

# Rational Appeasement

Since Munich, appeasement—a policy of making unilateral concessions in the hope of avoiding conflict—has been considered a disastrous strategy. Conceding to one adversary is thought to undermine the conceder’s reputation for resolve, provoking additional challenges. Kreps, Wilson, Milgrom and Roberts formalized this logic in their 1982 solutions to the “chain store paradox”. I show with a series of models that if a state faces multiple challenges and has limited resources the presumption against appeasement breaks down: appeasing in one arena may then be vital to conserve sufficient resources to deter in others. I identify “appeasement” and “deterrence” equilibria, and show that when the stakes of conflict are either high or low, or when the costs of fighting are high, only appeasement equilibria exist. I illustrate the result with discussions of successful appeasement by Imperial Britain and unsuccessful attempts at reputation-building by Spain under Philip IV.

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# 1 Introduction

Appeasement has few defenders. Ever since Neville Chamberlain's famous piece of paper failed to stop the Nazi advances, making concessions to an aggressor in the hope of preventing war has seemed to most observers rather foolish. Churchill ridiculed appeasement as the strategy of "one who feeds a crocodile, hoping it will eat him last".<sup>1</sup> Reasons for distrusting the policy were, in fact, noticed long before Munich. Classical political thinkers from Thucydides to Machiavelli offer many statements of the anti-appeasement view.

Appeasement, many argue, is not just futile: it is self-destructive. The danger is most acute when many potential challengers exist. Acceding to one undermines the appeaser's reputation for resolve and encourages others to attack, starting a cascade of dominoes. The argument received a compelling game theoretic formulation in the solutions of Kreps and Wilson and Milgrom and Roberts to Reinhard Selten's "chain store paradox".<sup>2</sup>

This article argues that the common presumption against appeasement is far too strong. The standard treatments leave out one factor that is crucial in international politics—resource constraints. If resources are limited and a state faces many potential threats, appeasing one challenger may actually increase a state's ability to deter others. When conflict is costly, defenders face a tradeoff: fighting may enhance their reputation for resolve, but it will deplete their resources to fight—or deter—future challenges.<sup>3</sup> Often, the latter effect outweighs the former, prompting a strategy I call "rational appeasement". If even highly resolved incumbents rationally appease, observers do not impute low resolve to appeasers. And when fighting depletes enforcement resources, a *refusal* to appease can undermine the state's deterrent. This insight applies to actors as diverse as states facing international challenges, empires fearing subject rebellions, federations concerned about possible regional tax revolts, and monopolists eager to deter entry.

Below, I demonstrate this point formally. I first present a benchmark model of the interaction between one “central” and two “local” actors assuming no resource constraint, and show how investing in reputation can be rational (and appeasement irrational) à la Kreps and Wilson and Milgrom and Roberts. I show that a *deterrence equilibrium* will often exist in which “weak” central actors fight in order to preserve a reputation for “strength”. I then show how the logic changes if the central actor’s resources are limited. Now fighting the first challenger to demonstrate resolve is often self-destructive: it weakens the center so much that this actually prompts the second to attack. The conditions for this depend on whether the stakes of conflict can be manipulated by the center or are exogenous. If they are exogenous, fighting is self-destructive when the stakes are either high or low; if endogenous, this is true if fighting is very costly to the center. By contrast, under these conditions appeasing the first challenger will conserve resources sufficient to deter the second.

Social psychologists have distinguished two types of appeasement: *reactive* appeasement strategies—that “reduce extant conflict”—and forms of *anticipatory* appeasement—which “prevent potential conflict from occurring”.<sup>4</sup> Borrowing their terminology, I show in a third model that both types of appeasement can be rational in international relations and other settings. I assume here that the central actor can tailor its demands (for tax revenues, international respect, policy adherence, or market protection) to characteristics of the local actor, and label the deliberate lowering of demands on more aggressive local actors “anticipatory appeasement”. I show that in all equilibria in which local actors pay the transfer demanded, the maximum level of this transfer is lower for actors for whom fighting is less costly. Even when the center fights an early challenge in order to demonstrate resolve, it will subsequently appease by demanding lower transfers of those who are more bellicose.

I then apply the model’s insights to two historical cases. I discuss how a strategy of selective appeasement apparently slowed the disintegration of the British empire, whereas an attempt to invest in reputation regardless of the cost accelerated the decline of Habsburg Spain. While appeasement policies certainly do not always succeed in the sense of reversing a country’s or empire’s decline, they often seem to work better than a policy of fighting to demonstrate resolve.

My argument differs from several others. First, various historians and international relations scholars have defended the weaker thesis that policies of conciliation and compromise are rational. Some have even labeled such compromise strategies “appeasement”. In an influential series of works, Kennedy contended that British foreign policy between 1865 and 1939 embraced a strategy of appeasement on a global scale.<sup>5</sup> Appeasement in Kennedy’s definition is “the policy of settling international (or, for that matter, domestic) quarrels by admitting and satisfying grievances through rational negotiation and compromise”.<sup>6</sup> My definition—the policy of making unilateral concessions to a challenger or potential challenger in the hope of avoiding or delaying conflict—does not require any rational negotiation or compromise. On the contrary, the concessions envisioned are *unilateral*.<sup>7</sup> Similarly, Rock defines appeasement as “the policy of reducing tensions with one’s adversary by removing the causes of conflict and disagreement,” a definition that does not require concessions on the part of an appeaser, and which renders the term a close synonym for “conciliation” or even “negotiation”.<sup>8</sup> In this definition, it is easy to see why appeasement might sometimes be a good thing. My claim is much stronger: that unilateral concessions to a challenger just to avoid war are sometimes a rational and effective survival strategy.

Second, many treatments of appeasement focus on the hope of socializing or reforming the aggressor. Mine does not. Given multiple threats, one should often appease even if one views the aggressor as un-reformable. The goal is not to change the challenger but to deter others from imitating him.

