continuous rather than a binary variable, it is of course very difficult to clearly identify where exactly in the range from "autocracy" to "democracy" democratic peace should "start" (Ray, 1998). Third, democracies often engaged in colonial wars or military disputes over overseas possessions (Ravlo et al., 2003). Finally, there is a usual problem of endogeneity, since the democratization may happen to be an outcome rather than a cause of peace (Crescenzi and Enterline, 1999; Kadera et al., 2003).

The democratic peace theory is often associated with a number of further claims, which, however, provide different results in empirical tests. Bueno de Mesquita et al. (1999) list seven main hypotheses: (1) democracies *can* engage in wars with non-democracies, (2) democracies tend to win a disproportionately high

share of wars, (3) in international disputes democracies are more likely to find peaceful settlement, (4) democracies are more likely to attack non-democracies, than vice versa, (5) democracies suffer under lower costs if wars happen, (6) stability of democracies reduces the desire to fight and (7) size of democracies makes them more likely to avoid wars. An interesting question, moreover, is whether there is a significant difference between pairs where one country is democratic and pairs of autocracies. The original idea of the democratic peace implied that there should be more war between autocracies than between mixed pairs, and there should be more war between mixed pairs than between democracies. An alternative, however, is the hypothesis of the "autocratic peace" (Peceny et al., 2002), which claims that pairs of autocracies (or, at least, pairs of "similar" autocracies in terms of their political organization) are also less likely to fight than pairs with different regimes.

2.2 Theoretical explanations: preferences and institutions

While the democratic peace seems to be a well-established empirical regularity (of course, with all usual caveats), theoretical analysis of this phenomenon has been limited so far. Basically, the literature has explored two lines of analysis. The *normative* approach is to a certain extent a direct heir of the political philosophy arguments in favor of democratic peace: it claims that democracies share a specific "political culture", predisposing them to prefer peaceful solution to any confrontation. The argument is problematic because of two aspects. First, and foremost, it explains an observed phenomenon ("democratic peace") with a unobservable characteristic ("political culture") and therefore cannot be falsified. One can explain any behavior with intrinsic preferences (since preferences per definition are unobservable - only choices are); and the normative approach just claims that democracies "prefer" peace to war.¹ If one, however, defines a democracy as a number of procedures rather than "shared values" (and thus makes it better measurable empirically), then, second, there is no reason to claim that democracy is associated with selection of individuals preferring peace to war as the decision-makers. In fact, one can actually even show that in many cases the democratization triggered the choice of violent solutions (Mann, 2004). The public opinion can actually support military confrontation (the best example being the early period of World War I). Hence, it is reasonable to look for explanations for democratic peace dealing with institutions rather than preferences.

The first institutional explanation proposed in the literature deals with the potential communication problems between democracies and non-democracies. The initial approach to this problem was introduced by Fearon (1994), who explained the democratic peace phenomenon with the size of *audience costs* in democracies and non-democracies, modeling an international conflict as war of

¹There are several attempts to measure democratic norms and to use them as predictors for peace; for example, Zeev and Russett (1993) use stability and absence of internal conflicts as proxies, but the validity of these variables is questionable.

attrition. His proceeds as follows: there is strong incentive for leaders to find a settlement rather than to go to war. However, leaders of potential conflicting parties also have an incentive to misrepresent their willingness to fight to the opponent strategically, so that they can obtain higher benefits from bargaining. If an international crisis occurs, the leaders signal to each other as to "how far" they are willing to go in order to achieve their goals. If a leader cheats by choosing a signal different from her preferences, she is to suffer the *audience costs* from the concerned domestic population, which was also able to observe the signal; hence, the signal is costly and therefore commitment is possible. The difference between democracies and non-democracies is that the first face higher audience costs, and that is why the credibility of their signal is higher - hence, dyads of democracies can resolve the disagreement without a war rather than dyads where at least one partner is a non-democracy.

In the world of Fearon autocracies should experience more military crisis, than democracies. However, both sides are equally likely to actually engage in war, assuming there is no unintended military confrontation: while democracies prefer to resolve their conflicts in private, autocracies are likely to initiate a public dispute, but then to back down. This is still not sufficient to support the democratic peace argument, assuming that the leaders have at least a reasonable control over their armies. Moreover, the model incorporates just one crisis and does not allow the agents to learn from the past (i.e. update the prior distribution of opponent's costs of war). One could expect this repeated interaction to be able to reduce the number of crises even if the audience costs are low. Of course, in the real world one often observes countries "increasing the stakes" and trying to show the opponent that they are "serious" this time. A good example is North Korea: while until certain moment a mere threat of new nuclear experiments was sufficient, later it became necessary to actually launch the missiles.² However, in order to get this result one has to assume virtually flat audience costs for non-democracy (probably, they are flat in North Korea) - the government can escalate the crisis as long as it wants and is always able to quit. Finally, audience costs (or accountability of the leader) are only one side of the democratic politics; the other side is the flexibility of decision-making: if the internal decision-making mechanism is too complex, democracies, though able to provide credible commitment, will fail to provide any commitment at all (cf. Gaubatz, 1996; Leeds, 1999).

Levy and Razin (2004) add yet another aspect of communication problems able to generate the democratic peace result. In their model two countries can go to war or make concessions; concessions of both sides are strategic complements. In each country there is a leader, who is fully informed about the benefit of concessions for her own side, and the general population, which is uninformed. Neither the leader nor the public have full information about the opponent. In a

²Here I compare not the duration of crises, like Fearon, but their intensity, what is obviously equivalent from the point of view of his argument.

democracy the decision is made by the uninformed public (so that the "leader" is actually rather a consultant); in an autocracy it is the leader who decides. Then there are two channels to enforce the democratic peace. First, the uninformed public in a democracy is more likely to make concessions, than the fully informed leader, who could find, that the concessions are not sufficient. Second, there is a problem similar to the audience costs: while the non-democratic leaders can always cheat, the democratic leaders want to influence both foreign leader and their own public to make the "right" choice and hence cannot cheat.

There are two problems related to the approach. First, it describes the autocrat as a completely unconstrained ruler; she can actually do whatever she wants without getting any disagreement from the public. This claim is hardly correct: autocrats have more degrees of freedom in making foreign policy decisions, but they still have to think about reaction at home. This feature, however, could probably just make the results less pronounced; what is much more important (and much more problematic) is, second, that the paper assumes that the decision-makers in a democracy are *less* informed than in an autocracy. It is difficult to accept this claim; on the contrary, in a non-democracy leaders are often likely to be less informed because of bad quality of bureaucratic machine. Egorov and Sonin (2006) show that in a non-democracy leader is likely to select "bad" bureaucrats as a precaution against a coup. And there are many "leaders" (as Levy and Razin call them) in a democracy, often providing much better information to the public. From this perspective the situation should be actually reverse to that described in the paper.

