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War and Democracy

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We present a general equilibrium model of conflict to investigate whether the prevalence of democracy is sufficient to foster the perpetual peace hypothesized by Immanuel Kant and whether the world would necessarily become more peaceful as more countries adopt democratic institutions. Our exploration suggests that neither hypothesis is true. The desire of incumbent leaders with unfavorable economic performance to hold on to power generates an incentive to initiate conflict and salvage their position—with some probability. An equilibrium with positive war frequency is sustained even if all nations were to adopt representative democratic institutions and even in the absence of an appropriative motive for war.

Thus as far as right is concerned, republicanism is in itself the original basis of every kind of civil constitution, and it

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> only remains to ask whether it is the only constitution which can lead to a perpetual peace. [Kant (1795) 1991, p. 100]

Immanuel Kant's conclusion was that, indeed, democracy offers the prospect of attaining perpetual peace. With the prospect of a fully democratic world appearing far out of reach, however, Kant's hypothesis has been but a theoretical possibility. Until recently, that is. The end of the Cold War has unleashed a new era onto existing national and international political institutions and has led to a significant increase in democratic governance.[1] As countries that 10 or 20 years ago would hardly have been expected to institute democratic reforms have done so, optimistic speculation as to the beneficial consequences of the spread of democracy for the peaceful resolution of international conflict has been encouraged.

Doyle (1986) has championed Kant's liberal internationalism as the key paradigm for understanding the peaceful relationships between democracies based on their observed caution toward war's costliness and appreciation of the rights of individuals in foreign republics.[2] Russett (1993) classifies the two major arguments that make the Kant hypothesis operational as those based on "norms and culture" and "structural and institutional constraints." The former emphasizes that a fundamental basis of democracies is that domestic disagreements are settled by compromise and nonviolent means. This domestic pattern in turn creates an atmosphere or norm by which international disagreements between democratic governments would also be resolved. The latter proposes that democracies have internal checks and balances of authority even with regard to foreign policy, such that any foreign policy adventure must be widely discussed and the public's support gained prior to embarking on a war. This institutional sluggishness makes it less likely that wars will actually be undertaken and more likely that potential confrontations can be resolved peacefully. Such optimistic assessments of prospects for perpetual peace in the face of an increasingly democratic world, however, are not universally shared. Howard (1983) points to the irony of how the ascendancy of Kant's liberal peace view coincided with the rise of national militarism in Europe during the late eighteenth to mid-twentieth centuries. He observes that the spread of democracy brought by "the French revolution ushered in an era of wars even greater

[1] Gastil (1986, 1996) reports that while in 1986 there were 56 free countries, 56 partially free countries, and 55 countries that were not free, in 1996, 76 countries were free, 62 countries were partially free, and 53 were not free. His definition of freedom is closely associated with democratic governance.

[2] Doyle (1986) also emphasizes Kant's point that while democracies may form a separate peace between themselves, they will use liberal reasons for conflict with nondemocracies.

in their savagery and scope" (p. 27). Further, since history has not provided us with a period in which only democratic states governed or a period in which there has been a dramatic and sustained shift in the population of mature electoral democracies, empirical evidence on the propensity of democracies to engage in war is of limited scope for addressing this issue. Thus to shed additional light, we must resort to an investigation of the theoretical basis for the relevant arguments.

In this paper, we present a general equilibrium model of conflict to investigate whether the prevalence of democracy is sufficient to foster the perpetual peace hypothesized by Kant and whether the world would necessarily become more peaceful as more countries adopt democratic institutions. Our primary goal is to present a framework that identifies issues relevant for the attainment of a more peaceful, perhaps perpetually peaceful, world. We build a model in which the equilibrium frequency of war is endogenously determined by the relative prevalence of democratic and nondemocratic regimes, the relative importance of an appropriative motive for war, and the influence of a war's outcome to affect an incumbent leader's ability to hold on to power.

We accept Kant's view that in a world populated with nondemocratic regimes, war will persist. Certainly this is consistent with historical evidence. As Kant reasoned, war persists with nondemocratic regimes because the potential costs associated with wars are invariably borne disproportionately by the general population and not by the nation's leaders. The potential gains from appropriation, on the other hand, would be usurped by the leaders of these nondemocratic regimes. As he observed, "under a constitution where the subject is not a citizen, and which is therefore not republican, it is the simplest thing in the world to go to war.… For the head of state is not a fellow citizen, but the owner of the state, and a war will not force him to make the slightest sacrifice" (p. 101). In contrast, Kant viewed democracies in a more hopeful light. In Kant's words,

> If, as is inevitably the case under this constitution, the consent of the citizens is required to decide whether or not war is to be declared, it is very natural that they will have great hesitation in embarking on so dangerous an enterprise. For this would mean calling down on themselves all the miseries of war, such as doing the fighting themselves, supplying the costs of the war from their own resources, painfully making good the ensuing devastation, and, as the crowning evil, having to take upon themselves a burden of debt which will embitter peace itself and which can never be paid off on account of the constant threat of new wars. [P. 100]

To follow the essence of Kant's argument for why a world populated solely by democratic governments could establish a perpetual peace, our analysis begins by examining situations in which the elimination of all war would be Pareto-improving. Hence, trivially, if individual voters were to determine war decisions, war would always be avoided.[3]

However, in our investigation, we take seriously an institutional aspect of modern democracies largely ignored in Kant's argument, namely, that citizens elect leaders as their agents and do not therefore control the day-to-day operations of government. Accordingly, imperfections may arise from the reelection motive of partially benevolent leaders. Specifically, the desire of incumbent leaders with unfavorable economic performance to hold on to power generates an incentive for actions that demonstrate their leadership abilities and allow them, with some probability, to salvage their position. Our approach initially concentrates on the potential role of war as a rational diversion from a democratically elected leader's poor domestic economic performance.[4] In this setting we find that although the Pareto-optimal perpetual peace equilibrium exists, a positive frequency of war is associated with stable worldwide equilibria when leaders are only partially benevolent.

Building on these results, we then broaden our analysis by introducing two key elements of realism. First, in addition to the diversionary motive for conflict, which is never beneficial for the citizens of a democracy, we allow for additional conflicts that are appropriative in nature and potentially welfare-improving.[5] Second, as the world is not populated

[3] Kant's view is consistent with those of many authors who have suggested that the twentieth century has brought forth changes in terms of regime type and technological change in mass destruction such that no nation can be expected to gain economically from conflict. Among others, see Pigou (1940, pp. 21–22), Robbins (1942, pp. 68, 71), Wright (1965, pp. 242, 1367), Howard (1983, p. 22), and Keegan (1993, p. 59).

[4] Other models of wars as a rational diversion are Richards et al. (1993), Downs and Rocke (1994), and Smith (1996). Levy (1989) provides a broad discussion of the diversionary theory of war. Meade (1940, p. 15) and Wright (1965, pp. 112, 118) also assert the existence of a diversionary war motive.

In a related study, Garfinkel (1994) demonstrated that the prevalence of democracy would influence the frequency and severity of war in the context of only appropriative conflicts. She constructs a general equilibrium model of international conflict in which democracies are represented by domestic political competition between two parties facing future electoral uncertainty. Political competition within a state in turn leads to lower expenditures on military goods. In equilibrium this creates a strategic complementarity that reduces the severity of conflict with democracies as opposed to nondemocracies. Alesina and Spolaore (1996) also analyze international conflict in an economic model of democracy. They find that if there is a decrease in international conflict, there will be an increase in the number of new countries formed from agents who have seceded and formed new countries. Thus even with a smaller probability of conflict for each nation, the existence of more nations may imply that the frequency of the occurrence of war may not fall. As a result, they argue that the peace dividend for the world may therefore be quite small, even with the end of the Cold War.

[5] See Garfinkel and Skaperdas (1996) and the papers therein for a broader examination of the role of appropriative activity and its effect on an economy's resource allocation.

solely by democratic governments, we incorporate into our model the existence of nondemocratic governments whose motivation for engaging in conflict may differ from those of democracies. We then consider the role of appropriative wars and nondemocratic regimes to address the larger question of whether a more democratic world will necessarily be more peaceful. Specifically, in the model we identify two key differences between a democracy and a nondemocracy. First, nondemocratic leaders do not face elections and do not require as high a level of popular support (demonstrated by winning a "fair" election) to stay in power as democracies. Second, in nondemocracies the costs and the possible spoils of a successful appropriative conflict are distributed asymmetrically. The ruling elite disproportionately benefits from any gains, and the general population disproportionately bears the costs. Differences in behavior (i.e., the relative "supply" of diversionary/appropriative wars by democracies/nondemocracies) result from these two elements.

We conclude that the hypothesis that a perpetual peace would necessarily prevail only if all states were democratic is false, as is the hypothesis that a more democratic world would necessarily be more peaceful. Rather, the institutional details and norms regarding the structure of democracy, trade arrangements, and alliances appear important, and international coordination may remain integral for the achievement of a more, and perhaps perpetually, peaceful world.

I. Empirical Evidence

Before we introduce our theoretical framework, it is useful to provide an overview of empirical evidence relevant for our analysis. We concentrate on two issues: evidence regarding the incidence of war by regime type and evidence regarding the diversionary motive for war.

The evidence for the overall disinclination of democracies to engage in war is decidedly mixed but has recently been clarified in a number of papers that distinguish between regime types of countries in conflict (see, e.g., Maoz and Abdolali 1989; Morgan and Campbell 1991; Bueno de Mesquita and Lalman 1992; Maoz and Russett 1993; Russett 1993; Bueno de Mesquita and Siverson 1996; Bueno de Mesquita et al. 1999*a*). These papers provide strong historical evidence that the use of force and wars between democracies is infrequent and that the frequency of war increases when at least one country is a nondemocracy. For example, using the Militarized Interstate Disputes data from the Correlates of War Project, Russett (1993) reports no wars between democracies from 1946 to 1986. In contrast, he identifies 32 yearly incidents in which a war

involving at least one nondemocratic country occurred.[6] Together, this empirical evidence has lent support to the conjecture that if the world consisted of just democratic regimes, conflict would diminish or perhaps disappear altogether.[7] However, sample size, sample selection, and definitional issues complicate any inference about the relationship between regime type and conflict based on the observed data. As argued by Morgan and Campbell (1991), since few states have been classified as democracies in the data employed, the finding that the frequency of full-scale conflicts involving at least one nondemocracy is higher than that between two democracies could easily be a matter of chance. Unfortunately, empirical methods based on observed historical evidence can provide only limited scope for predicting the likelihood of a democratic peace.

The importance of the diversionary motive for war decisions has been studied in two ways. First, statistical investigations of the correlates of war such as presented in Stoll (1984), Ostrom and Job (1986), Russett (1990), Lian and Oneal (1993), DeRouen (1995), Hess and Orphanides (1995, 2001), Wang (1996), and Gelpi (1997) have identified a link between the incidence of war and the political cycle or the business cycle or both. This evidence strongly suggests that electoral considerations may directly influence some war decisions in democracies, as is suggested by the diversionary war motive.