Third, my analysis concerns the strategic dilemma for states facing *multiple* potential challenges. Two recent articles show it can be rational to appease when there is only one potential challenger. Hirshleifer argues that appeasement can be effective if aggression is an inferior good for the opponent, so his demand for it drops as he is bought off.<sup>9</sup> Powell presents an argument based on asymmetric information.<sup>10</sup> A declining state faces a challenger with unclear aims. If the challenger’s aims are unlimited, the first state would prefer to fight—and fight as soon as possible. There is a strategic cost to delay. However, if the challenger’s aims are limited, the first state would prefer to appease. In

equilibrium, the state trades off the loss of strategic advantage against the chance of acquiring information about its adversary's objectives.

Both these articles make compelling points about how appeasement can be rational in isolated interactions. But they do not address the arguments about reputation and deterrence that inform most critiques of appeasement. When there is only one challenger, such questions cannot arise—there is no one to deter. A single domino cannot start a cascade. If the Hirshleifer or Powell models were adapted to include many potential challengers, appeasement would—by the usual chain store logic—erode the appeaser's reputation for resolve and provoke challenges, even if aggression were an inferior good or the first challenger had clearly limited aims. By contrast, I show how, given resource constraints, appeasement can be rational for states facing multiple potential challengers where questions of reputation are critical.<sup>11</sup> Since statesmen do usually face multiple threats and worry about international reputation and deterrence, this renders the model broadly relevant.

Rational deterrence theory—and the presumption that states must always fight to preserve reputation—has come under more fundamental criticism in recent decades. Empirically, scholars have found only sketchy evidence that states that fail to fight challenges are judged irresolute. Backing out of confrontations, averting one's eyes, and offering secret concessions have been common practices of all the great powers. Reputations appear far more context-dependent and resilient than the standard models suggest.<sup>12</sup> One response has been to reject the rationalistic assumptions of deterrence models and explain behavior as the result of cognitive biases.<sup>13</sup>

While such biases may indeed exist, the approach in this article is less radical. I show that minor modifications of current rational reputation models can render them substantially more realistic and convincing.<sup>14</sup> Many points that classical deterrence theorists are criticized for neglecting can be incorporated quite naturally. In fact, once resource constraints are introduced, predictions about reputation formation become sensitive to key aspects of the context—the central actor's initial reputation, the stakes involved, the costs of fighting, and how rapidly conflict depletes resources. Fighting and appeasing have

very different consequences for a state's reputation—and payoffs—when these circumstances are different. Appeasing in one context does not imply one will appease in others.<sup>15</sup>

I do not claim to be discovering a completely new idea. From Thucydides, many writers have noted the usefulness of what I call appeasement. However, such notions have largely been eclipsed by the elegant formulations of theorists such as Schelling and the general horror at the consequences of Munich. By presenting a simple model that includes resource constraints and rationalizes selective appeasement, I hope to suggest the need for reconsideration.

## 2 Two traditions

Distrust of appeasement dates at least to the Peloponnesian War. In the Athenian view, leniency toward hostile or even neutral city-states risked eroding the city's reputation for toughness, and thus undermining its empire. As the Athenian envoys told the people of Melos: "if we were on friendly terms with you, our subjects would regard that as a sign of weakness in us, whereas your hatred is evidence of our power".<sup>16</sup> Fighting—and eventually massacring the male population—demonstrated resolve. A hint of such thinking appears also in Pericles' speech warning against accepting the Spartan ultimatum: "If you give in, you will immediately be confronted with some greater demand, since they will think that you only gave way on this point out of fear. But if you take a firm stand you will make it clear to them that they have to treat you properly as equals."<sup>17</sup>

Much later, Machiavelli laid out the anti-appeasement argument in *The Discourses*:

[I]f you yield to a threat, you do so in order to avoid war, and more often than not, you do not avoid war. For those before whom you have thus openly demeaned yourself by yielding, will not stop there, but will seek to extort further concessions, and the less they esteem you the more incensed will they become against you. On the other hand, you will find your supporters growing cooler towards you, since they will look upon you as weak or pusillanimous.<sup>18</sup>

This logic of interdependent threats and fragile reputation came to dominate post-war American strategic thinking. Chamberlain's failure seemed to have proved it correct. Successive presidents invoked similar arguments to justify the use of force in distant countries, from Truman's call to arms over Korea

to George W. Bush's warnings to Europe not to appease terrorists.<sup>19</sup> Modern theoretical underpinnings were supplied first by the intuitions of Schelling and other early analysts of nuclear diplomacy.<sup>20</sup> The modeling innovations of Harsanyi, Spence and other pioneers of the economics of asymmetric information later opened up opportunities for formal development.<sup>21</sup>

Game theoretic discussions of the problem began in earnest with Selten's "chain store paradox".<sup>22</sup> A monopolist operating in a number of markets fears the entry of competitors and threatens to respond in each case with a price war. As Selten showed, if the number of markets is finite it is irrational for the monopolist to fulfill his threats. The only subgame perfect equilibrium is for all competitors to enter and the monopolist to acquiesce.

The model assumed complete information, and so left no room for reputation, the key element in arguments about deterrence and appeasement. The reason actual chain stores fight, as Selten intuitively understood, is to deter other possible competitors from entering. As Kreps and Wilson and Milgrom and Roberts argued in their responses to Selten's puzzle, when information is asymmetric failure to fight can reveal the chain store's type.<sup>23</sup> If potential entrants do not know the chain store's payoffs and there is even a small chance it is "tough"—i.e., actually enjoys fighting—then "weak" chain stores may deter subsequent entry by fighting early in the game. Similarly, even irresolute states can deter military challenges by imitating resolute ones.<sup>24</sup> Acquiescing to a challenge—appeasing—would reveal the state to be irresolute, prompting challenges from all other possible entrants.