The second explanation able to influence the democratic peace result may be that the autocrats benefit differently from peacetime production and from the fruits of war. Jackson and Morelli (2007) provide a model similar to this logic, assuming that the probability of war depends upon the cost-benefit analysis of military conflict implemented by the crucial decision-maker: the median voter in a democracy and the dictator in an autocracy. The model assumes that in a world of two countries the probability of winning depends upon the relative wealth levels: rich country is more likely to win. The pivotal agent controls a fraction of the initial wealth and a fraction of the revenue from military confrontation. If the ratio of these two values is different from unity, there is a *political bias*. Furthermore, the model allows the transfers between countries. It shows first that if both countries are unbiased, there is always a settlement possible ("unbiased peace"). It is claimed that in many democracies we observe in real world political bias is smaller than in autocracies, and it explains the existence of the democratic peace result. However, the model does not claim that all democracies are unbiased: hence, the "democratic peace" is to a certain extend an outcome of misinterpretation of two concepts. The model is then generalized to a multiple-countries case and to the case of endogenous bias. The most interesting conclusion is that an unbiased pivotal voter may select a biased leader to make his decisions if international transfers are allowed, because it can be used to extract transfers from other countries. This result is to a certain ex-

tend standard in the considerations like that: in a similar way voters may prefer to select extreme opponents of centralization when bargaining over allocation of powers in a federation (Lorz and Willman, 2005), and, to a certain extent, to the original ideas of Schelling's bargaining research.

The third approach supporting the democratic peace empirics through institutions assumes that the main difference between democracies and autocracies is that in the former leaders can be punished by the public. Since war is costly for the population to a greater extent than for the leaders, the latter are likely to prefer military solutions while being unconstrained by punishment of the public. In the model of Tangerangas (2008) two leaders simultaneously choose whether to engage in a military conflict, while the military capability is randomly assigned by the nature. The winning side receives a transfer from the opponent. There is also an exogenous cost of war, which is covered by the population, but not by the ruler. Hence, the rulers will wage the war too often. The population can (conditional on the military success or failure) replace the ruler. The re-elections are costless for the selectorate in a democracy and costly in an autocracy. The selectorate announces the re-selection probabilities for the ruler in case there is a victorious war, the war is lost or there is no war. Unfortunately, there is no commitment device for the selectorate, which has therefore to choose the time-consistent re-selection probabilities (i.e. probabilities which are post-conflict rational). The paper claims that in an autocracy the only time-consistent policy of the public is to reselect the ruler independently of the past behavior, while in a democracy the reselection policy can be conditional on the behavior of the ruler. Therefore a democratic ruler expects to be punished for his malicious behavior and does not wage wars too often. A certain limitation of the approach is that it offers a specific view on the conflict: the military capacities are exogenous, and the government cannot undertake any measures to restrain people from removing it from office.

Debs and Goemans (2008) describe a similar game where re-election takes place after the war happens; however, they do not look on time-consistency, but point out the difference between the regimes in terms of effect of war on costs of replacing the leader. They claim that in a democracy costs of replacing the leader depend on military success to a smaller extent, than in an autocracy (to replace a defeated leader is much cheaper, than to replace a victorious one); combined with lower punishment for being replaced for the leader, it generates the democratic peace result. The paper also tries to support the basic claim of relation between military success and leader's destiny empirically.

Bueno de Mesquita et al.(1999) endogenize the spending for military purposes; however, their main idea is that military spending is in a certain sense substitute for expenditures for internal support. The difference between the dictatorship and the democracy is that the former has to ensure support of a smaller group, than the latter. The game is the following: first both sides decide on military spending and the conflict takes place; then after the conflict the leaders face

re-election by the selectorate. There is uncertainty about the challengers. The decision of the selectorate's members depends upon the leader's chosen allocation between public goods (i.e. war effort) and private goods (transfers to members of selectorate) and the resulting revenue per capita (with democracy requiring larger winning coalition than the autocracy). Because of large winning coalition, democratic leader can hardly gain through providing transfers (per capita transfer is too small). Therefore the only way to ensure necessary support is to make careful decisions with respect to the public goods (and war effort). Hence, democracies (i) are less likely to engage in wars with low probability of success and (ii) once deciding to engage in war, spend more on winning the confrontation. The problem of this approach is that even in an autocracy it is unreasonable to ignore population outside the winning coalition (since there is always a threat of revolution). Moreover, the assumption that military spending and loyalty spending are strict substitutes may be questioned, as I will try to show in the next section.

2.3 Domestic and international conflict

The last line of argumentation may relate the international conflict to the outcomes of *internal* political struggle and competition. Garfinkel (1994) looks at the military spending in the presence of competition between political parties, each representing a particular group of heterogeneous population. The main claim is that electoral uncertainty reduces the size of military spending of a country (for a given level of military spending of its opponents) and, in turn, causes a reduction of military spending in other countries. In this world military spending of democracies is smaller, than of non-democracies (what is also empirically shown in the paper of Garfinkel, as well as by Kimenyi and Mbaku, 1995 and Fordham and Walker, 2005), and political competition reduces the intensity of the conflict. As a result, political competition improves welfare in a world where international conflict is possible. The perception of conflicts within and between groups as, to a certain extend, substitutes, is present in several papers (Garfinkel, 2004; Muenster and Staal, 2007; Muenster, 2007), but with certain exceptions: for example, Garfinkel (2004) shows that the conflict within group diminishes in presence of external threat only if the marginal return from guarding the contested prize from external invader is small enough. The often observed increase in the "sense of unity" of nations in case of war against a common enemy certainly supports this perception of conflicts.

However, electoral competition is only one form of internal conflicts, which may be relevant for the democratic peace. Non-democracies are of course not free from conflicts, although they never take form of peaceful political competition: however, revolutions, rebellions and coups are typical for most non-democratic countries. One of the characteristic features of non-democracies is that the military is actively involved in internal politics. Basically, this involvement can take several forms, which also lead to different effects of military expenditures on the survival of autocrats. On the one hand, investments in military are likely to

strengthen the political power of the dictators by, first, reducing the threat of a coup (which can be initiated by the army)³, and second, by using armed forces against the national population in case of a rebellion - a common practice for virtually all non-democracies (even regimes with very strong internal political police were forced to rely on military in case of major political turbulences, like Soviet Union for the Novochoerkassk strike in the 1960s). It may also explain higher military expenditures of autocracies: investments in arms are just a by-product of the desire of the autocrat to preserve the internal power. These investments, however, can effectively lead to war; sustaining large army as a combat-ready force without wars is often difficult. The idea of "small victorious war" is a specific modification of this line of argumentation. Plehve probably assumed, that people get some utility just from the fact that they were "on the winning side", regardless of any real transfers, and thus will support the victorious government. But it can be also re-interpreted in the following way: in a small victorious war military success outside the country effectively *reduces* the probability of revolution inside, so, military expenditures are once again a source to strengthen the power of the dictator (though indirectly).