More specific evidence that the diversionary motive is an important facet of international conflict is available from individual case studies provided by historians and political scientists. For example, Mansfield

[6] These results are presented in Russett's table 1.2. For the more limited "use of force," there were eight times in which a given year experienced this type of conflict between democracies, as compared to 521 in which at least one country was nondemocratic. Wars are defined as at least 1,000 battle deaths, where each country had at least 100 battle deaths and mobilized at least 1,000 troops. The original data are described in Small and Singer (1981). The use of force is defined as a blockade or conflict in which there were fewer casualties or mobilizations than needed for the definition of war. Forsythe (1992), however, points out that during the Cold War period, the United States was engaged in "covert action" against six non-European democracies. He concludes that "the neo-Kantian reliance on representative decision making to avoid major war did not affect secret decisions" (p. 389).

[7] Weart (1998) provides a recent exhaustive comparative case study of every borderline case throughout recorded history in which democracies confronted one another with military force. He concludes that well-established democracies have never made war on each other. However, in coming to this conclusion, he distinguishes between "oligarch republics" and "democratic republics": the distinguishing characteristic is that the former suppress some internal "enemy" class. He concludes that while oligarch republics have only rarely fought each other, oligarch republics and democratic republics have fought each other throughout history. Of course, the subtlety in implementing a definition of democracy and the types of democracies casts doubt on the robustness of many of these findings. In contrast, Mansfield and Snyder (1995) find that for newly democratizing countries, the probability of engaging in conflict actually rises rather than falls. They point to "domestic political competition" in the aftermath of regime change as the likely explanation.

and Snyder (1995) discuss and cite examples of diversionary conflicts for the following democratic/democratizing regimes: mid-Victorian Britain, the France of Napoleon III, Bismarck and Wilhelmine Germany, and Taisho Japan (see further references therein). "In each of these cases," they point out, "elections were being held and political leaders were paying close attention to public opinion in the making of foreign policy" (p. 316). Furthermore, Mayer (1969) provides an extensive analysis of the domestic political influence on external conflict in Europe during the late nineteenth to mid-twentieth centuries. As he notes, "Precisely because their internal influence and control are tenuous, these actors and classes are inclined to have recourse to external war which, if successful, promises to shore up their faltering positions" (p. 294). Mayer (1967) explores the domestic political causes of the First World War, particularly those of Germany, an issue that is further emphasized by Joll (1984). Finally, Hastings and Jenkins (1983) investigate the diversionary aspects of the Falklands-Malvinas conflict.[8]

These case studies can be seen as examples of von Clausewitz's ([1837] 2000) well-known dictum that war is merely the extension of politics by other means. For von Clausewitz, "war is not merely a political act but a real political instrument, a continuation of political intercourse, a carrying out of the same by other means" (p. 280). This idea is also a central element in our investigation.

II. A General Equilibrium Model of War

To begin our investigation of regime type and the propensity of conflict, we first examine the limit case of a world populated by a large number of identically structured democratic states. This "base case" illustrates the rationale for attaining Kant's perpetual peace hypothesis but also demonstrates the fragility of the hypothesis and provides a foundation for our more general analysis. In this section and Section III, we examine the propensity of each democratic state to initiate conflict and analyze the equilibrium implications of such strategies. Building on this foundation, in Section IV, we extend the analysis to incorporate appropriative conflicts and nondemocratic regimes.

Each democratic state is assumed to be populated by ex ante identical individuals. Leader candidates are drawn from the general population

[8] The Falklands-Malvinas conflict is of special interest in that it provides an example in which the diversionary motive has been invoked as a potentially important factor for both sides of the conflict, a democracy and a nondemocratic regime. Levy and Vakili (1992), in particular, use this example as an illustration that the diversionary motive may also be operative for nondemocratic regimes. The evidence in Gelpi (1997) and Bueno de Mesquita et al. (1999*b*), however, suggests that such external conflict due to a diversionary motive is not common in nondemocracies. See Sec. IV*B* for further discussion.

and have idiosyncratic characteristics/abilities that affect the public's welfare during their stay in office. There is a two-term limit on leadership.

The theory is presented in the following subsections. We first examine individual leaders' war decisions and then compute the propensity of war initiation depending on the term of service. Second, we compute the aggregate propensity of the initiation of war in equilibrium and derive the equilibrium condition by aggregating across all states. Finally, we examine properties of the resulting equilibria, in particular multiplicity and stability of alternative steady states and the resulting frequency of war.

A. *War Decisions in a Democracy*

Our model of democracy follows the framework proposed in Hess and Orphanides (1995). Each state consists of a large number of ex ante identical citizens/voters. Elections are held at the beginning of every period between either the current incumbent and a new candidate or two new candidates. New candidates are drawn randomly from the electorate. Consumption in every period is determined by two factors: first, whether or not the state is engaged in war and, second, two idiosyncratic characteristics of the elected leader. In the absence of war, consumption equals γ, a measure of a leader's economic ability. If war erupts, consumption is the sum of γ and δ, a measure of the current leader's ability to contain the cost of war. Thus consumption, c_t, is

$$c_t = \gamma_t + s_t\delta_t, \tag{1}$$

where s_t takes the value one or zero depending on whether the state is engaged in war during period t. The characteristics γ and δ for each potential leader are independently drawn from the cumulative distributions $G(\gamma)$ and $D(\delta)$. By assumption, peacetime consumption is positive, with γ being uniformly distributed over [0, 1], and the cost of war characteristic, δ, is equal to $-\Delta$ with probability p and zero with probability $1 - p$. We assume that information is symmetric to voters and candidates and that the candidates' and leaders' idiosyncratic abilities are unknown and become known only when put to use.[9]

Voters are risk-neutral and vote to select the leader who maximizes their expected welfare, W_t:

[9] This approach is sometimes referred to as "all voters are from Missouri," the show-me state (see Rogoff and Sibert 1988; Rogoff 1990). This assumption rules out the possibility that a leader can claim a good war-handling ability even without entering a conflict. If this were possible, then every leader would claim that a critical situation had happened and was successfully avoided, and that the leader deserved great praise and support. But this is simply not verifiable.

$$W_t = E_t \sum_{s=t}^{\infty} \theta^{s-t} c_s, \tag{2}$$

where θ is the discount factor, $0 < \theta < 1$. Voting is based on information regarding the candidates' characteristics γ and δ. Thus, when an election is held between two new candidates, voters are indifferent between the two since both candidates would yield, in expectation, the same welfare. We denote this expected welfare associated with a new leader of unknown characteristics by $\overline{W}$.[10] The only interesting choice faced by voters occurs when an election is held between an incumbent leader and a new candidate. In that case, voters evaluate whether expected welfare associated with voting for the incumbent exceeds $\overline{W}$ using the information known about the incumbent. If so, they vote to reelect the incumbent; otherwise they opt for a new leader.

Leaders derive rents x per period when in office. We assume that they are only partially benevolent so that in making decisions they maximize a linear combination of their rent and the public's welfare. Let π denote the probability with which they will be reelected. Then a leader's welfare is

$$V_t = (1 - \rho)W_t + \rho(x + \theta x \pi), \tag{3}$$

where ρ is a measure of a leader's selfishness, that is, the weight he places on the rents from being in office rather than the public's welfare.

During a term, a leader is faced with the possibility of international conflict. Most often, these conflicts can be resolved peacefully, at essentially no welfare cost to the public.[11] To examine the propensity to engage in warfare at the individual state level, we assume that both voters and leaders in any individual state take the probability that war may be forced on the state in any term as exogenously given and equal to α.[12] Given this probability, we can then determine the extent to which a leader may have the incentive to engage the state in a war that could potentially have been avoided. Hess and Orphanides (1995) demonstrate that the diversionary conflict incentive is present only if a leader is serving his first term and fears that his domestic handling abilities

[10] We proceed by deriving the voter and leader strategies conditional on $\overline{W}$. In equilibrium, we treat $\overline{W}$ as endogenous. See the Appendix for a derivation of $\overline{W}$.

[11] In fact, peace does require some fixed cost to maintain such as defense expenditures, which we abstract from. Our theory focuses on conflict as a means whereby a leader can signal his or her competence. It is a very important signal too, since when a country finds itself involved in a conflict, it would prefer, ceteris paribus, to have a leader who is good at keeping down the costs of conflict. Maintaining peace is just not a good way to signal this characteristic since all leaders would claim that they were good at maintaining peace and that this translates into a good ability to manage a conflict once it has begun. But it is simply not verifiable. See also n. 9.

[12] For the individual state, α is taken as given. In the following subsections, α is, of course, endogenized as we aggregate across states.

are such that in the absence of war, he would lose his reelection bid. Under those circumstances, if the leader could gain reelection by demonstrating superior war-handling abilities, he may be tempted to initiate such a potentially avoidable conflict. Specifically, this temptation is present if the leader's domestic handling characteristic falls within a specific range that depends on α, and it is described in detail in the following subsections. The timing of events during the first term of a newly elected leader can be summarized as follows:

1. The γ of the elected leader is learned.
2. The leader makes the decision whether or not to seek an avoidable war.
3. The country is randomly matched with a potential opponent.
4. The countries engage in war with probability one if the leader seeks an avoidable war in step 2 and with probability α otherwise.
5. The δ is learned with a war and remains uncertain otherwise.
6. Consumption occurs: γ if there is no war, $\gamma + \delta$ if there is war. The leader realizes rents x.
7. The incumbent leader is reelected or a new leader is elected.

B. *Reelections*

Three critical values for the leader's domestic handling characteristics, γ, describe voter behavior. The largest, $\hat{\gamma}$, defines a level of excellence such that an incumbent with $\gamma \geq \hat{\gamma}$ would be reelected even with a demonstrated inferior war-handling ability. The smallest, $\underline{\gamma}$, defines domestic handling so poor that at that level an incumbent with $\gamma < \underline{\gamma}$ would be voted out of office even with a demonstrated superior war-handling ability. In between, reelection decisions depend on both characteristics. The critical value γ^* defines the economic handling ability characteristic such that incumbents with $\gamma \geq \gamma^*$ gain reelection if no war has taken place and the reelection decision must be based solely on γ. Starting with γ^*, we provide a characterization of these critical values.

Given the expected welfare associated with a new leader, $\overline{W}$, the reelection condition is

$$\gamma^i + \alpha\delta^i \geq \overline{W}(1 - \theta). \tag{4}$$

Incumbent is denoted with an i. Thus, in the absence of war, reelection is ensured for any $\gamma \geq \gamma^*$ defined as

$$\gamma^* \equiv \overline{W}(1 - \theta) - \alpha\bar{\delta}, \tag{5}$$

where $\bar{\delta} = -p\Delta$ is the expectation of δ.[13]

Next consider the case in which the leader's economy-handling skills are so good that he will be reelected even if a war reveals poor war-handling ability, $\delta = -\Delta$. In this case,

$$\gamma^i - \alpha\Delta \geq \overline{W}(1 - \theta). \tag{6}$$

Using (6), we can define this "most excellent" γ that ensures reelection regardless of the leader's war-handling ability as

$$\hat{\gamma} \equiv \min\{1,\ \overline{W}(1 - \theta) + \alpha\Delta\}. \tag{7}$$

If α is too high, $\hat{\gamma}$ may equal one, the best economy-handling characteristic. Note that leaders with $\gamma \in [\gamma^*, \hat{\gamma}]$ would gain reelection in the absence of war but might lose if a war were to break out and an inferior war-handling ability, $\delta = -\Delta$, were revealed. Such leaders would have the strongest incentive to preserve peace in this framework.