The anti-appeasement argument has a distinguished pedigree. But a second tradition of thought, not always distinct from the first, recognizes a strategic value in appeasement. The Athenians did not treat all opponents as they did the Melians. In the case of Mytilene, the assembly favored Diodotus' argument that "the right way to deal with free people is ...not to inflict tremendous punishments on them after they have revolted, but to take tremendous care of them before this point is reached, to prevent them even contemplating the idea of revolt."<sup>25</sup> This is the strategy that, following Keltner, I call "anticipatory appeasement".<sup>26</sup> Even Pericles in the speech already quoted urged a strategic retreat—the Athenians should abandon their land to the Spartans in order to preserve military resources. If they fought the

Spartans on land, their colonies would “immediately revolt if we are left with insufficient troops to send against them.”<sup>27</sup> Thus, to preserve their deterrent against colonial rebellions, the Athenians should temporarily yield their homeland without a fight.

Machiavelli also recognized the dangers of an exaggerated concern for reputation. The forceful argument against appeasement already quoted is undercut by a caveat in the next paragraph. “This applies,” he adds, “where you have but one enemy. If you have more, the wiser course is to hand over some of your possessions to one of them so as to win him to your side even after war has been declared, and that you may detach a member of the confederation which is hostile to you.”

Both Pericles—in Thucydides’ rendering—and Machiavelli recognized that when resources are limited, the logic of deterrence and appeasement changes. In such conditions, selective appeasement can become necessary *for* deterrence. This second logic, neglected since 1938, is the one I seek to model.

### 3 Modeling deterrence and appeasement

#### 3.1 Rational deterrence

I introduce here a benchmark model that reproduces in a simpler context the finding of Kreps and Wilson and Milgrom and Roberts that if information is asymmetric “weak” actors may invest in a reputation for “strength” in order to deter future challenges.<sup>28</sup>

Two “local” actors ( $L_1$  and  $L_2$ ) decide sequentially whether to challenge a “central” actor ( $C$ ). This central actor might be a hegemonic state facing two rising powers; a federal government taxing two regions; an empire with two colonies; or a monopolist with two potential competitors. One key assumption, as in all models of reputation, is that actors are of different “types”. At time 0, Nature determines whether  $C$  is “strong” or “weak” (denote the strong  $C$  “ $C_S$ ” and the weak  $C$  “ $C_W$ ”). Only  $C$  knows its type. It is common knowledge that the probability of a “strong”  $C$  is  $p$ , where  $\mathbf{p} \in (0,1)$ .

At time 1, the first local actor,  $L_1$ , chooses an action  $\{c, a\}$  where “c” stands for “challenge” and “a” for “acquiesce”. A “challenge” might consist of a rising power confronting the hegemon, a territory

refusing to remit taxes, or a commercial competitor entering a protected market. If  $L_1$  acquiesces, he makes a payment of  $t$  to  $C$ , where  $t \in (0, \infty)$  is (until section 3.3) exogenously fixed and the same for each local actor. This transfer of utility might represent payment of a tax, acquiescence to the hegemon's demands, or the increase in rents when a monopoly goes unchallenged.<sup>29</sup> (Although  $t$  is assumed strictly positive, this is just a normalization. One could assume instead that  $C$  provides some positive benefit,  $b$ , to  $L_1$  and  $L_2$ , and that the *net* transfer paid by them to  $C$  when they acquiesce,  $t - b$ , is negative.)

If  $L_1$  challenges, then at time 2,  $C$  chooses an action  $\{A, F\}$ , where “A” stands for “appease” and “F” for “fight”. If  $C$  fights, both  $C$  and  $L_1$  suffer a fixed cost of fighting,  $k$  ( $k > 0$ ).<sup>30</sup> As a result of the fight,  $t$  is divided between  $C$  and  $L_1$ . If  $C$  is “strong”, he expropriates  $t$  from  $L_1$ ; if “weak”, he gets nothing.<sup>31</sup>

At time 3,  $L_2$  chooses its action  $\{c, a\}$ . If it chooses “c”,  $C$  then chooses at time 4 whether to appease it or fight. The payoffs from confrontation are derived analogously to those at time 2. A strong  $C$  who fights gets  $t - k$  from this interaction, (added to the payoff from the interaction with  $L_1$ ); a weak  $C$  who fights gets  $-k$  (again added to the payoff from the first interaction). If a strong  $C$  fights  $L_2$ 's challenge,  $L_2$  gets  $-t - k$ ; if a weak  $C$  fights,  $L_2$  gets  $-k$ . After  $C$  chooses an action, the game ends and payoffs are realized. Figure 1 shows the game tree.

The game's interest derives from the possible difference between the decisions  $C$  makes at time 2 and time 4. In any equilibrium,  $C_S$  fights at time 4 if  $t > k$ , while  $C_W$  always appeases at time 4. At time 2, however, equilibria exist in which even weak central actors fight in order to preserve their reputation and deter challenges at time 3.

To show this, I define two terms. A *deterrence equilibrium* (DE) is a pure strategy sequential equilibrium in which either: (1)  $L_1$  challenges, both  $C_S$  and  $C_W$  fight at time 2, and  $L_2$  acquiesces at  $h_1$ , or (2)  $L_1$  acquiesces at time 1, because he correctly believes that off the equilibrium path both  $C_S$  and  $C_W$  would fight at time 2. In case (1), the investment in reputation must be made. In (2), the correct belief that

$C$  would fight deters the challenger from challenging in the first place.<sup>32</sup> In the second case, fighting challenges occurs *off the equilibrium path*. Sequential equilibrium places few restrictions on beliefs off the equilibrium path—they need only be derivable “using Bayesian inference from arbitrarily small trembles.”<sup>33</sup> To focus on cases in which reputation—rather than just strength—deters challenges, I require that weak as well as strong  $C$ 's would actually fight if challenged by  $L_1$ , in order to preserve their reputation.<sup>34</sup> I call type (1) cases “on-equilibrium-path” DE's (since fighting for reputation occurs on the equilibrium path), and type (2) cases “off-equilibrium-path” ones. Notice that the definition of a DE deliberately leaves many actions unspecified in order to encompass a variety of possible strategy and belief profiles. Any pure strategy sequential equilibrium that includes the play defined in (1) or (2) is a DE. Thus, the proofs seek to characterize conditions that any DE must meet; where space permits, I also illustrate with a fully specified example.