Certainly, on the other hand, investing in arms often means investing in potential political opponents. As Finer (2002: 5) puts it, "instead of asking why the military engages in politics, we ought surely ask why they ever do otherwise". From this point of view investing in military constitutes a threat for the autocrat - in fact, the coup can turn out to be "the only successful operation of the army", as the president of Bolivia Daniel Salamanca supposedly said to the generals, who removed him from office after the long and completely unsuccessful Chaco War in the first half of the 20th century. Hence, there may be a trade-off between success in external conflict and internal political security. The model I present in the next section, however, ignores these considerations; so, one can claim, that the paper is more appropriate to study the *military* dictatorships, where military coups are obviously not the issue.

To conclude, the role of military as a power in internal conflicts in non-democracies may influence the military investments and, as a consequence, the likelihood of international conflicts. The aim of this paper is exactly to develop a very simple model accounting for this fact.

³Of course, one could simply bribe the generals rather than invest in army; however, forward-looking military leaders will always insist on increasing investments in the military to develop their own power base

3 Model and results

3.1 Basic model

Assume that the world consists of two countries A and B, fighting for a given resource V . The probability of country B to gain control over resources is

$$p^w = \frac{m_b}{m_a + m_b} \quad (1)$$

if the investments of at least one party in the conflict are non-zero and .5 otherwise. The war happens if both parties invest a non-zero effort in warfare, if only one party makes military investments and the other does not, it is assumed that the second party surrenders. m_i for $i = A, B$ denotes the investments in warfare. Both countries are endowed with identical resources R . The resources spent for the war could be alternatively used for productive activity, and both countries have linear production functions; so, each unit of resource R invested in productive activity yields β_a units of output in country A and respectively β_b units in country B (this is actually the main driving force for obtaining peaceful equilibria in the model; for a more general framework see Bennour, 2008). In the first stage let us ignore the internal conflict in countries A and B and focus exclusively on the international warfare. The payoffs of both conflict parties are denoted by

$$\pi_a = (1 - p^w)V + \beta_a(R - m_a) \quad (2)$$

and

$$\pi_b = p^wV + \beta_b(R - m_b) \quad (3)$$

Since the first order condition for the country B is

$$\frac{\partial \pi_b}{\partial m_b} = \frac{m_a V}{(m_b + m_a)^2} - \beta_b = 0 \quad (4)$$

one can immediately find that the country B sets its investments in warfare equal to

$$m_b = \sqrt{\frac{V}{\beta_b} m_a} - m_a \quad (5)$$

if $m_a < \frac{V}{\beta_b}$ and zero otherwise. The derivative of the payoff of country A given the reaction of country B is

$$\frac{\partial \pi_a}{\partial m_a} = \frac{1}{2} \sqrt{\frac{\beta_b V}{m_a}} - \beta_a \quad (6)$$

Evaluating the derivative at $m_a = \frac{V}{\beta_b}$ one can see that it is non-negative if and only if $\frac{\beta_a}{\beta_b} \leq \frac{1}{2}$. Hence, if this condition holds, the country A in equilibrium chooses the level of military expenditures such that the country B invests zero in warfare and "surrenders". Symmetrically, if $\frac{\beta_a}{\beta_b} \geq 2$, country B in equilibrium chooses the level of military spending ensuring the surrender of country A. The

conflict therefore takes place if $\frac{\beta_a}{\beta_b} \in (.5, 2)$. One should bear in mind that the level of $m_i = \frac{V}{\beta_j}$, $i \neq j$ may exceed countries resources. It is true, for instance, if $\frac{V}{\beta_i} > R$. If this inequality holds for $i = a$, the lower bound of the "peaceful interval" disappears, since A can never invest sufficient amount of resources to ensure surrender of B. Obviously, for $i = b$ the opposite holds. To summarize, one can state that

Observation 1: The war takes place if and only if at least one of the following cases holds: (a) $\frac{\beta_a}{\beta_b} \in (.5, 2)$, (b) $\frac{\beta_a}{\beta_b} \leq .5$ and $\frac{V}{\beta_b} \geq R$ and (c) $\frac{\beta_a}{\beta_b} \geq 2$ and $\frac{V}{\beta_a} \geq R$

Hence the probability of war is increasing if countries are sufficiently poor (as opposed to the size of V) and just cannot afford investing too much in preventing military confrontation or if countries are rich enough, but relatively similar to each other in terms of relative productivity of alternative use of resources averted from military spending to peaceful production. This is not surprising: the claim of Hirshleifer (1989) that the conflict is unavoidable in a ratio success function is made exactly for the case when $\beta_a = \beta_b = 1$. I will assume for the time being that both opponents are able to invest sufficiently large and restrict attention to case (a) of Observation 1.

3.2 Dictator as aggressor

The next step is to adjust the analysis in order to understand the differences between dictatorships and democracies. Assume that the specific feature of dictatorship is that the dictator takes away an exogenous share of rents d produced in the country. The population keeps the rest of the rents. Analogously, the dictator in country B receives a share d^w of the revenue from war against A (and the ratio $\frac{d^w}{d}$ is the political bias as in Jackson and Morelli, 2007). Obviously, the public dislikes the oppression by the dictator and is willing to rebel. The rebellion is modeled as an additional (internal) conflict: so, there are two sequential conflicts: an external (war) and an internal (rebellion). The rebellion is also described with a ratio contest success function, where both dictator and public invest fraction of their revenue in weapons.⁴ The timing of events is the following: first the countries engage in war. After the war, the revolution takes place in both countries. In a democracy $d = d^w = 0$, and hence, the public always spends zero on the rebellion (because there is nothing to gain). I ignore the collective action problem for the revolution: there is no "opting out" for individuals not participating in the revolt. Moreover, while in the first stage the question is how to distribute the resources between military capacity and production, in the second stage production has already been implemented; the sides just struggle for the division of the pie.

⁴Although for simplicity I refer to weapons, the means of internal conflict may as well be propaganda or repressions; important is that the dictator has to spend some part of his revenue to prevent a revolution.