While a poor war-handling ability may hurt a candidate with a good economic handling characteristic, the revelation of a superb war-handling ability may still not salvage the reelection prospects of a leader with a poor economic handling performance. For instance, the γ such that reelection would not occur even with the good war characteristic satisfies

$$\gamma^i < \overline{W}(1 - \theta). \tag{8}$$

Define these "unsalvageable" candidates as those with $\gamma \in [0, \underline{\gamma}]$, where $\underline{\gamma}$ satisfies

$$\underline{\gamma} \equiv \max\{0,\ \overline{W}(1 - \theta)\}. \tag{9}$$

Unsalvageable candidates will never engage in avoidable wars since this does not improve their reelection prospects and lowers the public's expected welfare. The most relevant region in which a war may lead to reelection but the leader would lose in the absence of war is $\gamma \in (\underline{\gamma}, \gamma^*)$. Whether a leader will seek to engage in war depends on the difference between the leader's welfare in the absence and presence of war, V^n and V^w, respectively. That is,

$$V^n = (1 - \rho)(\gamma + \theta\overline{W}) + \rho x \tag{10}$$

and

[13] It is straightforward to verify that $0 < \gamma^* < 1$.

$$V^w = (1-\rho)[\gamma - p\Delta + p\theta\overline{W} + (1-p)\theta(\gamma + \theta\overline{W})] + \rho[x + (1-p)\theta x]. \tag{11}$$

If $V^n - V^w = 0$ has a zero in $(\underline{\gamma}, \gamma^*)$, that zero will define γ_* so that the leader engages in a potentially avoidable war if and only if $\gamma \in (\gamma_*, \gamma^*)$. Otherwise, if $V^n - V^w > 0$ for all $\gamma \in (\underline{\gamma}, \gamma^*)$, the leader will not initiate war for any γ and will act in accordance with the public interest. We refer to this as the benevolent leader case. Likewise, if $V^n - V^w < 0$ for all $\gamma \in (\underline{\gamma}, \gamma^*)$, the leader will initiate war whenever it can possibly raise his probability of reelection. We refer to this as the selfish leader case.

Solving $V^n - V^w = 0$ for γ yields

$$\gamma_0 = (1-\theta)\overline{W} + \frac{p\Delta}{(1-p)\theta} - \frac{\rho x}{1-\rho}. \tag{12}$$

Then γ_* is defined as

$$\gamma_* = \min\{\max\{\underline{\gamma}, \gamma_0\}, \gamma^*\}. \tag{13}$$

From the definition of γ_0 and γ_*, it is clear that the decision to start a potentially avoidable war depends crucially on the leader's selfishness, ρ. The minimum ρ such that the leader behaves selfishly is ρ such that $\underline{\gamma} = \gamma_0$, namely,

$$\bar{\rho} = \frac{p\Delta}{p\Delta + \theta x(1-p)}. \tag{14}$$

If $\rho > \bar{\rho}$, then a leader will initiate a war whenever γ satisfies $\underline{\gamma} \le \gamma < \gamma^*$. In other words, if $\rho > \bar{\rho}$, the leader's behavior will be indistinguishable from a totally selfish leader ($\rho = 1$) such that $\gamma_* = \underline{\gamma}$. Otherwise, if $\rho < \bar{\rho}$, then $\gamma_* > \underline{\gamma}$ for all positive α. That $\bar{\rho}$ is independent of α is due to our assumption of a binary distribution for δ. This convenient case will serve as a benchmark in the investigation of equilibria below since unless war can be supported in equilibrium when leaders act selfishly, it will not be supported with partially benevolent leaders.

The unconditional probability of a leader's reelection, $\Pi(\alpha)$, is determined by the five possible regions of γ outlined above. Leaders with $\gamma \in [0, \underline{\gamma})$ have a zero probability of reelection, those with $\gamma \in [\underline{\gamma}, \gamma_*)$ have reelection probability $\alpha(1-p)$, those with $\gamma \in [\gamma_*, \gamma^*)$ have reelection probability $(1-p)$, those with $\gamma \in [\gamma^*, \hat{\gamma})$ have reelection probability $(1-\alpha) + \alpha(1-p)$, and those with $\gamma \in [\hat{\gamma}, 1]$ have a reelection probability of one. When γ is uniformly distributed over the unit interval, the unconditional probability of a leader's reelection is

$$\Pi(\alpha) = (\gamma_* - \underline{\gamma})\alpha(1 - p) + (\gamma^* - \gamma_*)(1 - p) + (\hat{\gamma} - \gamma^*)(1 - \alpha p) + (1 - \hat{\gamma}), \quad (15)$$

where γ^*, $\hat{\gamma}$, $\underline{\gamma}$, and γ_* are defined in expressions (5), (7), (9), and (13), respectively.

C. *The Supply of Potentially Avoidable War*

Given α, we have already determined the probability with which a new leader would initiate a potentially avoidable war:

$$\beta(\alpha) = G(\gamma^*) - G(\gamma_*) = \gamma^* - \gamma_*. \quad (16)$$

We have also determined the probability with which a new leader would gain reelection, $\Pi(\alpha)$. In this subsection, we use $\beta(\alpha)$ and $\Pi(\alpha)$ to determine the expected frequency with which a state will have a leader facing the temptation of war, that is, first-term governments with poor economic records that have not already had their war-handling characteristics revealed. We call this fraction $\sigma(\alpha)$, to denote the supply of conflict.

First, we determine the frequency with which a state has a first-term leader. Let F_j denote that a leader is in his first term at time period j and $1 - F_j$ denote that a leader is not in his first term at period j (i.e., is in his last term). Consider the Markov process describing whether a state has a leader who is in his first term. If a leader is currently serving his first term, the probability with which a leader will be serving his first term in the subsequent period is $1 - \Pi(\alpha) = \Pr(F_{t+1}|F_t)$. If the current leader is not serving his first term, since leaders may serve only up to two terms, this leader may not be reelected. Therefore, in this case, the probability with which a leader will be serving his first term in the subsequent period is one, that is, $\Pr(F_{t+1}|1 - F_t) = 1$. Thus the transition probability matrix indicating the term served by a state's leader is

$$P = \begin{pmatrix} \Pr(F_{t+1}|F_t) & \Pr(1 - F_{t+1}|F_t) \\ \Pr(F_{t+1}|1 - F_t) & \Pr(1 - F_{t+1}|1 - F_t) \end{pmatrix} = \begin{pmatrix} 1 - \Pi(\alpha) & \Pi(\alpha) \\ 1 & 0 \end{pmatrix}. \quad (17)$$

With this we can compute the unconditional frequency or stationary probability with which a leader will be serving a first term:

$$\phi(\alpha) = \frac{1}{1 + \Pi(\alpha)}. \quad (18)$$

Since only first-term leaders succumb to the temptation of war and of

these first-term leaders they face this temptation only with probability β, the frequency with which a state's leader will contribute to the supply of war is

$$\sigma(\alpha) = \beta(\alpha)\phi(\alpha). \tag{19}$$

D. *Equilibrium*

To describe the equilibrium outcome for the world, we assume that the world consists of a countable infinity of essentially identical states all of which are characterized by the properties described above for an individual state. We assume that the leaders' characteristics, γ and δ, are drawn independently from state to state, and, consequently, the probabilities of reelection and temptation of war supply for one state are also independent of those for another, with a state's probability of facing unavoidable war, α, always taken as given. Consequently, application of the law of large numbers implies that the stationary probability of the supply of war for an individual state will equal the measure of states that will seek to supply war in any given period (see Feldman and Gilles 1985). That is, the fraction of states that will initiate potentially avoidable conflict in every period will be $\sigma(\alpha)$. The uncertainty at the individual state level regarding the reelection of a leader and his propensity to seek a potentially avoidable conflict disappears in the aggregate.

To characterize the frequency of war equilibria, it needs to be recognized that when a state seeks to enter in a potentially avoidable conflict, it will require being matched with another state with which the conflict presumably has arisen. And unless the other state involved in the conflict was also actively seeking to engage in a potentially avoidable war, this conflict will appear unavoidable to that state. That is, one state's avoidable conflict may well be another state's unavoidable one.

The equilibrium condition describing the probability with which a state not seeking war may be forced into a conflict if a fraction σ of states seek conflict is now determined. Denote the states seeking to initiate conflict as "seekers" and those that would rather avoid it as "avoiders." Hence, with a fraction σ of seekers, the measure of avoiders in the world equals $1 - \sigma$.

Now, by definition, α is the probability that a war avoider country is engaged into a conflict by a war seeker. In determining the equilibrium condition linking α and σ, we need to specify the propensity with which seekers engage avoiders in conflict. For instance, if seekers somehow were to be matched only with other seekers, then the measure of avoiders engaged in conflict, α, would equal zero, no matter how large σ happened to be. More generally, suppose that each seeker is matched with an avoider with probability ω and with another seeker with prob-

ability $1 - \omega$. Then the $\omega\sigma$ measure of seeker states will engage in conflict with states among the $1 - \sigma$ measure of avoider states. Thus the probability of unavoidable war that an avoider state faces is

$$\alpha = \frac{\omega\sigma}{1 - \sigma} = \{\text{fraction of avoiders matched with a seeker}\}. \quad (20)$$

As already alluded to, if $\omega = 0$, then avoiders are never attacked; hence, there is no fear of unavoidable war, namely $\alpha = 0$. At the other extreme, if seeker states were always matched with avoider states, then $\omega = 1$ and the equilibrium condition would be $\alpha = \sigma/(1 - \sigma)$.

Since countries are assumed to be ex ante identical, our benchmark matching assumption is that avoider and seeker states are randomly matched. That is, for our equilibrium condition, we assume that the probability with which a seeker state is matched with an avoider state, ω, equals the fraction of avoider states in the world, $1 - \sigma$. Then $\omega = 1 - \sigma$ and the equilibrium condition becomes

$$\alpha = \sigma. \quad (21)$$

With this equilibrium condition, a worldwide equilibrium of the frequency of war can easily be characterized as a pair $\{\alpha, \sigma\}$ that satisfies the supply of war (19) and the equilibrium condition (21).[14]

III. Characterization of War Equilibria

Equations (19) and (21) form the basis of determining equilibria in our model with just democracies. Equation (19) is the individual country's probability of generating an avoidable war. This traces out, for a given probability of unavoidable war, the incentive-compatible probability of starting an avoidable one. Equation (21) is the general equilibrium condition that reflects that since one state's unavoidable war is another state's avoidable one, the two types of war must "add up" across states.

A. *Existence*

In this subsection we establish that Kant's idealistic equilibrium of perpetual peace always exists but that other equilibria with positive war frequency may also prevail.

PROPOSITION 1. *The Kant equilibrium.*— $\alpha = 0$ is always an equilibrium.

All proofs are in the Appendix. Our first result is that Kant's equilibrium *is* feasible; that is, a world populated only by democracies can

[14] As stated earlier, the equations for α and σ need to be compatible with $\overline{W}$. We explicitly calculate this in the Appendix.

sustain perpetual peace. As long as there is no external threat of war, voters will not be interested in a leader's war-handling abilities; therefore, leaders will not seek conflicts to try to salvage their reelection prospects. The voters are simply not interested in this characteristic of a leader, and, in equilibrium, their disinterest in war-handling skills is self-reinforcing since no wars occur. Hence, in a world in which there is no good reason for war, Kant's perpetual peace is indeed possible.