Second a *partial deterrence equilibrium* (PDE) is a mixed strategy sequential equilibrium in which (1)  $L_1$  challenges,  $C_S$  and  $C_W$  both fight at time 2 with positive probability ( $p_s \leq 1, p_w < 1$ , respectively) and  $L_2$  acquiesces at  $h_1$  with positive probability (“on-equilibrium-path PDE”) or (2)  $L_1$  acquiesces because he correctly believes that, off the equilibrium path, both  $C$ 's would fight with sufficiently high probability at time 2 to make him prefer acquiescing (“off-equilibrium-path PDE”).

**Proposition 1:** In the game without resource constraints:

A) If the stakes are neither too low nor too high relative to the cost of fighting and  $p$  is sufficiently high

( $k \leq t \leq \frac{kp}{1-p}$ ) at least one (off-equilibrium-path) deterrence equilibrium exists. No DE exists

if  $t > \frac{kp}{1-p}$ .

B) A partial deterrence equilibrium may exist even if  $t > \frac{kp}{1-p}$ . If it does, the frequency,  $p_w$ , with which

$C_w$  fights an initial challenge in order to deter the second challenger is lower the higher are the stakes:

$$p_w = \frac{p}{1-p} \frac{k}{t}. \text{ (Proofs in Appendix.)}$$

Thus, for an intermediate range of the stakes, an equilibrium exists in which weak central actors always fight an initial challenge to preserve a reputation for strength. This deters the first challenger. If stakes are higher, weak central actors only sometimes fight an initial challenge, and less frequently as the stakes rise. These results are quite intuitive. If the stakes are too high, deterrence will not be very effective, and a weak  $C$  will wish to reduce its costs by only fighting on occasion. By contrast, when  $t$  is so low that no central actors would bother to fight ( $t < k$ ), attempting to build reputation is pointless.<sup>35</sup> Effective and consistent efforts to build reputation are most likely when the stakes are neither too low nor too high relative to the cost of fighting.

### 3.2 Rational appeasement

But what if the central actor's enforcement resources are exhaustible? Suppose now that if a strong  $C$  fights against  $L_1$  he still extracts  $t$  units from  $L_1$ . But if he fights against  $L_2$ , *having already fought against*  $L_1$ , he receives only  $t/a$  units from  $L_2$  where  $a \in (1, \infty)$ . His resources are depleted in the first fight, leaving him weaker in the second;  $a$  measures how severely he is weakened in each fight. The payoffs are identical to those in Figure 1, with one exception: if  $L_1$  and  $L_2$  both challenge and  $C_S$  fights both challenges, the payoff to  $C_S$  is  $t + t/a - 2k$  instead of  $2(t - k)$ , and the payoff to  $L_2$  is  $-t/a - k$  instead of  $-t - k$ .

**Proposition 2:** In the game with resource constraints, a deterrence equilibrium only exists

if  $ak \leq t \leq \frac{akp}{a-p}$ . A partial deterrence equilibrium only exists if  $ak \leq t \leq \frac{ak}{a-1}$ .

Thus, if fighting depletes the central actor's resources sufficiently ( $ak > t$ ), it is never rational for weak  $C$ 's to fight to preserve reputation. Nor is it rational to fight in order to preserve reputation if the stakes are too high. In some cases, a quite different strategy may be optimal. When resources are limited, conserving resources by appeasing the first challenge will sometimes deter a second challenge more effectively than fighting. Since in these conditions strong central actors prefer to appease, a weak central actor cannot improve its reputation by fighting.

To show this formally, I define an *appeasement equilibrium* (AE) as a sequential equilibrium in which  $L_1$  challenges, both  $C_S$  and  $C_W$  appease, and  $L_2$  acquiesces.<sup>36</sup> Note that there cannot be any "off-equilibrium-path" appeasement equilibria, since if  $L_1$  believes  $C$  would appease, he always challenges. Since I want to establish that *even pure appeasement* sometimes deters attacks, it is not relevant here to consider mixed strategies, in which a weak center only appeases part of the time (or in which  $L_2$  is only deterred part of the time). Such equilibria almost certainly exist but are not germane to the stronger point I wish to demonstrate.

**Proposition 3:** In this game, an appeasement equilibrium only exists if  $k \leq t \leq \min[2ak, \frac{kp}{1-p}]$ .

Thus, if the stakes are high—but not too high—relative to the fixed cost of fighting, and the central actor's initial reputation is sufficiently strong (high enough  $p$ ), it can be effective and optimal for weak centers to appease a challenge. Because strong central actors appease in such conditions, the weak cannot do better than to imitate them—rational appeasement.<sup>37</sup> Appeasement equilibria always exist for lower values of  $t$  than deterrence equilibria (when  $k \leq t < ak$ ). If  $a > 3p/2$ , they also exist at higher

values of the stakes than DE's. If  $a > 2p$ , no DE exists. (AE's can only exist if  $p > 1/2$ .) When fighting weakens the fighter sufficiently, it is not possible to deter by fighting.<sup>38</sup>

Note that in the game of section 3.1, in which  $C$  faced no resource constraint, no appeasement equilibrium existed (except in the borderline case in which  $t = k$ ). For  $L_2$  to acquiesce at  $h_2$ , it must be that  $k \leq t \leq \frac{kp}{1-p}$ . But for  $C_S$  to appease at time 2 (given that  $k \leq t \leq \frac{kp}{1-p}$ ), it must be that  $t \leq k$ ,

which contradicts the previous condition if  $t \neq k$ .

### 3.3 Endogenous stakes

Sometimes the stakes of conflict,  $t$ , are not under the central actor's control. If a rival firm steals a monopolist's market, the rents lost to the monopolist are predetermined by demand in the market and costs of supply. If an invader occupies certain territories, the incumbent's loss is determined by the value of the territories. But sometimes the central actor itself determines the level of  $t$ . For instance, central authorities often decide themselves what tax rates to set for regions or subject territories. A hegemon might choose to demand greater or smaller concessions from a minor power in an international negotiation. In this section, I consider how the analysis changes if  $t$  is a choice of the central actor.