In the first step I assume that the dictatorship exists in country B; country A is a democracy. Denoting the spending for means of internal conflict in country i as a_p and a_d for the public and for the dictator respectively, one can write the respective payoffs of the public and of the dictator as follows:

$$\pi_p = (1 - d)\beta_b(R - m_b) + (1 - d^w)Vp^w + p^r(d\beta_b(R - m_b) + d^wVp^w) - a_p \quad (7)$$

$$\pi_d = (1 - p^r)(d\beta_b(R - m_b) + d^wVp^w) - a_d \quad (8)$$

If both dictator and public invest zero effort in conflict the dictator keeps the share of the national revenue with certainty. For the payoff of the population the first two terms is the share of the revenue from productive activity and war the public receives in case the dictatorship remains in power. The third term is the gain from revolution, which expropriates the revenue of the dictator if successful (with p^r being the probability of successful rebellion). The first term in the payoff of the dictator is her revenue if the revolution is unsuccessful; in case the rebellion is able to overthrow the current regime, the revenue of the dictator is assumed to be zero. The key assumption of the model is the definition of p^r . Probability of success for the revolution is given by

$$p^r = \frac{a_p}{a_p + a_d\theta(m_b)} \quad (9)$$

where $\theta(m_b)$ is assumed to be a continuous, monotonous and (for technical convenience) twice differentiable and concave function, mapping m_b on \mathfrak{R}_+^0 . This term represents the *complementarity* between spending on international and on domestic conflict. By investing in the first conflict the dictator changes the probability of the success in the internal conflict. If $\theta'(m_b) < 0$, the investments in army actually reduce the probability of success in internal conflict: for example, army may become an alternative power center potentially dangerous for dictator (since it may stage a coup). If $\theta'(m_b) > 0$, military spending for external security increases the probability of success in internal conflict. Finally, $\theta'(m_b) = 0$ means that there is no effect of external army on internal security; this case is uninteresting and therefore left aside. Moreover, I assume $\theta(0) \in [0; 1]$. If $\theta(0) = 0$, it means, that without military support internal police is unable to operate. By restricting the upper bound of $\theta(0)$ to unity I restrict my attention to the cases, when, given zero investments in external army, the efficiency of dictator's investments into internal security is exactly identical to that of the opposition. The literature often assumes that the incumbent has an advantage in the internal conflict (e.g. Rocco and Ballo, 2008), but in this paper I ignore this aspect to make the argument clearer and to understand which effects are actually at work. Obviously, if $\theta(\cdot)$ is a decreasing function, the case $\theta(0) = 0$ is not compatible with the assumption that $\theta(\cdot)$ has a non-negative co-domain. Therefore I also drop this case.

Internal conflict: Solving the model by backward induction implies that one has to start with the internal conflict. The first-order condition for the popula-

tion is given by:

$$\frac{\partial \pi_p}{\partial a_p} = -1 + \frac{a_d \theta(m_b)}{(a_p + a_d \theta(m_b))^2} (d\beta_b(R - m_b) + d^w p^w V) = 0 \quad (10)$$

which yields the reaction curve of

$$a_p = \sqrt{a_d \theta(m_b) (d\beta_b(R - m_b) + d^w p^w V)} - a_d \theta(m_b) \quad (11)$$

if $a_d \theta(m_b) < d\beta_b(R - m_b) + d^w p^w V$ and zero otherwise. Now the dictator's problem for non-zero a_p gives

$$\frac{\partial \pi_d}{\partial a_d} = -1 + \frac{1}{2} \sqrt{\frac{d\beta_b(R - m_b) + d^w p^w V}{a_d}} \theta(m_b) = 0 \quad (12)$$

and therefore the optimal choice of the dictator is

$$a_d = \frac{d\beta_b(R - m_b) + d^w p^w V}{4} \theta(m_b) \quad (13)$$

The dictator investments are large enough to prohibit a revolution if $\theta(m_b) \geq 2$, i.e. the positive effect from spending on army for internal security is large enough (recall, however, that m_b is a choice variable which is set in the first stage of the game). Otherwise the revolution takes place. On the other hand, by similar calculations one shows that the condition for the dictator to spend zero on internal security is $a_p \geq d\beta_b(R - m_b) + d^w p^w V$; however, the public always chooses a_p smaller than the prize to win, and hence, the dictator always makes some investments in internal security. To conclude, the revenue of dictator for given level of m_b is

$$\pi_d = \frac{\theta(m_b)}{4} (d\beta_b(R - m_b) + d^w p^w V) \quad (14)$$

if $\theta(m_b) < 2$ and

$$\pi_d = \frac{\theta(m_b) - 1}{\theta(m_b)} (d\beta_b(R - m_b) + d^w p^w V) \quad (15)$$

otherwise. The rest is spent for internal conflict.

Military expenditure of country B: From the results of internal conflict, the reaction curve of m_b for given m_a is thus described by the following equations

$$\frac{\theta'(m_b)}{4} (d\beta_b(R - m_b) + d^w p^w V) + \frac{\theta(m_b)}{4} (-d\beta_b + d^w V \frac{m_a}{(m_a + m_b)^2}) = 0 \quad (16)$$

if $\theta(m_b) < 2$ and

$$\frac{\theta'(m_b)}{\theta^2(m_b)} (d\beta_b(R - m_b) + d^w p^w V) + \frac{\theta(m_b) - 1}{\theta(m_b)} (-d\beta_b + d^w V \frac{m_a}{(m_a + m_b)^2}) = 0 \quad (17)$$

otherwise. Unfortunately, there is no reason to assume that the equilibrium is unique: both equations can have multiple solutions, meeting the constraints. It is also possible that the equations have no solutions; in this case the equilibrium expenditures are either strictly zero or R (depending upon the sign of the left-hand side expression). However, one can still make several conclusions about the spending on military purposes of the country B even for the general assumptions. I just assume that in case there are no solutions to the equations satisfying the constraint on (m_b) , the optimal choice is R and not 0.