However, while perpetual peace with democracy is shown to be feasible, it may not be the only feasible outcome and may not be stable. We turn to these issues next. First, we show that if leaders act as though they are completely selfish, $\rho > \bar{\rho}$, a war equilibrium may also be feasible. A central issue for this is the informational benefit to the electorate associated with the revelation of superior war-handling ability. Intuitively, if the incidence of war is not expected to be costly regardless of the leader's ability, the electorate will rationally put much less emphasis on war-handling abilities when considering reelection. Consequently, the benefit associated with forcing the revelation of war-handling ability is severely diminished, even for leaders who possess complete selfishness ($\rho \to 1$). This diminishes the frequency of avoidable war supply and precludes the sustainability of positive war equilibria. A central question, therefore, is whether positive war equilibria exist if war is expected to be sufficiently costly. The following condition is sufficient to guarantee multiple equilibria (see the Appendix for the derivation):

$$\lim_{\alpha \to 0} \frac{d\sigma}{d\alpha} = \frac{p\Delta\theta}{-1 + \theta + \sqrt{1 + \theta}} > 1. \tag{22}$$

The following proposition summarizes our central war equilibrium result.

PROPOSITION 2. *War equilibrium existence.*—If $\rho > \bar{\rho}$ and $p\Delta$ is sufficiently high to satisfy (22), then an equilibrium with a positive frequency of war exists.

The war equilibrium demonstrated in proposition 2 is shown in figure 1. The probability of unavoidable war, α, is measured on the horizontal axis and the supply of unavoidable war, $\sigma(\alpha)$, is measured on the vertical axis. The equilibrium condition, expression (21), is represented by the line drawn through the origin, which has a slope of one. If the expected costs of war are sufficiently high (i.e., $p\Delta$ is large), then $d\sigma/d\alpha$ is greater than one when evaluated as $\alpha \to 0$, which coupled with the continuity of the supply schedule provides the multiple equilibria. This is demonstrated by the supply of war schedule labeled $\sigma_1(\alpha)$. By contrast, if the cost of war is not high enough, then the supply of war schedule falls below the equilibrium schedule as demonstrated with $\sigma_0(\alpha)$. Then Kant's idealistic equilibrium is the unique equilibrium.

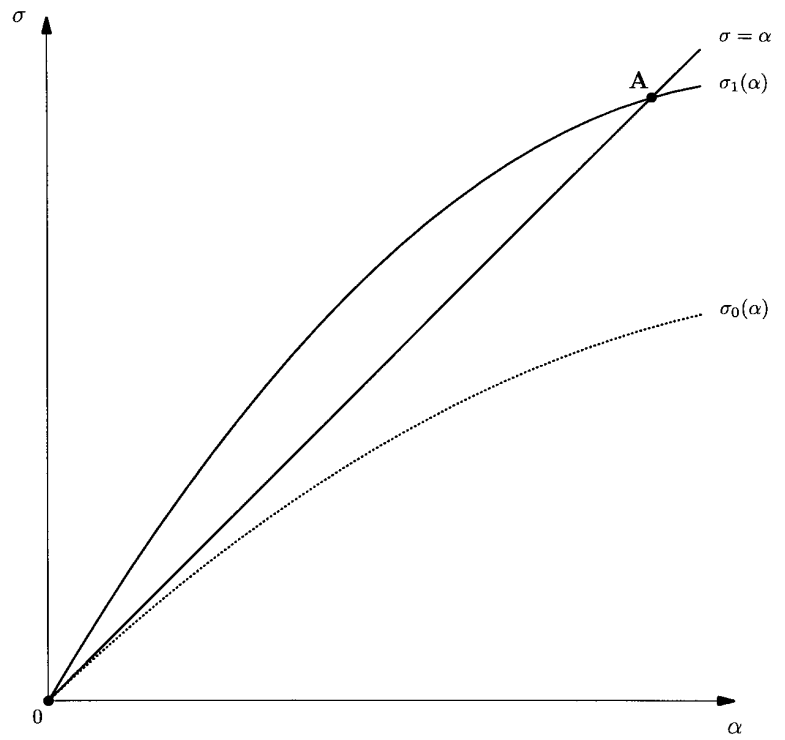

FIG. 1.—Multiplicity of war equilibria. The figure shows the equilibrium condition for war, $\sigma = \alpha$, and two supply schedules derived under the assumption that leader selfishness, ρ, exceeds $\bar{\rho}$. The lower line, $\sigma_0(\alpha)$, indicates the supply schedule when war costs are benign. In this case, $\alpha = \sigma = 0$ is the unique equilibrium of the model. The upper line, $\sigma_1(\alpha)$, indicates the supply schedule when war costs are high. Point *A* indicates the resulting positive equilibrium of the frequency of war.

The preceding analysis is predicated on the selfishness of democratic leaders. Next, we examine the possibility of multiple equilibria when leaders are partially benevolent. Assume that the multiplicity condition (22) is satisfied so that, if $\rho > \bar{\rho}$, the positive war equilibrium is known to exist. Then we get the following proposition.

PROPOSITION 3. *Partial benevolence.*—There exists $\underline{\rho} < \bar{\rho}$ such that multiple war equilibria exist only if $\rho \geq \underline{\rho}$. Further, for some $\rho \in [\underline{\rho}, \bar{\rho})$, multiple equilibria with a positive frequency of war exist.

Figure 2 presents the essential elements of the model's equilibria when $\rho < \bar{\rho}$ and the expected costs of war are still high enough that $d\sigma/d\alpha > 1$ for some α. The variables on both axes are the same as those

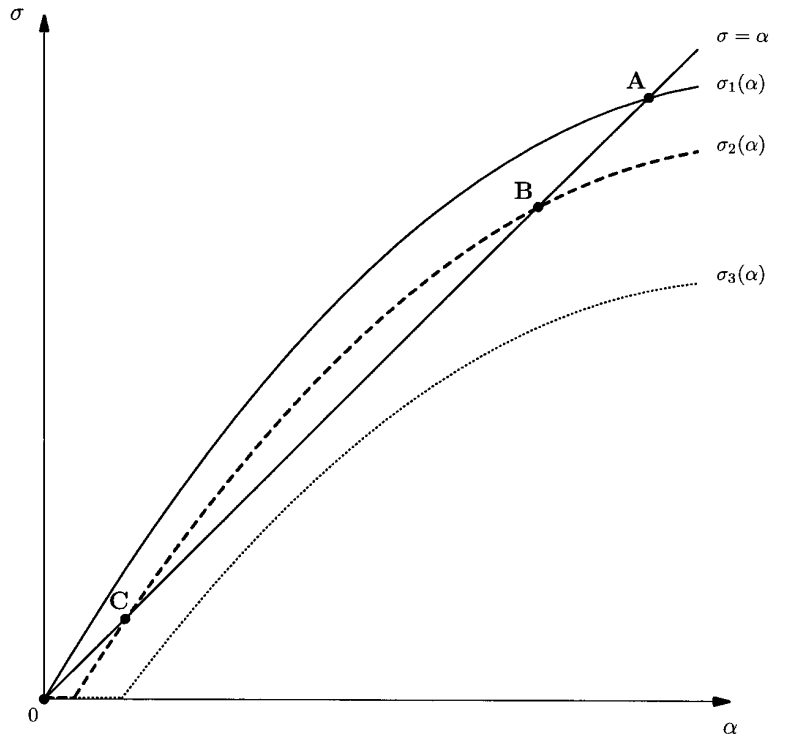

FIG. 2.—Leader benevolence and multiple war equilibria. The figure shows the equilibrium condition for war, $\sigma = \alpha$, and three supply schedules corresponding to different degrees of leader benevolence. The upper schedule, $\sigma_1(\alpha)$, is redrawn from fig. 1 and indicates the case equivalent to complete selfishness, $\rho > \bar{\rho}$. The lower line, $\sigma_3(\alpha)$, shows a case with leaders sufficiently benevolent, $\rho < \underline{\rho}$, that only the perpetual peace equilibrium, $\alpha = \sigma = 0$, is supported. The intermediate case, $\sigma_2(\alpha)$, exhibits three equilibria, with two, *B* and *C*, having a positive frequency of war.

in figure 1, and the equilibrium condition is unchanged. There are two important cases to consider when $\rho < \bar{\rho}$. The first is the case in which $\underline{\rho} < \rho < \bar{\rho}$. As $\rho < \bar{\rho}$ implies that $\gamma_* > \underline{\gamma}$, this means that, for any level of α, fewer governments will seek out conflict and there will be a reduced supply of war. That is, the supply of war schedule falls everywhere below the one corresponding to the case of complete selfishness, $\rho \geq \bar{\rho}$. Furthermore, for a range of α in the neighborhood of $\alpha = 0$, the supply of avoidable war will remain zero because of the benevolence of incumbent leaders. When α is very small, benevolent leaders recognize that the welfare cost of war is too large relative to the benefit of demon-

strating a potentially superior war-handling ability. Hence they do not initiate avoidable wars. The information value of war increases with α, however, and for sufficiently high values the benefit of knowing δ becomes large enough for leaders to be tempted to initiate such wars. The result is illustrated in figure 2 as the supply schedule $\sigma_2(\alpha)$. Compared to $\sigma_1(\alpha)$, the partial benevolence case of $\underline{\rho} < \rho < \bar{\rho}$ exhibits three steady states. With greater benevolence, $\rho < \underline{\rho}$, the supply of war drops further and the multiplicity eventually vanishes, as illustrated with the supply schedule $\sigma_3(\alpha)$.[15]

B. Stability

We now turn our attention to the stability properties of the war equilibria examined above. Let $\hat{\alpha}$ be an equilibrium. To examine the local stability of an equilibrium $\hat{\alpha}$, it suffices to investigate whether the frequency of the supply of war will tend to restore the equilibrium if the actual frequency of war observed in the most recent period and the expected frequency of war in future periods converge to the steady state, $\hat{\alpha}$.[16]

Our first stability result concerns the equilibria described in proposition 2, which obtain in the selfish leader case, $\rho > \bar{\rho}$.

PROPOSITION 4. *Instability of peace with selfishness.*—If $\rho > \bar{\rho}$ and the multiplicity condition (22) is satisfied, the Kant equilibrium is unstable.

That is, with sufficiently selfish leaders, the existence of the positive frequency of war equilibria described in proposition 2 implies that the idealistic equilibrium is unstable. This startling result follows directly from the observation that the multiplicity condition we employ in proposition 2 is complementary to the condition for stability for the perpetual peace equilibrium. Hence when $\rho > \bar{\rho}$ and the multiplicity condition holds, the Kant equilibrium is unstable! We now turn to the case of multiple equilibria with partial benevolence, $\underline{\rho} < \rho < \bar{\rho}$.

PROPOSITION 5. *Stability of peace with partial benevolence.*—If $\underline{\rho} < \rho < \bar{\rho}$, then both the Kant equilibrium and a positive war equilibrium are stable.