This makes it possible to examine a second kind of appeasement. So far, I have considered only appeasement in the sense of deciding not to fight a challenge—reactive appeasement. But when  $t$  is chosen by the central actor,  $C$  may appease some adversaries *in advance* by lowering its demands on them to forestall a challenge—anticipatory appeasement.<sup>39</sup> The multiple equilibria that characterize most signaling models mean that one can only derive comparative statics on the maximum  $t$  that  $C$  could set in equilibrium. I show that this upper bound will be lower for those local actors that have a lower fixed cost of fighting. If one accepts a refinement that rules out some implausible off-equilibrium-path beliefs, the result holds for all equilibrium tax rates. Anticipatory appeasement will occur in all equilibria in which any local actor acquiesces—including the classic deterrence equilibrium in which the center's readiness to fight deters any challenge. When fighting is costly and resources limited, rational players will often

moderate their demands in order to avoid a fight. They will do so even if their reputations for toughness are at stake.

I adapt the game as in Figure 2. Now  $C$  sets  $t$  for  $L_1$ —denoted  $t_1$ —at time 0.5, right after Nature determines  $C$ 's type.  $C$  sets  $t$  for  $L_2$ —denoted  $t_2$ —at time 2.5, right after  $C$  has taken any action against  $L_1$ . I assume there is a maximum level of  $t$ ,  $\bar{t}$ , so that  $t_1, t_2 \in [0, \bar{t}]$ . Otherwise,  $C_S$  could always increase its payoff by raising its demand and would set  $t$  infinitely high. To make the game more realistic, I also allow each actor to have a different fixed cost of fighting, labeled  $k_1, k_2$ , and  $k_c$ .

In the endogenous stakes model, I define a *deterrence equilibrium* as a pure strategy sequential equilibrium in which either (1)  $L_1$  challenges, both  $C_S$  and  $C_W$  fight and set strictly positive  $t_2$ 's, and  $L_2$  acquiesces; or (2)  $L_1$  acquiesces because she correctly believes that if she challenged, both  $C_S$  and  $C_W$  would fight. The requirement that  $t_2 > 0$  rules out cases in which  $L_2$  acquiesces simply because no sacrifice is asked of him. To attribute such acquiescence to deterrence would be odd.<sup>40</sup> Similarly, I define an *appeasement equilibrium* as a pure strategy sequential equilibrium in which  $t_1, t_2 > 0$ ,  $L_1$  challenges, both  $C_S$  and  $C_W$  appease, and  $L_2$  acquiesces. (As before, off-equilibrium-path appeasement equilibria cannot exist since if  $L_1$  believes  $C$  will appease, she will always challenge, given  $t_1 > 0$ .) Again, I require that  $t_1 > 0$  and  $t_2 > 0$  to avoid merely proving that actors acquiesce when nothing is asked of them.

Propositions 4-6 establish two things. First, when stakes are endogenous, reactive appeasement can still occur. And (pure strategy) AE's exist at higher values of the center's fixed cost,  $k_c$ , than (pure strategy) DE's. Second, whenever actors acquiesce in equilibrium, some degree of anticipatory appeasement must also occur. This is true even in deterrence equilibria in which both types of  $C$  fight an early challenge in order to invest in a reputation for resolve.

**Proposition 4:** In the game with endogenous stakes, a deterrence equilibrium can exist only if the

center's fixed cost of fighting,  $k_c$ , is in the range:  $\frac{\bar{t}}{a} - \frac{ap k_2}{a-p} \leq k_c \leq \min \left[ \frac{p k_2}{a-p}, \frac{\bar{t}}{a} \right]$ .

**Proposition 5** At least one appeasement equilibrium exists if  $\bar{t} - \frac{\mathbf{p}k_2}{1-\mathbf{p}} \leq k_c \leq \frac{\mathbf{p}k_2}{1-\mathbf{p}}$  and either

$$\max\left[\frac{\bar{t}}{2\mathbf{a}}, \frac{\bar{t}}{2\mathbf{a}}(1+\mathbf{a}) - \frac{\mathbf{p}k_2}{2(1-\mathbf{p})}\right] \leq k_c < \frac{\bar{t}}{\mathbf{a}}, \text{ or } k_c \geq \frac{\bar{t}}{\mathbf{a}}.^{41}$$

**Proposition 6:** In any equilibrium in which a local actor pays a positive transfer, the maximum level of that transfer must decrease with decreases in that actor's cost of fighting.

The less sensitive to conflict an actor is, the lower is the maximum transfer that can be required of him in equilibrium. Anticipatory appeasement, in this sense, appears quite rational. Since this result concerns the *upper bound* on equilibrium tax rates, it does not imply that actual equilibrium transfer rates will be lower for local actors with lower values of  $k$ . This will depend on off-equilibrium-path beliefs. However, if one is prepared to rule out certain beliefs as unreasonable, the predictions become sharper.

Consider equilibria in which on the upper branch the equilibrium  $t_2 \equiv t_2^t < \frac{\mathbf{a}k_2\mathbf{p}}{\mathbf{a}-\mathbf{p}}$ . To sustain such equilibria,  $L_2$  must respond to any  $t_2$  set above  $t_2^t$  by increasing her estimate of the probability that  $C$  is weak. But is this plausible? Her model tells her that neither  $C_S$  nor  $C_W$  will set  $t_2 > t_2^t$ . One might argue that since this unexpected event can reveal no information (given her model), it should not change her beliefs. Restricting beliefs in this way would narrow the prediction for  $t_2^t$  to the upper bound of the previous range. (Since  $t_2$  does not affect  $L_2$ 's beliefs and future actions, utility maximization requires this, at least in equilibria in which  $C$ 's payoff is related to the tax rate.) Similarly,  $t_1$  should be set at its upper bound, and we can rewrite Proposition 6 as a proposition about the actual transfer demanded in equilibrium rather than the upper bound of possible demands.

### 3.4 Discussion

Several points emerge from the analysis. First, under certain conditions appeasement equilibria—but not

deterrence equilibria—will exist. By appeasing a first challenge, a weak central actor will deter a second; had he fought the first challenge, his weakened state would actually have precipitated the second.