First of all, there are two effects influencing the conflict behavior. First, there is a *political bias effect*. Assume $p^r = 0$. The dictator cares only for a fraction of national revenue, which is attributed to her own budget; from the point of view of dictator the nation is just less productive, because from each unit of internal output a portion is "wasted" as revenue of the population. If the dictator gets a higher share of her domestic revenue, the difference between the "real country" and the "part of the country generating utility for the dictator" becomes smaller, and the decision of dictator is closer to that of a democratic leader (in fact, the idea is from a certain point of view similar to the McGuire-Olson type of models: the desire of dictator to engage in wasteful policies is smaller since the size of the pie also goes down). Similarly, she cares only about a fraction of revenue from conflict: if d^w decreases, the dictator gets a smaller share of the rent V which is contested, and does not care to attack any more. In particular, if $d^w = 0$, the dictator never attacks (even if it could generate rents for the whole country). The effect of political bias depends upon the relation between the ratio of peaceful productivities and the ratio of dictator's revenue from external and internal conflict (see Figure 1). Assume that originally war was possible only in the dotted interval (remember, that we disregard the problem of potentially lacking resources for the dictator). Now if one considers the pure political bias effect in one country, the conflict zone moves to the shaded area: on the one hand, there is no war for small d^w/d ratios (since the dictator loses too much and earns too little), and there is war when the ratio is large, even if no conflict was chosen under democracy.

If the rebels can win in the internal conflict with a positive probability, there is also a second effect of dictatorship on conflict. First assume $\theta'(m_b) > 0$, i.e. armed forces support the police in restoring internal peace. In this case, intuitively, the dictator is likely to invest more in external conflict, than a democratic government; even if external conflict is not attractive per se, the dictator is still interested in providing army for internal purposes. Evaluate the reaction curve at $m_b = 0$. Obviously, one has to look only at equation (16), since equation (17) assumes $\theta(0) > 2$, what is excluded by assumption. In this case the condition for optimal m_b to be larger than zero is

$$\theta'(0)d\beta_b R + \theta(0)\left(\frac{d^w V}{m_a} - d\beta_b\right) > 0 \quad (18)$$

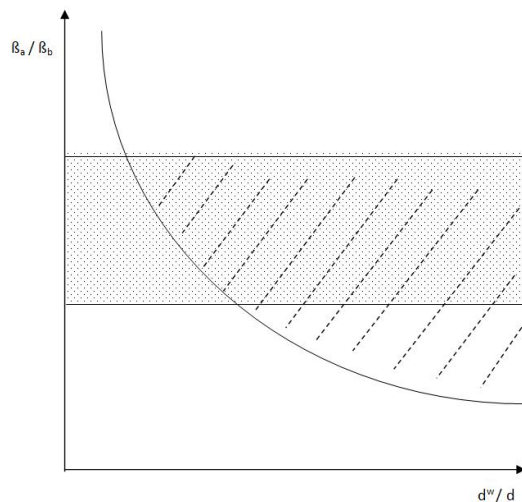


Figure 1: Peaceful settlement and war equilibria if B is non-democratic and A is democratic: political bias effect

for any m_a . One can obviously notice that

Observation 2: If $\theta(0) = 0$, the zero level of m_b is never optimal.

So, if internal police cannot operate without support from external military forces, country B will always make investments in military force. If $\theta(0) > 0$, it is well possible that for m_a large enough the dictator chooses zero military effort. In this case the result depends upon both political bias and complementarity effects. Consider the left-hand side of (18). The first term is positive; the sign of the second term may be positive or negative, but it is smaller for larger m_a (and has the smallest value for $m_a = R$). The sign of the second term depends upon the degree of political bias. If political bias ($\frac{d^w}{d}$) is larger than $\frac{R\beta_b}{V}$, the second term is always positive and zero military expenditures are never optimal, regardless of the investments of the country A in military forces (recall, that $m_a \leq R$ per definition). Moreover, for $m_a = \frac{V}{\beta_b}$ (the minimal value of military expenditures of country A necessary to ensure surrender of country B if the latter were democratic), zero investments are possible only if political bias is sufficiently small given the $\theta(\cdot)$ function. Since $\frac{V}{\beta_b} < R$ by assumption, this condition requires lower levels of political bias than the previous one. To conclude:

Observation 3: If $\theta(0) > 0$ there exists political bias b^* such that for $\frac{d^w}{d} > b^*$ the zero level of m_b is never optimal and there exists political bias $b^{**} < b^*$ such that $\frac{d^w}{d} > b^{**}$ the expenditures of country A to ensure unilateral surrender of country B should be larger, than in case of two democracies, and hence, the

lower bound of the $\frac{\beta_a}{\beta_b}$ combinations where war takes place shifts downwards. In particular, for $b^* > \frac{R\beta_b}{V}$ the zero level is never optimal and $b^{**} > \frac{1}{\sqrt{2}}$ the expenditures to ensure surrender exceed those of a democracy regardless of $\theta(\cdot)$.

From the point of view of complementarity between internal and external security, I consider is the log derivative of the θ evaluated at 0. For a given level of political bias, there exist $\hat{\theta}(\cdot)$ function such that the logarithmic derivative of the function at 0 is large enough

$$\frac{\hat{\theta}'(0)}{\hat{\theta}(0)} > \frac{1}{R} - \frac{V}{\beta_b R m_a} \frac{d^w}{d}, \quad (19)$$

for which zero level expenditures on m_b are never optimal. Obviously, the log derivative at zero satisfying the expression above may be smaller if the political bias is larger. If log derivative is larger than $\frac{1}{R}$, the military expenditures are non-zero for any level of political bias. Similarly, there exists $\tilde{\theta}(\cdot)$ such that the expenditures of country A to ensure unilateral surrender of country B should be larger, than in case of two democracies. To conclude, there are two forces driving the military expenditures - high political bias and low effectiveness of internal police without military support. If the political bias is very high or internal police is very bad, the military investments are non-zero anyway, regardless of the other factor; otherwise the war is generated by the interaction of these two factors (sufficiently high log derivative or sufficiently high political bias).

Consider the case of $\theta'(m_b) < 0$. In this case the dictator faces a problem: investing in military capacities she makes her demise through an internal revolution more likely. There is hence a trade-off between chances to get the prize in external war and the probability to lose power - a problem often faced by dictators with strong military forces. The main difference in the analysis is that in expression (18) the first term is now negative. Since in this case one has to consider $\theta(0) > 0$, the political bias comes into play: if the political bias is large enough, the second term is positive and exceeds the first term, so that the non-zero military investments are optimal. As in observation 3, there exist b^* and b^{**} ensuring that autocracy is more belligerent than the democracy; however, the respective values are obviously larger, than in case of $\theta(\cdot)$ increasing function. It reflects the "greed" of the dictator: if the political bias effect is very large, the dictator becomes too greedy and is ready to risk an international war and to build up her military even knowing that it will cause trouble in internal conflict (where large military actually reduces her ability to fight the rebels).

As a final note, one should notice, that both the political bias and the complementarity of military expenditures and the internal police make the conflict expenditures inefficient in a sense that they reduces the total post-conflict revenue of the country B. Hence, the countries might engage a war which actually reduces the overall size of the pie available for the redistribution, but also with-

draw from war which may increase their revenue.