Returning to figure 2, recall that with partial benevolence there are multiple equilibria with a positive frequency of war in addition to the idealistic/Kant equilibrium. As the supply of war is continuous in α and since $\sigma(1) < 1$, the largest $\hat{\alpha}$ must be such that $d\sigma(\hat{\alpha})/d\alpha < 1$. Furthermore, since $\beta(\alpha) = 0$ for a neighborhood near the origin, $\alpha = 0$ is also locally stable. Accordingly, in a world populated solely by democracies,

[15] There is also, of course, the knife-edge case $\rho = \bar{\rho}$. Then $\sigma(\alpha)$ is tangent to the equilibrium, for some $\hat{\alpha} > 0$, in which case there are just two equilibria, $\alpha = 0$ and $\alpha = \hat{\alpha}$. Also, we do not establish that the multiplicity obtains for *all* $\rho \in (\underline{\rho}, \bar{\rho})$. Possibly, multiplicity obtains in disconnected intervals in $(\underline{\rho}, \bar{\rho})$.

[16] That is, our notion of stability is that of asymptotic stability. See Weibull (1995) for a discussion.

one stable outcome is such that perpetual peace prevails in equilibrium. However, there are also other stable outcomes in which peace does not prevail.

IV. Appropriative Wars and Nondemocratic Regimes

The prior section investigated the signaling role of diversionary wars in a world populated with just democracies. Understanding this important limiting case now allows us to examine the equilibrium frequencies of war that allow for two additional elements of realism. First, in addition to the presence of diversionary conflicts examined thus far, which are never beneficial for the citizens of a democracy, there may exist other wars that are appropriative in nature and potentially welfare-improving. Second, the world is not populated solely by democratic governments. Below we consider the role of appropriative wars and nondemocratic governments in the determination of the worldwide frequency of war and examine whether a more democratic world is necessarily more peaceful.

A. *Appropriative Wars and Democracy*

To introduce the role of appropriative wars, we assume that there are occasions in which a government—independent of regime—is presented with an attractive opportunity for starting an appropriative conflict. With probability ψ, in every period, the leader of a state realizes an opportunity for such an appropriative war. These conflicts differ from the ones we examined thus far in that they present an additional net benefit to the state equal to ϵ per person.

Thus, if the leader engages in such a war, the consumption of each individual citizen for that period changes from equation (1) to $c_t = \gamma_t + \delta_t + \epsilon$. For simplicity, we assume that the probability of being presented with an opportunity for an appropriative conflict, ψ, is independent over time, leader characteristics, leaders, and countries. Further, the presence of such opportunities is perfectly clear to both leaders and citizens, and the appropriation benefits, ϵ, are known.

The relevant question for our purposes is under what circumstances a democratic leader would seize an opportunity for an appropriative war. The answer depends critically on the size of ϵ and can be easily classified in two cases. One case obtains if the spoils from appropriative wars are so large that it would make such conflicts beneficial even for states whose leaders are not proved to be competent at war. This case is not interesting from the perspective of whether Kant's perpetual peace can be supported in equilibrium. By assuming the presence of welfare-improving wars, this scenario generates a positive frequency of war in

equilibrium regardless of any other conditions, which would necessarily rule out Kant's perpetual peace.[17]

The second case obtains if appropriative war is beneficial only if the state is led to war by a democratic leader with demonstrated war-handling competence. We concentrate our attention on this case. Clearly, if a leader knows that his war-handling characteristic is $\delta = 0$, it will be to the benefit of the state to engage in such a conflict. Thus appropriative conflicts will be initiated by leaders who are presented with such an opportunity after they have already been engaged in a conflict that revealed their superior war-handling skills. The overall frequency with which a democratic state will contribute to the supply of war in this case is then

$$\sigma^{D}(\alpha) = \beta(\alpha)\phi(\alpha) + \psi z(\alpha), \tag{23}$$

where $z(\alpha) \geq 0$ is the frequency of leaders who are currently serving their second term and have war experience from their first term that revealed a good war-handling ability. Here, of course, the first term on the right-hand side of equation (23) continues to describe the diversionary motive as in equation (19). The second term is equal to the additional supply due to appropriative wars and has a number of interesting features. If $\alpha = 0$, then the supply of appropriative war is also zero, $z(0) = 0$. Recall that unless a state engages in a conflict, its leader cannot ascertain his war-handling abilities. Thus, unless some leaders are engaged in unavoidable conflicts during their first term, no leaders will have the war experience that might lead them into appropriative conflicts during their second terms. On the other hand, if $\alpha > 0$, some leaders will discover their superior handling skills during their first term and subsequently take advantage of the appropriative opportunities they might be presented with in their second term. Thus, for $\alpha > 0$, appropriative war supply by democracies is positive. However, the supply of appropriative war for democracies is always strictly less than ψ, regardless of α. This can be seen by noting the following. First, fewer than half of all leaders are in their second term in any period. Second, of these second-term leaders, not all will have prior war experience, let alone one that revealed a good war-handling ability.

A graphical illustration of the supply of war in the presence of a motive

[17] For example, consider the case in which ϵ is so large that $\delta_t + \epsilon > 0$, regardless of the value of the leader's war-handling ability, δ_t. In this case, since the war always yields net benefits, the supply of war is bounded below by ψ and perpetual peace is no longer an equilibrium. In another case, ϵ is not large enough to outweigh the cost of war for incompetent military leaders, $\delta = -\Delta$, but is larger than the expected cost to be incurred by a leader of uncertain competence, $-p\Delta$, i.e., $\epsilon \in (p\Delta, \Delta)$. Again, for some first- and second-term leaders, this will be a sufficiently strong incentive for them to start an appropriative war, regardless of the value of α. Consequently, perpetual peace will never be an equilibrium.

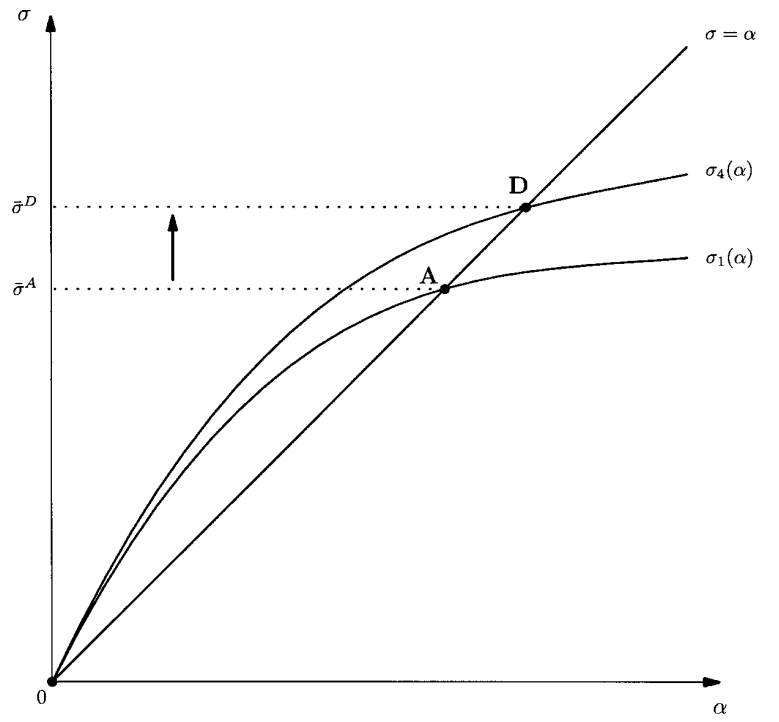

FIG. 3.—Effect of appropriative wars. The figure illustrates the effect of appropriative conflicts on the supply of war with selfish democratic leaders. The baseline case with no appropriative motive corresponds to $\sigma_1(\alpha)$. With an appropriative motive, the supply rotates to $\sigma_4(\alpha)$ with a new positive war equilibrium at point *D*.

for appropriation is shown in figure 3. Essentially, appropriative conflicts rotate the supply schedule of war in a democratic world counterclockwise from the supply schedule σ_1 when $\psi = 0$ to the new schedule σ_4 when $\psi > 0$. It is worth noting that even though the appropriative motive we introduce is not strong enough to eliminate the Kant equilibrium, its presence reinforces the possibility that positive war equilibria will exist.

B. Nondemocratic Regimes

Next, we consider the frequency of war under nondemocratic regimes in order to provide some comparisons with our democratic world benchmark. To keep the analysis simple, we assume that nondemocratic gov-

ernments face a constant probability of remaining in office an additional period, independent of their economic and war-handling abilities. This implies that nondemocratic leaders will have no incentive to, and therefore will not, engage in diversionary wars such as the avoidable conflicts some democratic leaders may engage in to increase the probability of their political survival. Gelpi (1997) provides supporting evidence for this claim. He finds that, in fact, democracies are more prone to use diversionary international uses of force to externalize weak domestic support than authoritarian regimes. In contrast, he argues that authoritarian regimes tend not to externalize their domestic political problems but rather directly suppress domestic discontent via the military. In addition, Bueno de Mesquita et al. (1999*b*) also find that the length of office holding and the influence of adverse economic conditions are empirically quite different between democratic and nondemocratic regimes. First, they report that over the past 200 years the average duration of office holding by an autocrat is 20.7 years, whereas that for democratic leaders is 5.7 years. Second, and more central, they find that although an economic contraction increases by 50 percent the risk that a democratic leader will be removed from office, it actually reduces the risk that a nondemocratic leader will be turned out of office.[18] Therefore, the evidence suggests that nondemocratic regimes have little motivation to contribute directly to the supply of diversionary conflicts.

Nondemocracies, however, are not bashful at engaging in appropriative conflicts. In fact, a fundamental difference between democracies and nondemocracies often entails the way in which the net benefits from appropriative conflicts are shared between leaders and citizens. As we noted earlier, Kant had noted this as quite important for understanding why perpetual peace cannot materialize in a nondemocratic world. Robbins (1940) and Snyder (1991) also suggest that appropriation provides a motive for war to leaders of nondemocratic/illiberal countries but not to democratic/liberal ones.

To capture this asymmetry in a simple manner, we assume that the leader (and presumably the ruling elite that maintains his power base) usurps the benefits of appropriative wars ϵ, but does not incur the costs δ, which are borne by the people of the state. Under these simplifying assumptions, it becomes evident that a nondemocracy will start a war

[18] In another paper, Bueno de Mesquita et al. (1998) provide a theoretical explanation for this intriguing finding. They argue that the greater number of people who have an institutional say in selecting leaders (selectors) vs. the number of individuals the leader needs to stay in office (winners) will induce a norm of loyalty among selectors to the office holder since they fear being excluded from future ruling coalitions. Hence, leaders will exploit this and reduce their effort at producing goods that the public will enjoy. Accordingly, terrible economic performance can be sustained by nondemocracies since they have a small equilibrium ratio of winners to selectors, unlike democracies that have a large equilibrium fraction of winners to selectors.

whenever its leader is presented with an appropriative opportunity. That is, the supply of war by a nondemocracy, on average, is $\sigma^N = \psi$. From this it is evident that if all countries were nondemocracies, then the equilibrium frequency of war would be exactly ψ.

Note that the underlying net benefit to the country from an appropriative conflict, ϵ, is the same regardless of regime type. However, the distribution within a country of the benefits and costs of an appropriative war depends on regime type. This asymmetry will affect the propensity with which the two types of regimes start appropriative conflicts. Since all nondemocratic leaders will seize the opportunity to start an appropriative conflict and not all democratic leaders will, the supply of appropriative conflicts will always be greater for nondemocratic regimes than for democratic ones.