The conditions differ depending on whether the stakes of conflict,  $t$ , are exogenous or endogenous. If they are exogenous, only appeasement—and no deterrence—equilibria will exist if  $t$  is low relative to the costs of fighting. If  $k \leq t < ak$ , even a “strong” central actor will not be able to deter the second challenge if weakened by fighting the first. His gain from fighting the second, given his weakened state, will be too low for him credibly to threaten to do so. However, if a strong center appeases the first challenge, he will stay strong enough to deter the second. Weak centers, by pretending to be strong and appeasing the first challenge, can also deter the second.<sup>42</sup>

Appeasement may also be the unique rational strategy when the stakes are *high* relative to the cost of fighting. So long as fighting weakens the center sufficiently ( $a > \frac{3p}{2}$ ), there is a higher range of  $t$  for which only appeasement—and no deterrence equilibria—exist ( $\frac{apk}{a-p} < t \leq \min [2ak, \frac{kp}{1-p}]$ ). In this range, fighting all challenges in order to preserve reputation is not rational. At still higher stakes it becomes irrational for a weak center *ever* to fight to preserve reputation (when  $t > \frac{ka}{a-1}$ ). When so *much* is at stake, the second local actor would rather fight a weakened central actor than give in. However, it may still be possible to deter future challenges by appeasing the initial challenger (so long as  $a > 3/2$  and  $p > 1/2$ ).<sup>43</sup> Both DE’s and AE’s can exist for intermediate values of the stakes.

If the stakes are endogenous, conditions are best framed in terms of the costs of fighting. There will be appeasement—but no deterrence—equilibria at high values of the fixed cost to the center,  $k_c$ , for instance when  $\frac{\bar{t}}{a} < k_c \leq \frac{k_2 p}{1-p}$ . Thus, if the maximum stakes,  $\bar{t}$ , are not too high and the second challenger’s fixed cost of fighting,  $k_2$ , is not too low relative to the center’s fixed cost of fighting,  $k_c$ , a weak center will be able to deter future challengers by appeasing the first, but not by fighting. If the second challenger’s cost of fighting is too low, then it will not be possible to deter him by either fighting

or appeasing. If the maximum stakes are too high relative to the center's fixed cost, then a DE may also exist (because the second challenger will expect even a weakened center to fight him).<sup>44</sup>

Second, if stakes are exogenous, the range of stakes for which a DE is possible narrows as the weakening effect of fighting,  $a$ , gets larger.<sup>45</sup> If  $a > 2p$ , no DE exists. The range of values of the stakes for which appeasement is rational either increases as  $a$  increases (if the upper bound is  $2ak$ ) or remains the same (if the upper bound is  $pk/(1-p)$ ). If stakes are endogenous, the range of values of the center's fixed costs for which a DE exists narrows as  $a$  gets larger so long as the maximum level of the stakes,  $\bar{t}$ , is not too high ( $\bar{t} < \frac{k_2 a^2 p(1+p)}{(a-p)^2}$ ).<sup>46</sup>

Third, an important point follows from the previous two. The rationality of investing in reputation or appeasing challengers depends on the value of the stakes and the costs of fighting. What inferences are drawn about resolve depends on the particular circumstances in which one fights or appeases. One cannot conclude from observing a state appease in one setting that it will do so when the stakes or costs of fighting are different. In fact, given that both appeasement and deterrence equilibria exist across a wide range of parameter values, one cannot even conclude that a given actor will behave the same way when objective features of the setting are *identical* if it thinks the beliefs of observers are different in the two cases. If the stakes are exogenous, one does *not* have to fight in either low or high stakes conflicts in order to preserve one's reputation for fighting when the stakes are intermediate. Actually, fighting when stakes are relatively high or relatively low will not improve one's reputation (since even strong actors should appease in those circumstances), and will merely produce fixed costs.<sup>47</sup> If the stakes are endogenous, the fact that a state appeases when the cost of fighting is high tells observers nothing about whether it would fight when the cost is lower because even highly resolute states will appease when costs are high.<sup>48</sup>

Thus, when Oliver Harvey, principal private secretary to Lord Halifax, wrote in the late 1930s that: "It is not possible to take a strong line in one quarter and an apparently weak one in another indefinitely," he was wrong. Such inconsistency is just what a rational model of reputation formation

would prescribe.<sup>49</sup> Nor does Ronald Reagan's assertion that it was necessary to defeat the Nicaraguan Sandinistas in order to prevent a "collapse" of US credibility worldwide make sense if one views Nicaragua as a low-stakes case.<sup>50</sup> On the other hand, Margaret Thatcher's comment that if Britain failed to defend the Falklands, it might prompt similar challenges in places like Gibraltar and Belize is not so absurd since the stakes would probably be viewed as quite similar.<sup>51</sup>

The way reputation-formation incorporates consideration of costs of fighting provides more leeway for leaders than is usually recognized. As the fixed cost of fighting increases, one passes a threshold at which appeasement becomes the only pooling equilibrium. Because strong players would not fight at this point, weak ones no longer need to fight in order to impersonate them. Were North Korea to acquire nuclear weapons and the US to appease it, this might send all sorts of dangerous messages to the world. But it would not indicate that the US lacked resolve to fight challenges from non-nuclear powers. Nor would appeasing the Soviet Union in the Cuban Missiles Crisis have implied a softness on Washington's part in cases where nuclear escalation was less likely.<sup>52</sup>

Fourth, whether fighting to invest in reputation makes sense depends not just on characteristics of the central actor,  $k_c$ , but also on those of its future challengers,  $k_2$ . The way it does so is counterintuitive. Given  $k_c$ , the more bellicose a future challenger is expected to be (the lower is  $k_2$ ), the more likely it is that the central actor's only equilibrium strategy will be to appease in the first interaction.<sup>53</sup> It might seem that the prospect of facing a more bellicose challenger in the next stage should make weak states fight all the harder to boost their reputation for resolve. However, even strong states will do better in such cases to conserve resources—and so weak states should do the same. Only when states anticipate facing challengers that are *not* too bellicose (relatively high  $k_2$ ) is it rational to fight to invest in reputation.<sup>54</sup>

Fifth, anticipatory appeasement—deliberately placing lower demands on opponents that have less to lose from fighting—is rational in models of reputation building that take into account limited resources. In such cases, even the classic deterrence model must include some element of anticipatory appeasement.<sup>55</sup>

Sixth, as critics of rational deterrence theory have noted, a great deal depends on the central actor's initial reputation,  $p$ . But there is no straightforward relationship between  $p$  and equilibrium strategy. It is *not* the case that central actors with a strong initial reputation are more likely to fight to preserve it—this depends on the stakes, the costs, and the weakening factor. In fact, sometimes higher initial reputation increases the range of parameter values for which appeasement rather than fighting is the equilibrium response. AE's continue to exist—and sometimes DE's do not—at high values of  $p$ .