External conflict: Larger military expenditures of country B do not automatically imply, however, that there is going to be war according to our definition. The optimal level of military expenditures may exceed $\frac{V}{\beta_a}$, thus making country A surrender. Recalculating (14) and (15) for $m_a = \sqrt{\frac{Vm_b}{\beta_b}} - m_b$ and taking derivative with respect to m_b , one can immediately see that the condition for investments exceeding the threshold depends on the political bias and shape of $\theta(\cdot)$. In order to analyze equilibria, one has to introduce restrictions on the $\theta(\cdot)$ to obtain more structure. Consider one extremely simple case, where $\theta(m_b) = cm_b$, $c \neq 0$ can be treated as a measure of complementarity between external and internal security.⁵ In this case, obviously, zero investments are never an equilibrium. For $cm_b < 2$ the choice of m_b is independent of c ; for $cm_b \geq 2$ it is decreasing in c . The intuition is that for the second range of values the investments in internal conflict are actually fixed (at the minimal level ensuring absence of a revolution), which is decreasing in c . Hence, if c increases, it is possible to invest less in external security, still ensuring internal peace. However, for larger c it is more likely that the root of (16) is indeed the equilibrium, satisfying the constraint on c, m_b . The main result is that in this interpretation c high enough does not necessarily allow country B to invest sufficiently much to make country A surrender. The situation is different with the political bias. In fact,

Observation 4: If $\theta(m_b) = cm_b$, the optimal military expenditures are increasing in political bias.

Proof: . From (14) using the implicit function theorem and the fact that $m_a = \sqrt{\frac{Vm_b}{\beta_b}} - m_b$, follows

$$\frac{\partial m_b}{\partial \frac{dw}{d}} = - \frac{c\sqrt{m_b\beta_b V} + .5cm_b\sqrt{V\beta_b m_b^{-1}}}{-c\beta_b + c(-\beta_b + .5\frac{dw}{d}\sqrt{V\beta_b m_b^{-1}}) - .5cm_b^{-.5}\sqrt{V\beta_b}\frac{dw}{d}} > 0 \quad (20)$$

Hence, m_b is increasing in political bias for $m_b \leq \frac{2}{c}$. Similarly, from (15) follows

$$\frac{\partial m_b}{\partial \frac{dw}{d}} = - \frac{\frac{1}{cm_b^2}\sqrt{m_b\beta_b V} + .5(1 - \frac{1}{cm_b})\sqrt{\frac{V\beta_b}{m_b}}}{-\frac{2}{cm_b^2}(\beta_b(R - m_b) + \frac{dw}{d}\sqrt{m_b V\beta_b}) + \frac{2}{cm_b^2}(-\beta_b + .5\frac{dw}{d}\sqrt{V\beta_b m_b^{-1}}) + .5(1 - \frac{1}{cm_b})(\frac{dw}{d}\sqrt{V\beta_b m_b^{-1.5}})} > 0 \quad (21)$$

⁵This setting has several advantages. The expressions (16) and (17) turn into polynomials for $\sqrt{m_b}$. Moreover, we know more about the existence of equilibria. Equation (16) is a quadratic equation in terms of $\sqrt{m_b}$; it is therefore a parabola which opens downward, however, has at least one positive value (at $m_b = 0$). Hence, roots exist, and one root is positive. Equation (17) turns into a third-order equation, which always have roots. It is, of course, possible, that the roots are outside of the area specified by the restriction on cm_b ; if it is true for both equations, it implies, that the left-hand side expressions in (16) and (17) are strictly positive and the optimal m_b is R .

and m_b is increasing in political bias for $m_b > \frac{2}{c}$.

Hence, one can conclude, that for this special form of $\theta(\cdot)$ the investments sufficient to ensure the surrender of A are more likely to be achieved for higher political bias (what is not the case in general). Hence, *war actually happens if the dictatorship has an intermediate level of political bias.*

Two dictators: So far I have focused on country A and assumed country B is a democracy. Now let us turn to a more general setting, where country A is dictatorship as well (with probably different political bias), and $\theta^a(\cdot)$, $\theta^b(\cdot)$ describe the complementarity between internal and external investments in both countries. The main observation is very simple, however, fits exactly the predictions of the democratic peace theory

Observation 5: For two dictatorships when $\theta^a(0) = \theta^b(0) = 0$ there is always war regardless of all other parameters.

Thus if the internal police cannot operate without military support (or military support is necessary to maintain the power of the dictator for any other reason), there is always war. This is the first result where war is unavoidable; both sides never surrender, which is also consistent with the democratic peace theory.

3.3 Large vs. small war

The analysis of the paper so far was based on a simplified assumption, which is usually made in the literature: if both sides invest in war, I assumed that there actually is going to be a military conflict. The problem with this assumption in the setting of this paper is that, if military expenditures are at least partly motivated by the internal considerations, it is hard to believe that the government will automatically use the accumulated military potential for warfare. This issue does not exist in our model by construction: assume that the government makes two decisions: first, the size of expenditures on armed forces, and second, whether it attacks or not. It is easy to see that if investments are positive, the attack strictly dominates the decision to withdraw from conflict (since the expenditures have already been made, and the only difference is whether there is a chance to obtain the prize or not). Obviously in the reality the situation is different: first, war always means additional expenditures (even if the army is well trained and prepared to fight), and second, there is not only a prize to win, but there may be transfers from the losing party to the winner. In this section I will examine the second option, assuming that there are going to be transfers to the winner if the war takes place. One can roughly make the distinction between "small" and "large" wars: a small local conflict usually does not imply significant costs for the economy in general and also does not require countries to make serious concessions - the conflict influences only the relatively small prize. However, in case of a large war the costs will be overwhelming for the whole country.

In order to model a large war, assume that there is no prize V , but a transfer, such that V can be obtained in case of victory, but has to be paid in case of defeat. In this case the payoffs of two democracies can be written as

$$\pi_a = (1 - p^w)V - p^wV + \beta_a(R - m_a) \quad (22)$$

$$\pi_b = p^wV - (1 - p^w)V + \beta_b(R - m_b) \quad (23)$$

Obviously, for the case of democracy there is no need to make any distinction between investing in military capabilities and actually starting a war (since there is no internal conflict). The optimal choice of B is either

$$m_b = \sqrt{\frac{2V}{\beta_b}m_a} - m_a \quad (24)$$

for $m_a < 2V/\beta_b$ or zero otherwise (since underinvesting is costly, the threshold for peaceful settlement is higher). However, computing first derivative of π_a and evaluating it at the threshold m_a still yields the same conditions as in case without transfers for peaceful settlement. To conclude, peace is possible if $\frac{\beta_a}{\beta_b} \in (.5, 2)$ or the investments guaranteeing the surrender of the opponent are unfeasible (what I will, as above, ignore for simplicity).