C. *Peace in a More Democratic World?*

The remaining question of interest is whether in a world populated by both democracies and nondemocracies, the frequency of war will be smaller when the fraction of democracies is larger. If both democratic and nondemocratic states coexist with fractions λ and $1 - \lambda$, respectively, then the total world supply of war is

$$\sigma^W(\alpha) = \lambda\sigma^D(\alpha) + (1 - \lambda)\sigma^N, \tag{24}$$

where $\sigma^D(\alpha)$ is presented in equation (23) and $\sigma^N = \psi$.

To understand whether a more democratic world is more peaceful, we shall again concentrate our attention on the case of selfish democratic leaders, $\rho > \bar{\rho}$, when the positive war equilibrium exists if the world is completely democratic. Then, when $\lambda = 1$, the supply of war is σ_4, as shown in figure 3, which is now redrawn as σ^D in figure 4. If all countries are democratic, we have, of course, the Kant equilibrium and also the positive war equilibrium, with frequency of war equal to $\bar{\sigma}^D$. If all countries are nondemocratic, the supply of war is $\sigma^N = \psi$. Since the global supply of war is a weighted average of the two, the key for determining whether the global frequency of war falls or rises with increased democratization depends on whether $\bar{\sigma}^D$ is greater or smaller than ψ. Depending on the relative propensity for diversionary wars and appropriative opportunities, both cases are possible in our model.

To see this, consider the two limiting cases for the frequency of appropriative opportunities, ψ. As $\psi \to 0$, the diversionary motive for democracies becomes the only source of conflict, so surely increased democratization raises the frequency of war. On the other hand, since not all democratic leaders initiate war when presented with an appropriative opportunity whereas all nondemocratic leaders do, if ψ were to approach one, the supply of appropriative conflict by nondemocracies would be-

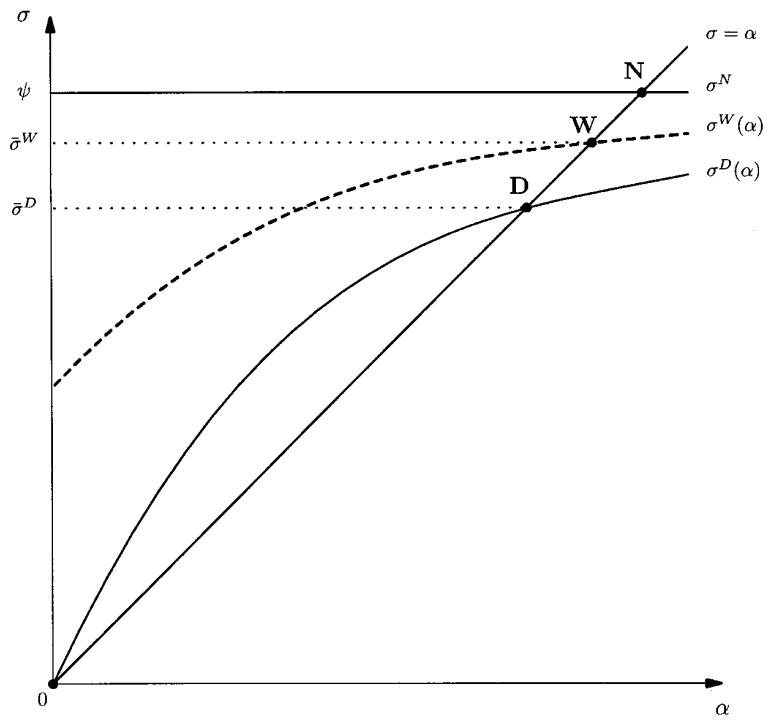

FIG. 4.—Global equilibrium with partial democracy. The supply schedules σ^D (redrawn from σ_4 in fig. 3) and $\sigma^N = \psi$ denote the global supply of war when either all countries are democratic or all countries are nondemocratic. The dashed line, σ^W, indicates the global war supply when a fraction of all countries is democratic and another fraction is not. The resulting global equilibrium is at point *W*. The figure is drawn such that $\psi > \bar{\sigma}^D$ (case I), so greater democratization reduces the frequency of war.

come the dominant source of war. Thus, given other parameters in the model, if ψ is sufficiently large, we shall have $\psi > \bar{\sigma}^D$ (case I); if ψ is sufficiently small, we shall have $\psi < \bar{\sigma}^D$ (case II).

In figure 4, we illustrate the global equilibrium for case I, $\psi > \bar{\sigma}^D$. In this case, a completely nondemocratic world, $\lambda = 0$, will have the highest frequency of war, shown as point *N* in the figure. With $\lambda \in (0, 1)$, the global war supply, shown as σ^W, will fall between σ^N and σ^D, with the equilibrium shown as point *W*. In this case, increased democratization will indeed reduce the equilibrium frequency of conflict. In case II, however, with $\psi < \bar{\sigma}^D$, this would not obtain. An additional noteworthy feature that obtains in both cases is that in a partially democratic world,

perpetual peace is not an equilibrium, a characteristic that accords well with historical observation. Only in the limit, as $\lambda = 1$, does the Kant equilibrium exist.[19]

V. Norms and Institutions

The model has so far established the existence and stability of equilibria characterized by perpetual peace and those with a positive frequency of war. While these results are helpful to understand the dynamics and incentives for voters and leaders within individual countries as well as in the aggregate, other factors may also influence the selection of the Kant equilibrium in the model, provided that multiple equilibria exist. Below we consider the impact of norms and institutions on the model's equilibria.[20]

As pointed to in proposition 4, when leaders are selfish, the no-war equilibrium is unstable. This stability result, however, is based on a system of rational expectations whereby voters and leaders can flexibly alter their expectations about the probability of conflict. Assume that the world begins at this idealistic/Kant equilibrium and that the norm is that peace is to prevail perpetually. Here we consider a norm as being a rigid or sticky expectation regarding world behavior, which would not immediately change in light of unexpected but transient events. If countries were then to observe a one-time incident of war, a norm regarding the peaceful resolution of disputes would provide a coordination device such that if all the countries believed that it was a one-time incident and continued to believe that the future probability of war was zero, then the idealistic/Kant equilibrium could still continue to be supported. Thus, if democratic countries adopt a norm that disputes will be solved without resort to violence, then these rather inflexible expectations may provide the necessary stability to the "instability" of the no-war equilibrium established in proposition 4.

Another way to sustain the democratic peace would be to alter the domestic institutional framework underlying foreign policy decisions so as to involve voters directly, namely, to decentralize the decision-making process for war decisions more along the lines of a republic (i.e., a

[19] The case of partially selfish leaders is more complicated but delivers a conclusion similar to that described for selfish leaders when the world is partially democratic. One interesting difference is that multiple equilibria can be constructed even if $\lambda < 1$ instead of just the limit case $\lambda = 1$.

[20] It is important to note that we do not claim to endogenize these norms and institutions but merely explore what their influence would be on the equilibria we have identified through our model.

direct democracy).[21] Unfortunately, the fundamental character of the foreign policy decision-making process makes it likely that a representative democracy may be all that we can hope for in terms of domestic institutions. Private information, the complexity of foreign policy decisions, and the added time lag involved in decentralized decisions (e.g., voting on specific foreign policy issues) largely make a republic unattainable. This is consistent with Tocqueville's ([1835] 1981) classic remark that "foreign politics demand scarcely any of those qualities which are peculiar to a democracy; they require, on the contrary, the perfect use of almost all those in which it is deficient" (p. 552).

However, while altering domestic institutions may not be a feasible way of supporting an idealistic/Kant equilibrium, the creation of institutions between nations is more likely to bring about the Pareto-optimal equilibrium.[22] More specifically, consider the existence of a credible institution such that a fraction of countries, μ, form an alliance with a threat to retaliate against a country with certainty if any member is attacked.[23] To demonstrate that in a world with just democracies a credible alliance is effective in stopping the threat of wars for members of the alliance from nonallied democratic government, consider the following. If a democratic leader who seeks war attacks a country inside the alliance, his probability of war next period is one; if he attacks a country outside the alliance, it is only α. Hence, a war seeker will not attack coalition countries but only noncoalition countries, so that if the alliance is credible, the probability of war will be zero for members.

The observed implication of this form of alliance in which there are insiders and outsiders is that if the alliance is credible, the no-war equilibrium will prevail for the members of the alliance: an outsider would rather attack an outsider than an insider. For countries outside the alliance, however, there will be no change in the international environment since there will still be seeker and avoider states in the same relative proportion as when we considered the entire world without alliances. When we aggregate across insiders and outsiders, the world will have a lower frequency of war, $\hat{\alpha}(1 - \mu)$, with the alliance versus $\hat{\alpha}$ without the alliance. The reduction in the frequency of conflict is entirely due to

[21] This point is brought out in Hess and Orphanides (1995). In a recent paper, Persson, Roland, and Tabellini (1997) formally examine the benefits of the separation of powers for political accountability.

[22] It has been pointed out by both Kant (1795) and Tocqueville (1835) that democracies would be more inclined to form alliances and thereby bring about a world with fewer wars—essentially creating a "separate peace." It is interesting to note that Bueno de Mesquita and Lalman (1992) report that nondemocratic allies are more likely to fight each other than if they were not allies.

[23] We assume that the alliance is such that its members do not attack one another, there is no free riding, and the alliance contractually obligates the countries to retaliate. For a general discussion of alliances, see, among others, Bueno de Mesquita and Lalman (1992), Russett (1993), and Smith (1995).

the reduction of conflict for alliance members.[24] The impact of alliances on the propensity for conflict also holds when there are nondemocracies. If, as suggested by Kant (1795) and Tocqueville (1835), democracies are more inclined to form and join alliances, then nondemocracies will tend to engage in appropriative conflicts only with each other.

The reduced frequency of conflict for countries within an alliance can naturally lead to a situation in which all countries would want to belong to a credible coalition, such as has been attempted in the twentieth century with the formation of the League of Nations and the United Nations. An all-inclusive organization that credibly maintained the standard of protecting its democratic members would again bring the world toward the perpetual peace. Of course, the maintenance and origination of this type of institution would rely fundamentally on the organization's credibility, its incentive structure to reduce free riding on the public creation of peace, and so forth. These issues, while important, are unfortunately beyond the scope of this paper.[25]

Finally, while international institutions that encourage the peaceful resolution of disputes may bring about the democratic peace, so may international institutions that emphasize free trade and economic interdependence between nations. While economists do not typically list peace as one of the primary benefits of trade, the value of economic integration in this context should not be discounted. As Keynes (1920) pointed out at the close of the First World War, "A Free Trade Union, comprising the whole of Central, Eastern, and Southeastern Europe, Siberia, Turkey, and (I should hope) the United Kingdom, Egypt and India, might do as much for the peace and prosperity of the world as the League of Nations itself" (p. 249).[26] Empirical support for the compounding effect that democracy and economic interdependence have on reducing the probability of conflict and crises between nations has been recently demonstrated in Oneal et al. (1996) and Oneal and Russett (1997).

[24] Notice that this does not eliminate a positive frequency of war equilibrium but merely translates it to one with a proportionally smaller frequency of war.