Within the range of parameter values for which both appeasement and deterrence equilibria exist, which equilibrium is played depends on the players' beliefs. Critics of game theoretic analyses are right to point out that theory tells us little about how these beliefs form. Despite substantial efforts to refine equilibrium concepts, assumptions about off-equilibrium-path beliefs remain rather arbitrary. But it is not true that the importance of such un-constrained beliefs renders game theoretic analysis irrelevant: one needs to analyze the games in order to know when and how exogenous beliefs matter.

## 4 Imperial appeasement and deterrence: two cases

Empires have adopted different strategies toward external aggressors (and their own rebellious subjects). The British after 1865 achieved considerable success by appeasing challengers.<sup>56</sup> In Spain in the first half of the 17<sup>th</sup> Century, an attempt to build reputation by fighting accelerated the empire's decline.<sup>57</sup> The following brief discussions do not pretend to summarize the abundant historical scholarship on these cases. Nor do they offer in any sense a test of the main argument, which must stand or fall on the validity of its logic. My aim is just to show its relevance. Certain historical episodes that seem puzzling when viewed from the perspective of the chain store model make a lot more sense once the possibility of rational appeasement is recognized. In these two important cases, selective appeasement was more—and reputation building less—effective than conventional wisdom and previous models would imply.

In the British case, the chain store logic—or perhaps some adaptation of it such as that in Alt, Calvert and Humes—would predict that Britain's acts of appeasement would trigger immediate

challenges by other potential adversaries.<sup>58</sup> Similarly, conventional models of deterrence would predict that Spain's repeated military responses to perceived challenges would deter others. In both cases, events unfolded differently, in ways consistent with rational appeasement models. British appeasement in one arena made deterrence credible in others. And Spain's aggressive reputation-building left it vulnerable to attacks from other quarters. Britain's appeasement of Germany was the main case that Powell addressed, and it is likely that British uncertainty about Hitler's aims was—as he argued—part of the story.<sup>59</sup> But this was not the only reason Britain appeased. The record of policy debates suggests that British leaders were very concerned about the overstretching of military forces and the danger of provoking challenges elsewhere in the empire if they diverted resources to combat Germany. There was a side to British appeasement—even that of Hitler—that most closely fits the models of this paper.

#### 4.1 Britain

When Argentina invaded the Falkland Islands, British leaders argued that a forceful response was essential to deter attacks on the country's other imperial remnants—Gibraltar and Hong Kong. British strategy at the height of empire, however, was quite different. Whitehall showed a persistent willingness to appease some challengers in order to retain resources to deter others. Administering an empire on which the sun never set meant one simply could not respond to all challenges for, as the Earl of Rosebury put it in 1895, “did we not strictly limit the principle of intervention we should always be simultaneously engaged in some forty wars.”<sup>60</sup> Paul Kennedy has argued that British policy not just in 1938 but from 1865 to 1939 was essentially a policy of appeasement. This did not prevent the empire's decline. But it does appear to have slowed the inevitable disintegration far more than attempting to fight on many fronts simultaneously would have. Moreover, Britain's reputation for resolve does not appear to have been seriously damaged by its public willingness to concede in various contests.

The most striking case of British appeasement concerned concessions to the US in the late 19<sup>th</sup> Century. In 1895, President Cleveland intervened in a boundary dispute between Venezuela and the

colony of British Guiana, warning that the US would “resist, by every means in its power” any British attempt to occupy the disputed territory.<sup>61</sup> In 1898-9, the US threatened to abrogate the Clayton-Bulwer Treaty with Britain and build a Central American canal. In 1902, President Roosevelt sent cavalry to resolve a border dispute between Alaska and Canada. In all three cases, the British backed down, agreeing to submit the Venezuelan dispute to arbitration, recognizing the US right to build the canal, and essentially accepting the US position on the Alaskan dispute.

Why did they do so? A war against the US at this point would have been difficult to win. Objectively, the stakes were relatively low for Britain. But what about its reputation? One British newspaper, the *Saturday Review*, argued against appeasement on just these grounds: “perpetual surrender only means further demands, and either more concession or an aggravation of ill-feeling as a result of unexpected resistance.”<sup>62</sup> Lord Salisbury and the British Ambassador in Washington both advocated a tougher line on the Venezuelan dispute.

The decisive consideration was probably Britain’s need to stretch military resources to deal with other more important crises elsewhere.<sup>63</sup> The US disputes coincided with the outbreak of the Boer War, which at its height diverted 300,000 British troops to South Africa, leaving the Empire’s defenses elsewhere “severely weakened.”<sup>64</sup> Even South Africa was not the most urgent priority. As Kennedy notes:

Perhaps the most interesting aspect of the Venezuelan and Transvaal clashes was that they were *not* with the powers which most British imperialists considered to be the country’s really serious rivals. Lurking in the background, the Cabinet and the press knew, was that formidable Franco-Russian combination, whose battlefleets were almost as large as the Royal Navy’s and whose ambitions clashed with Britain’s everywhere from the Mediterranean to the China Sea. If the Dual Alliance was the real foe, could the country afford the luxury of quarrelling with the other powers?<sup>65</sup>

The British and French in 1898 were racing each other to the source of the Nile. In June 1900, the Boxer uprising in China prompted a great power intervention, which the British feared the Russians would exploit to grab Chinese territory. Had Britain been fighting the US, it would have been harder to scare off the French at Fashoda. And the Empire would have stood in peril as other great powers sought to inflame its weak spots.