Now turn to the case when the country B is a dictatorship with $\theta'(m_b) > 0$. However, introduce an additional choice variable: let the choice set of rivals in the first-stage conflict be $\{A; S\} \times m_i$, where A stands for "attack" and S for "surrender". Let the share of dictator in both revenue from victory and loss from defeat be identical (for simplicity). Moreover, assume that no war is preferred to a war with zero revenue; this assumption is reasonable if one thinks of additional costs of the war which can occur. The war happens if at least one country goes to war, and its opponent makes non-negative investments in warfare (if the first condition holds, but the second does not, the opponent is assumed to surrender as above).

First consider the case when country A never attacks, i.e. its military investment is purely defensive in the sense of Grossman and Kim (1995); however, if the country B attacks and loses, it still has to pay the transfer. I assume that the game has the following timing:

1. country B makes decision on m_b ;
2. country B announces its decision to attack (there is no commitment problem, both decisions on m_b and $\{A; S\}$ are perfectly observable);
3. country A makes decision on m_a ;⁶

⁶Obviously, it is a huge simplification, since it rules out an unexpected aggression and gives the victim enough time to prepare for war. The problem is that in simultaneous-move games modeling the international conflict there are often no equilibria.

4. war takes place;
5. internal conflict in B takes place.

Moreover, it is assumed that if $m_b = 0$, S is chosen automatically. The analysis of the second-stage game is hardly different from what was discussed in the previous section and yields

$$\frac{\theta'(m_b)}{4}(d\beta_b(R-m_b)+d^w\frac{m_b-m_a}{m_b+m_a}VW)+\frac{\theta(m_b)}{4}(-d\beta_b+d^wVW\frac{2m_a}{(m_a+m_b)^2})=0 \quad (25)$$

if $\theta(m_b) < 2$ and

$$\frac{\theta'(m_b)}{\theta^2(m_b)}(d\beta_b(R-m_b)+d^w p^w\frac{m_b-m_a}{m_b+m_a}VW)+\frac{\theta(m_b)-1}{\theta(m_b)}(-d\beta_b+d^wVW\frac{2m_a}{(m_a+m_b)^2})=0 \quad (26)$$

otherwise. W is an indicator variable which is equal to 1 if war takes place and zero otherwise. Now consider the decision of A on m_a . In case of war ($W = 1$) it sets $m_a = \sqrt{2Vm_b\beta_a^{-1}} - m_b$ for $m_b < 2V/\beta_a$ or zero otherwise. If there is no war, $m_a = 0$. Now turn to the decision on W . If $m_a \geq m_b$, the expected transfer from war is non-positive, and hence $W = 0$. If the last condition holds if $m_b < V/2\beta_a$. Otherwise there is war. Now turn to the decision on m_b . Once again, focus on expression (25) (since (26) is irrelevant for the analysis of zero investments) and just try to find out whether $m_b = 0$ can be an equilibrium if $W = 0$ (assuming, that the equilibrium exists; as stated above, the analysis cannot be carried out without restricting $\theta(\cdot)$). If $\theta(0) = 0$, $m_b = 0$ is never optimal since the left-hand side of (25) is positive.

Observation 6: If $\theta(0) = 0$, the country B always makes positive investments in military capacity, but chooses $W = 0$, if the optimal $m_b < V/2\beta_a$.

Hence, a non-democratic country will make completely wasteful investments in warfare, which just serve the purpose of supporting the power of the dictator, if the enemy's military power is larger, than that of the dictator. The story does not change if A is a dictatorship: in this case for increasing θ^a A just makes larger investments in military capacity because of internal conflict.

However, the assumptions of the game so far implied a huge simplification: A was per definition a victim, while B could unilaterally decide on whether to wage war or not. Assume now that A can also attack: for that add a new step between steps 3 and 4 in the timing of the game: A chooses whether to attack B or not (if B has not chosen war at stage 2). A is a democracy, B is an autocracy with $\theta(0) = 0$. The straightforward logic shows that in this case there is always war, except for the case of surrender of one of the countries, when the optimal response to opponent's choice of m_i is zero, and the balance-of-power case $m_a = m_b$, when both countries invest exactly the same, and as mentioned, the zero transfer is assumed to be inferior to no-war situation. If m_a

is much larger than m_b , m_a will attack, otherwise B attacks. Obviously, if m_b is large enough, A surrenders. However, if m_a is large enough and the transfer V is large, unlike the previous discussion, B can also surrender, although in this case the dictator loses in the internal revolution. The reason is that in case of surrender the revenue from internal revolution is just zero; however, if the war takes place, it can be negative. Once again, this observation is not completely weird, if one thinks of real-world experience: the dictators can just prefer to surrender and escape from their country, rather than to fight a war (of course, if one sets the payoff from defeat in the revolution to be $-\infty$ (if the dictator is caught and executed) at least with some positive probability, things do change). Once again, if two autocracies face each other, story does not change, and even in this case surrender can be preferred by one of the dictators.

4 Conclusion

Democratic peace may at least to a certain extent be outcome of internal political struggles in non-democracies. This paper examined the problem, looking at two factors potentially influencing the military expenditures of the countries: degree of complementarity between external security and internal peace and political bias of the dictator. First, it shows that in case of a conflict for an exogenous prize, non-democracies with high complementarity and with high political bias tend to overinvest in military effort, even if the expected payoff for the entire nation is goes down. For a specific form of influence function of army on the success of internal conflict the equilibrium military expenditures increase in political bias; however, the parameters of the influence function have an ambiguous effect on military spending. Of course, the investments may become so high, that the opponent simply surrenders, and there is once again no war. However, for two non-democracies and the special case when internal security cannot be supported without military presence anyway, the war is inevitable regardless of all other parameters of the model.

This result may at least partly explain why non-democracies so eagerly engage in "small (potentially) victorious wars". One should notice that the wars happen even if the non-democracy is well informed about the potential costs of war, and are therefore not an outcome of misperception of enemy's forces: for a dictator it can be rational to engage in conflict actually decreasing the wealth of the country. However, in case the country is facing a large-scale conflict (i.e. conflict with transfers to the winner), the situation changes. The paper shows that in this case positive military expenditures can be made even if there is absolute security from external threat and the country itself does not attack the opponent. The military budget is determined only by internal political considerations. Hence, in "large wars" situations non-democracies invest in army, but do not attack, while in "small wars" army actually engages the potential enemy. Of course, in the real world the distinction between small and large wars is questionable and may be difficult (especially if the third-party intervention is

possible).