[25] A further enhancement to peace would be the international enforcement of a one-term presidency. An individual state would not be willing to adopt this limitation on its own, given that others did not, since it would not lower its overall probability of war and it would not be able to retain leaders that it would prefer. Again, the design of optimal constitutions is beyond the scope of this paper.

[26] Oneal and Russett (1997) state that, on the basis of a late twentieth-century interpretation of his argument for "cosmopolitan law" as an ingredient for the perpetual peace, Kant also recognized this point. Howard (1978) points to the seventeenth-century French monk Emeric Crucé as one of the first scholars to point to feedback from peace to free trade to further enhancements of peace. Howard also points to similar arguments made by Thomas Paine, Adam Smith, and John Stuart Mill.

VI. Conclusion

This paper theoretically analyzes two key questions: Will a fully democratic world necessarily bring about a perpetual peace as Kant (1795) hypothesized, and will a more democratic world necessarily be more peaceful? To answer the first question, we present a general equilibrium model of conflict based on a world populated by representative democracies. On the basis of the rational voter, partial equilibrium approach developed in Hess and Orphanides (1995), an individual country takes as given the probability of unavoidable conflict. An incumbent leader may initiate an avoidable conflict if doing so rationally diverts the electorate's attention from his inferior domestic handling of the economy toward the possibility that he may be good at handling foreign conflict. As a result, democratic states may be responsible for at least some foreign conflict. We endogenize the probability that a country faces an unavoidable conflict and examine whether war persists in equilibrium. In doing so, we explore the conditions under which a world with democracies will have no war and the extent to which this peace can be perpetually sustained.

Finally, building on our analysis of the Kant hypothesis, we demonstrate that a more democratic world will not necessarily be more peaceful. The outcome depends on the relative propensity for democratic countries to generate diversionary wars and the frequency with which opportunities for appropriative war are exploited by democratic and nondemocratic leaders. Furthermore, we find that the norms associated with the peaceful resolution of disputes and the presence of credible international institutions can have an important influence in the overall equilibrium and thus be crucial factors for the sustainability of perpetual peace.

While this paper has examined only conflict between states, conflict within states may be influenced by similar factors. Grossman (1991) provides a general equilibrium model of insurrections within a country to which factors such as the ones we highlight could be investigated. This also relates to the number and size of states that in our model we take as exogenous. Recently, Alesina and Spolaore (1996, 1997) have created an economic model of "secession." Two findings of theirs, which are particularly relevant to our work, are that the process of democratization can lead to an increase in "secessions" and that a decreased probability of international conflict actually increases the number of secessions. While Alesina and Spolaore consider only "democratic" secessions, their emphasis on the endogeneity of the size of states is particularly important since not all breakups are peaceful. This type of intranational conflict would be an additional avenue that will affect the likelihood that a world populated by just democracies can generate a

perpetual peace. While these aspects of conflict are not incorporated into our model, they would likely reinforce the likelihood of positive equilibria of the frequency of war. Maintaining a democratic perpetual peace, then, will be most likely only with increased international integration and coordination.

Appendix

Proof of Proposition 1

If $\alpha = 0$, then by equations (5), (9), and (13), $\underline{\gamma} = \gamma_* = \gamma^*$. Therefore, from their definitions, $\beta = \sigma = 0$. Thus $\alpha = \sigma = 0$ is an equilibrium.

Proof of Proposition 2

A positive war equilibrium is an equilibrium such that $\sigma(\alpha) = \alpha$ for positive values of α. To evaluate such equilibria, we first need to solve for the equilibrium of the problem in terms of α. To construct the equilibrium, we need to find the solutions to $\overline{W}$, $\hat{\gamma}$, $\underline{\gamma}$, and γ^* as functions of α. The solution will satisfy equations (5), (7), and (9) and also the implicit equation for $\overline{W}$, which is defined as the unconditional expectation of a leader of characteristic γ. For our purposes it suffices to find the solution as $\alpha \to 0$. This is convenient because in that case, as can be seen from equations (7) and (9), as $\alpha \to 0$, $\hat{\gamma}$ and $\underline{\gamma}$ are in the interior of (0, 1) and in the limit equal γ^*. Hence, for small α the relevant equations become

$$\underline{\gamma} = \overline{W}(1 - \theta) = \gamma^* - \alpha p \Delta$$

and

$$\hat{\gamma} = \overline{W}(1 - \theta) + \alpha\Delta = \gamma^* + \alpha(1 - p)\Delta.$$

Note that $\underline{\gamma} \le \gamma_* \le \gamma^* \le \hat{\gamma}$. Since $\rho > \hat{\rho}$, however, $\gamma_0 < \underline{\gamma}$ and therefore by (13) $\gamma_* = \underline{\gamma}$. Consequently, when α is small so that $\hat{\gamma}$ and $\underline{\gamma}$ are in the interior, we can express $\underline{\gamma}$ and $\hat{\gamma}$ in terms of just γ^* and characterize the equilibrium by solving for γ^* and $\overline{W}$.

To construct the equation for $\overline{W}$, we first need to define the welfare value of the public associated with alternative γ as follows: For $\gamma \in [0, \underline{\gamma})$ such that there is a sure loss with and without war,

$$W^1 = \gamma - \alpha p \Delta + \theta \overline{W}.$$

For $\gamma \in [\underline{\gamma}, \gamma^*)$, such that choosing avoidable war leads to reelection with $(1 - p)$,

$$W^2 = \gamma - p\Delta + p\theta\overline{W} + (1 - p)\theta(\gamma + \theta\overline{W}).$$

For $\gamma \in [\gamma^*, \hat{\gamma})$, unavoidable war leads to reelection with $(1 - p)$:

$$W^3 = \gamma - \alpha p\Delta + \alpha p\theta\overline{W} + \alpha(1 - p)\theta(\gamma + \theta\overline{W}) + (1 - \alpha)\theta(\gamma - \alpha p\Delta + \theta\overline{W}).$$

And finally, for $\gamma \in [\hat{\gamma}, 1]$, the leader is sure of reelection even with war:

$$W^4 = \gamma - \alpha p\Delta + \theta(\gamma - \alpha p\Delta + \theta\overline{W}).$$

Integrating over the appropriate regions of γ, we get

$$\overline{W} = \int_0^{\underline{\gamma}} W^1 dG + \int_{\underline{\gamma}}^{\gamma^*} W^2 dG + \int_{\gamma^*}^{\hat{\gamma}} W^3 dG + \int_{\hat{\gamma}}^1 W^4 dG,$$

which together with

$$\gamma^* = \overline{W}(1-\theta) + \alpha p\Delta$$

characterizes the equilibrium. Notice that since the distribution G is uniform, the integration in the equation above will provide a quadratic equation in γ^*. Only one of the two solutions, however, is feasible, which yields the equilibrium

$$\overline{W} = \frac{1 + \theta - \alpha\Delta p\theta - \sqrt{X}}{\theta(1-\theta)},$$

where

$$X = 1 + \theta + 2\alpha\Delta^2 p^2\theta - 2\alpha^2\Delta^2 p^2\theta - \alpha^3\Delta^2 p\theta^2 - \alpha^2\Delta^2 p^2\theta^2 + 2\alpha^3\Delta^2 p^2\theta^2 + \alpha^2\Delta^2 p^3\theta^2 - \alpha^3\Delta^2 p^3\theta^2.$$

With the solution at hand, using equations (16), (18), and (19), we determine the equilibrium σ as a function of α. Differentiation with respect to α and evaluation of the derivative in the limit yields

$$\lim_{\alpha\to 0} \frac{d\sigma(\alpha)}{d\alpha} = \frac{p\Delta\theta}{-1 + \theta + \sqrt{1+\theta}}.$$

Notice that for sufficiently high $p\Delta$, this is greater than one. Now observe that the equilibrium for $\overline{W}$ and γ^* is continuous in α. Hence, the function $\sigma(\alpha)$ is also continuous in α. Further, by proposition 1, $\sigma(0) = 0$. Therefore, if $\lim_{\alpha\to 0} d\sigma(\alpha)/d\alpha > 1$, $\sigma(\alpha_1) > \alpha_1$ for some $\alpha_1 > 0$. But we also know that $\sigma(1) < 1$ (i.e., σ lies below the 45-degree line for $\alpha = 1$) since $\beta(1) < 1$ and $\phi(1) < 1$, so $\sigma(1) = \beta(1)\phi(1) < 1$.

Thus, by the intermediate value theorem, there exists $\hat{\alpha} \in (0, 1)$ such that $\sigma(\hat{\alpha}) = \hat{\alpha}$.

Proof of Proposition 3

To consider changes in the parameter ρ, it is convenient to view $\sigma(\alpha)$ as a function of both α and ρ: $\sigma(\alpha, \rho) = \sigma(\alpha;\ \rho,$ other parameters). Now, for $\rho = \bar{\rho}$, choose a small $\alpha_1 > 0$ such that $\sigma(\alpha, \bar{\rho}) > \alpha$ for $\alpha \in (0, \alpha_1)$. By construction, σ is continuous in both α and ρ. Thus there exists $\rho_1 < \bar{\rho}$ such that, for any $\rho_2 \in (\rho_1, \bar{\rho})$, there exists $\alpha_2(\rho_2) \in (0, \alpha_1)$ such that $\sigma(\alpha, \rho_2) > \alpha$ for $\alpha \in (0, \alpha_2(\rho_2))$. Thus, for some $\rho_2 < \bar{\rho}$, there exists $\alpha_3 > 0$ such that $\sigma(\alpha_3, \rho_2) > \alpha_3$. For this particular ρ, we can now construct two positive war equilibria.

For a high positive war equilibrium, recall as in proposition 2 that $\sigma(1, \rho_2) < 1$. Since $\sigma(\alpha_3, \rho_2) > \alpha_3$, by the intermediate value theorem, there exists $\hat{\alpha}^H \in (\alpha_3, 1)$ such that $\sigma(\alpha^H, \rho_2) = \alpha^H$.

For a low war equilibrium, recall from the definition of $\bar{\rho}$ that if $\rho < \bar{\rho}$, then $\gamma_0 > \underline{\gamma}$. In that case,

$$\beta = \max\{0, \gamma^* - \gamma_0\}.$$

Using the definitions of γ_0 and γ^*, note that

$$\gamma^* - \gamma_0 = \alpha p\Delta - h(\rho),$$

where

$$h(\rho) = \frac{p\Delta}{(1-p)\theta} - \frac{\rho x}{1-\rho}$$

and, by construction, $h(\bar{\rho}) = 0$ and h is strictly decreasing in ρ. Thus, for any $\rho_0 < \bar{\rho}$, we can define $\alpha_0 > 0$ such that

$$\alpha_0 p\Delta = h(\rho_0),$$

noting that, by construction, $\beta(\alpha) = 0$ for $\alpha \in (0, \alpha_0)$. As $\sigma(\alpha) = \beta(\alpha)\phi(\alpha)$, this also implies $\sigma(\alpha) = 0$ for $\alpha < \alpha_0$. When this argument is applied to ρ_2, this implies that since $\rho_2 < \bar{\rho}$, there exists $\alpha_4 \in (0, \alpha_3)$ such that $\sigma(\alpha_4, \rho_2) = 0 < \alpha_4$. Since $\sigma(\alpha_3, \rho_2) > \alpha_3$, again by the intermediate value theorem, there exists $\hat{\alpha}^L \in (\alpha_4, \alpha_3)$ such that $\sigma(\alpha^L, \rho_2) = \alpha^L$. Since both α^L and α^H are nonzero, this establishes that, for some $\rho < \bar{\rho}$, multiple equilibria with a positive frequency of war exist. To define $\underline{\rho}$, observe that when $\rho \to 0$, $\sigma(\alpha, \rho) = 0$ for all $\alpha \in (0, 1]$. Thus if ρ is sufficiently small, only the Kant equilibrium exists. Thus $\underline{\rho}$ can be defined as the minimum of the set of ρ for which multiple equilibria exist. Since we already demonstrated that this set includes $\rho_3 < \bar{\rho}$, $\underline{\rho}$ is in the interior of $(0, \bar{\rho})$.

Proof of Proposition 4

The multiplicity condition is $\lim_{\alpha \to 0} d\sigma(\alpha)/d\alpha > 1$. Stability of the Kant equilibrium requires $\lim_{\alpha \to 0} d\sigma/d\alpha < 1$. Thus the multiplicity condition rules out stability for the Kant equilibrium.

Proof of Proposition 5

Since $\sigma(\alpha)$ is continuous in α and since $\sigma(1) < 1$, the largest $\hat{\alpha}$ must be such that $d\sigma(\hat{\alpha})/d\alpha < 1$; hence, it is locally stable. For the Kant equilibrium, we know from proposition 3 that there exists α_0 such that $\sigma(\alpha) = 0$ for all $\alpha < \alpha_0$. So suppose that we have a small deviation from the steady state, $\sigma_0 = \eta$, where $\eta \in (0, \alpha_0)$. Then $\hat{\alpha}_0 = \eta$. But then $\hat{\sigma}_1 = \hat{\sigma}(\hat{\alpha}_0) = \hat{\sigma}(\eta) = 0$, which is exactly the steady state. So the Kant equilibrium is also stable.

References

Alesina, Alberto, and Spolaore, Enrico. "International Conflict, Defense Spending and the Size of Countries." Working Paper no. 5694. Cambridge, Mass.: NBER, August 1996.

———. "On the Number and Size of Nations." *Q.J.E.* 112 (November 1997): 1027–56.

Bueno de Mesquita, Bruce, and Lalman, David. *War and Reason: Domestic and International Imperatives*. New Haven, Conn.: Yale Univ. Press, 1992.

Bueno de Mesquita, Bruce; Morrow, James D.; Siverson, Randolph M.; and Smith,

Alastair. "Endogenous Political Institutions and the Survival of Leaders." Manuscript. Stanford, Calif.: Hoover Inst., 1998.
———. "An Institutional Explanation of the Democratic Peace." *American Polit. Sci. Rev.* 93 (December 1999): 791–807. (*a*)
———. "Policy Failure and Political Survival: The Contribution of Political Institutions." *J. Conflict Resolution* 43 (April 1999): 147–61. (*b*)
Bueno de Mesquita, Bruce, and Siverson, Randolph M. "Explaining Democratic War Behavior." Manuscript. Stanford, Calif.: Stanford Univ., Hoover Inst., 1996.
DeRouen, Karl R., Jr. "The Indirect Link: Politics, the Economy, and the Use of Force." *J. Conflict Resolution* 39 (December 1995): 671–95.
Downs, George W., and Rocke, David M. "Conflict, Agency, and Gambling for Resurrection: The Principal-Agent Problem Goes to War." *American J. Polit. Sci.* 38 (May 1994): 362–80.
Doyle, Michael W. "Liberalism and World Politics." *American Polit. Sci. Rev.* 80 (December 1986): 1151–69.
Feldman, Mark, and Gilles, Christian. "An Expository Note on Individual Risk without Aggregate Uncertainty." *J. Econ. Theory* 35 (February 1985): 26–32.
Forsythe, David P. "Democracy, War, and Covert Action." *J. Peace Res.* 29 (November 1992): 385–95.
Garfinkel, Michelle R. "Domestic Politics and International Conflict." *A.E.R.* 84 (December 1994): 1294–1309.
Garfinkel, Michelle R., and Skaperdas, Stergios. "Introduction: Conflict and Appropriation as Economic Activities." In *The Political Economy of Conflict and Appropriation,* edited by Michelle R. Garfinkel and Stergios Skaperdas. Cambridge: Cambridge Univ. Press, 1996.
Gastil, Raymond D. *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties.* New York: Freedom House, 1986, 1996.
Gelpi, Christopher. "Democratic Diversions: Government Structure and the Externalization of Domestic Conflict." *J. Conflict Resolution* 41 (April 1997): 255–82.
Grossman, Herschel I. "A General Equilibrium Model of Insurrections." *A.E.R.* 81 (September 1991): 912–21.
Hastings, Max, and Jenkins, Simon. *The Battle for the Falklands.* New York: Norton, 1983.
Hess, Gregory D., and Orphanides, Athanasios. "War Politics: An Economic, Rational-Voter Framework." *A.E.R.* 85 (September 1995): 828–46.
———. "Economic Conditions, Elections, and the Magnitude of Foreign Conflicts." *J. Public Econ.* 80 (April 2001): 121–40.
Howard, Michael E. *War and the Liberal Conscience.* New Brunswick, N.J.: Rutgers Univ. Press, 1978.
———. *The Causes of War and Other Essays.* 2d ed. Cambridge, Mass.: Harvard Univ. Press, 1983.
Joll, James. *The Origins of the First World War.* London: Longman, 1984.
Kant, Immanuel. *Perpetual Peace.* 1795. In *Kant: Political Writings,* 2d ed., edited by Hans Reiss; translated by H. B. Nisbet. Cambridge: Cambridge Univ. Press, 1991.
Keegan, John. *A History of Warfare.* New York: Vintage Books, 1993.
Keynes, John Maynard. *The Economic Consequences of the Peace.* London: Macmillan, 1920.
Levy, Jack S. "The Diversionary Theory of War: A Critique." In *The Handbook of War Studies,* edited by Manus I. Midlarsky. Boston: Unwin-Hyman, 1989.

Levy, Jack S., and Vakili, Lily I. "Diversionary Action by Authoritarian Regimes: Argentina in the Falklands/Malvinas Case." In *The Internationalization of Communal Strife,* edited by Manus I. Midlarsky. New York: Routledge, 1992.

Lian, Bradley, and Oneal, James. "Presidents, the Use of Military Force, and Public Opinion." *J. Conflict Resolution* 37 (June 1993): 277–300.

Mansfield, Edward D., and Snyder, Jack. "Democratization and the Danger of War." *Internat. Security* 20 (Summer 1995): 15–38.

Maoz, Zeev, and Abdolali, Nasrin. "Regime Types and International Conflict, 1816–1976." *J. Conflict Resolution* 33 (March 1989): 3–35.

Maoz, Zeev, and Russett, Bruce M. "Normative and Structural Causes of Democratic Peace, 1946–1986." *American Polit. Sci. Rev.* 87 (September 1993): 640–54.

Mayer, Arno J. "Domestic Causes of the First World War." In *The Responsibility of Power: Historical Essays in Honor of Hajo Holborn,* edited by Leonard Krieger and Fritz Stern: Garden City, N.Y.: Doubleday, 1967.

———. "Internal Causes and Purposes of War in Europe, 1870–1956: A Research Assignment." *J. Modern Hist.* 41 (September 1969): 291–303.

Meade, James E. *The Economic Basis of a Durable Peace.* New York: Oxford Univ. Press, 1940.

Morgan, T. Clifton, and Campbell, Sally H. "Domestic Structure, Decisional Constraints, and War: So Why Kant Democracies Fight?" *J. Conflict Resolution* 35 (June 1991): 187–211.

Oneal, John R.; Oneal, Frances H.; Maoz, Zeev; and Russett, Bruce M. "The Liberal Peace: Interdependence, Democracy and International Conflict, 1950–85." *J. Peace Res.* 33 (February 1996): 11–28.

Oneal, John R., and Russett, Bruce M. "The Classical Liberals Were Right: Democracy, Interdependence, and Conflict, 1950–1985." *Internat. Studies Q.* 41 (June 1997): 267–94.

Ostrom, Charles W., Jr., and Job, Brian L. "The President and the Political Use of Force." *American Polit. Sci. Rev.* 80 (June 1986): 541–66.

Persson, Torsten; Roland, Gerard; and Tabellini, Guido. "Separation of Powers and Political Accountability." *Q.J.E.* 112 (November 1997): 1163–1202.

Pigou, Arthur C. *The Political Economy of War.* Rev. ed. London: Macmillan, 1940.

Richards, Diana; Morgan, T. Clifton; Wilson, Rick; Schwebach, Valerie; and Young, Gary. "Good Times, Bad Times and the Diversionary Use of Force: A Tale of Some Not-So-Free Agents." *J. Conflict Resolution* 37 (September 1993): 504–35.

Robbins, Lionel. *The Economic Causes of War.* London: Cape, 1940.

Rogoff, Kenneth. "Equilibrium Political Budget Cycles." *A.E.R.* 80 (March 1990): 21–36.

Rogoff, Kenneth, and Sibert, Anne. "Elections and Macroeconomic Policy Cycles." *Rev. Econ. Studies* 55 (January 1988): 1–16.

Russett, Bruce M. "Economic Decline, Electoral Pressure, and the Initiation of International Conflict." In *Prisoners of War? Nation-States in the Modern Era,* edited by Charles S. Gochman and Alan Ned Sabrosky. Lexington, Mass.: Lexington Books, 1990.

———. *Grasping the Democratic Peace: Principles for a Post–Cold War World.* Princeton, N.J.: Princeton Univ. Press, 1993.

Small, Melvin, and Singer, J. David. *Resort to Arms: International and Civil Wars, 1816–1980.* 2d ed. Beverly Hills, Calif.: Sage, 1981.

Smith, Alastair. "Alliance Formation and War." *Internat. Studies Q.* 39 (December 1995): 405–25.

———. "Diversionary Foreign Policy in Democratic Systems." *Internat. Studies Q.* 40 (March 1996): 133–53.
Snyder, Jack L. *Myths of Empire: Domestic Politics and International Ambition*. Ithaca, N.Y.: Cornell Univ. Press, 1991.
Stoll, Richard. "The Guns of November: Presidential Reelections and the Use of Force, 1947–1982." *J. Conflict Resolution* 28 (June 1984): 231–46.
Tocqueville, Alexis de. *Democracy in America*. New York: Random House, 1835; abridged, 1981.
von Clausewitz, Karl. *On War*. 1837. Translated by O. J. Matthijs Jolles. New York: Random House, 1943. Reprinted in *The Book of War*. New York: Modern Library, 2000.
Wang, Kevin H. "Presidential Responses to Foreign Policy Crises: Rational Choice and Domestic Politics." *J. Conflict Resolution* 40 (March 1996): 68–97.
Weart, Spencer R. *Never at War: Why Democracies Will Not Fight One Another*. New Haven, Conn.: Yale Univ. Press, 1998.
Weibull, Jorgen W. *Evolutionary Game Theory*. Cambridge, Mass.: MIT Press, 1995.
Wright, Quincy. *A Study of War*. Chicago: Univ. Chicago Press, 1965.