The model in fact generates the main prediction of the democratic peace empirics: even if two democracies were (given the parameters) to choose a peaceful settlement, turning at least one of them into an autocracy may generate an equilibrium with war. With respect to further predictions, however, situation is less favorable for my exercise. In the model it is the autocracy, and not the democracy, which is more likely to over-invest in military capacity creating the potential for war. One should be aware that the empirical claim discussed in the second section addresses the side *initiating* the war and not the side really "triggering" the conflict by over-investing in arms (and there may be great difference with respect to this issue - for example, de jure France and UK initiated World War II declaring war against Nazi Germany); the model (by construction) does not say anything about which side attacks first: it would require further modifications (like accounting for relative costs of waiting in the sense of Fearon (1994) or benefits of the "first strike"). Moreover, the model does not support the idea of "autocratic peace".

The final note of caution is related to the fact that internal conflicts and, hence, the desire to implement a "small victorious war" is not necessarily limited to non-democracies, although non-democracies seem to be more likely to fight abroad to ensure internal political stability. Hence, a more cautious modelling of political regimes might be required.

5 Literature

BENNOUR, KHALED (2008): The Value of Rents and the Likelihood of Conflicts. Mimeo

BUENO DE MESQUITA, BRUCE, MORROW, JAMES D., SIVERSON, RANDOLF M., AND ALASTAIR SMITH (1999): An Institutional Explanation of the Democratic Peace. *American Political Science Review*, 93(4):791-807

CRESCENZI, MARK J.C., AND ANDREW J. ENTERLINE (1999): Ripples from the Waves? A Systemic, Time-Series Analysis of Democracy, Democratization, and Interstate War. *Journal of Peace Research*, 36(1):75-94

DEBS, ALEXANDRE, AND H.E. GOEMANS (2008): War! Who Is It Good For? The Relationship between Regime Type, the Fate of Leaders, and War. Mimeo

FEARON, JAMES D. (1994): Domestic Political Audiences and the Escalation of International Disputes. *American Political Science Review*, 88(3):577-592

EGOROV, GEORGY, AND KONSTANTIN SONIN (2006): Dictators and their Viziers: Endogenizing the Loyalty-Competence Trade-off. Mimeo

FARBER, HENRY S., AND JOANNE GOWA (1997): Common Interests or Common Polities? Reinterpreting the Democratic Peace. *Journal of Politics*, 59(2):393-417

FINER, SAMUEL E. (2002): The Man on Horseback: The Role of Military in Politics. Transaction Publishers

FORDHAM, BENJAMIN O., AND THOMAS C. WALKER (2005): Kantian Liberalism, Regime Type, and Military Resource Allocation: Do Democracies Spend Less? *International Studies Quarterly*, 49:141-157

- GARFINKEL, MICHELLE R. (1994): Domestic Politics and International Conflict. *American Economic Review*, 84(5):1294-1309
- GARFINKEL, MICHELLE R. (2004): Global Threats and the Domestic Struggle for Power. *European Journal of Political Economy*, 20(4):495-508
- GAUBATZ, KURT TAYLOR (1996): Democratic States and Commitment in International Relations. *International Organization*, 50(1):109-139
- GLEDITSCH, NILS PETTER, AND HAVARD HEGRE (1997): PEACE AND DEMOCRACY: THREE LEVELS OF ANALYSIS. *Journal of Conflict Resolution*, 41(2):283-310
- GROSSMAN, HERSHEL I., AND MINSEONG KIM (1995): Swords or Plowshares? A Theory of the Security of Claims to Property. *Journal of Political Economy*, 103:1275-1288
- HIRSHLEIFER, JACK (1989): Conflict and Rent-Seeking Success Functions: Ratio vs. Difference Models of Relative Success. *Public Choice*, 63:101-112
- JACKSON, MATTHEW O., AND MASSIMO MORELLI (2007): Political Bias and War. *American Economic Review*, 97(4): 1353-1373
- KADERA, KELLY M., CRESCENZI, MARK J.C., AND MEGAN L. SHANNON (2003): Democratic Survival, Peace, and War in the International System. *American Journal of Political Science*, 47(2):234-247
- KIMENYI, MWANGI S., AND JOHN MUKUM MBAKU (1995): Rents, Military Elites, and Political Democracy. *European Journal of Political Economy*, 11:699-708
- LEVY, GILAT, AND RONNY RAZIN (2004): It Takes Two: An Explanation for the Democratic Peace. *Journal of the European Economic Association*, 2(1):1-29
- LEEDS, BRETT ASHLEY (1999): Domestic Political Institutions, Credible Commitments, and International Cooperation. *American Journal of Political Science*, 43(4):979-1002
- LORZ, OLIVER, AND GERALD WILLMAN (2005): On the Endogenous Allocation of Decision Powers in Federal Structures. *Journal of Urban Economics*, 57:242-257
- MANN, MICHAEL (2004): *The Dark Side of Democracy: Explaining Ethnic Cleansing*. Cambridge University Press
- MAOZ, ZEEV, AND BRUCE RUSSETT (1993): Normative and Structural Causes of Democratic Peace, 1946-1986. *American Political Science Review*, 87(3):624-638
- MCLAUGHLIN MITCHELL, SARA, GATES, SCOTT, AND HAVARD HEGRE (1999): Evolution in Democracy-War Dynamics. *Journal of Conflict Resolution*, 43(6):771-792
- MUENSTER, JOHANNES (2007): Simultaneous Inter- and Intra-Group Conflicts. *Economic Theory*, 32(2):333-352
- MUENSTER, JOHANNES, AND KLAAS STAAL (2007): War with Outsiders Makes Peace Inside. Mimeo
- PECENY, MARK, BEER, CAROLINE C., AND SHANNON SANCHES-TERRY (2002): DICTATORIAL PEACE? *American Political Science Review*, 96(1):15-26
- RAVLO, HILDE, GLEDITSCH, NILS PETTER, AND HAN DORUSSEN (2003): Colonial War and the Democratic Peace. *Journal of Conflict Resolution*, 47(4):520-548
- RAY, JAMES LEE (1998): Does Democracy Cause Peace? *Annual Review of Political Science*, 1:27-46
- ROCCO, LORENZO, AND ZIE BALLO (2008): Provoking a Civil War. *Public Choice*, 134:347-366
- TANGERAS, THOMAS (2008): Democracy, Autocracy, and the Likelihood of International Conflict. IFN Working Paper No. 751