The British-US conflicts meet the criteria under which appeasement will not undermine a state's reputation for resolve. The stakes were low relative to the cost of fighting. These costs—given the distances involved—were potentially high. Britain's future challengers were perceived to be bellicose. Under these conditions, even a "strong" state would appease. Understanding this, Britain's global adversaries did not infer lack of resolve from its acquiescence to US demands. The standard chain store model implies that any act of appeasement reveals the appeaser to be "soft". Other challengers should therefore attack. This patently did not happen. Britain's retreat in the Venezuelan crisis in 1895-6 did not embolden France to take on the British in 1898 when its expeditionary force faced Kitchener's at Fashoda. The contrast is striking. On this occasion, the Royal Navy mobilized for war. It was the French who backed down.<sup>66</sup>

As relations with Germany deteriorated in the 1930s, British military planners continued to worry about the country's global exposure. Although Hitler's intentions were certainly debated, policymakers also expressed another concern—that a diversion of forces to Europe would undermine Britain's ability to deter challenges in the East. The Chiefs of Staff warned in December 1937: "we cannot foresee the time when our defence forces will be strong enough to safeguard our trade, territory and vital interests against Germany, Italy and Japan at the same time" and urged the government to "reduce the number of our potential enemies and to gain the support of potential allies."<sup>67</sup> When Italy invaded Ethiopia in 1935, the British admiralty was determined to stay out of a Mediterranean conflict that would threaten its ability to "get an effective fleet to Singapore if a crisis developed in the Far East."<sup>68</sup> British strategy had traditionally prioritized the defense of India, Burma, the Middle Eastern countries and African colonies over fighting in Europe. And international conflict would threaten the empire's internal cohesion. As Lord Lothian put it: "Nehru is openly awaiting the next world war to let loose revolution in India."<sup>69</sup>

The choice in the 1930s was stark: continue to try to defend the empire, or concentrate on deterring the growing German threat. In a great irony, Neville Chamberlain, as chancellor of the exchequer, was among the first to argue for the latter. He proposed to the cabinet in 1934 that they reduce expenditures on imperial defense in order to build an air force capable of deterring Hitler, and even

suggested Britain should give up defending the naval base in Singapore. “This,” Howard notes, “was even more than the former pacifist Ramsay MacDonald was prepared to accept.”<sup>70</sup>

That Chamberlain could make this remarkable suggestion in 1934 suggests that uncertainty about Hitler’s aims (as emphasized by Powell) was not the only reason the British opted for appeasing Germany. In fact, Chamberlain appears to have had quite a realistic view of the Nazi threat from the start.<sup>71</sup> His eagerness to appease seems to have *increased* as the evidence of Hitler’s global ambitions mounted. The episode highlights the context of severe resource constraints within which all strategic decisions were made. Chamberlain’s arguments with the military planners in the mid 1930s were not over appeasement versus deterrence, but whether to spend available funds on warships to deter Japan or aircraft to deter Germany.<sup>72</sup> Unfortunately, he lost the debate.

## 4.2 Spain

Around 1615, the Spanish Habsburg Empire spanned the globe—from the Netherlands, Portugal, and Spanish Italy to Brazil, Mexico, Peru, and the Far East. Within Europe, Spain had achieved “undisputed primacy.”<sup>73</sup> Just 60 years later, the state had become “the sick man of Europe.”<sup>74</sup> Several reasons have been suggested for this precipitous decline. Droughts, plagues, and economic depression—although not unique to Spain—all took their toll. In large part, the country’s failure appears the result of a misguided preoccupation with the need always to fight in order to preserve reputation. This led to “fatal over-commitment ... to foreign wars at a time when Castile lacked the economic and demographic resources to fight them with success.”<sup>75</sup> Rather than increasing its security—as simple models of deterrence would predict—Spain’s aggressive responses to challenges united all powers against it, while provoking internal rebellions and eroding public finances.<sup>76</sup> The case illustrates how resource constraints can undermine the effectiveness of attempts to deter by demonstrating resolve, as formalized in the previous models.

Spain’s ascendancy early in the century owed much to the careful policies of Philip III’s key minister, the Duke of Lerma. In 1604, Lerma made peace with England; in 1609, he signed a truce with

the Dutch, who had been rebelling against Spanish rule since the 1560s; and in 1611, he arranged a marriage alliance with France. While neutralizing threats to the North, he redirected Spanish foreign policy toward the Mediterranean.<sup>77</sup>

This changed with Lerma's replacement in 1618 by Don Baltasar de Zúñiga and his nephew, the Count-Duke of Olivares. Henceforth, foreign policy focused on the need to preserve Spain's prestige. According to Zúñiga: "a monarchy that has lost its *reputación*, even if it has lost no territory, is a sky without light, a sun without rays, a body without a soul."<sup>78</sup> This goal came to justify massive accumulation of public debt, for, as the marquis of Montesclaros, president of the state's Council of Finance, put it in 1625, "the lack of money is serious, but it is more important to preserve reputation."<sup>79</sup>

Preoccupation with reputation turned any international crisis into a test, failure at which would start the dominoes falling. According to Olivares in 1635, "the first and most fundamental dangers threaten Milan, Flanders and Germany. Any blow against these would be fatal to this monarchy; and if any one of them were to go, the rest of the monarchy would follow, for Germany would be followed by Italy and Flanders, Flanders by the Indies, and Milan by Naples and Sicily."<sup>80</sup> This logic prompted a series of Spanish interventions that ultimately led to 50 years of war. First, Philip IV intervened to aid the Habsburg Emperor against Bohemian rebels. Spain renewed conflict with the Dutch, attempted disastrously to influence the Mantuan succession, and went to war with England and France. Efforts to centralize administration and squeeze additional revenues out of the Spanish heartland to finance these wars provoked uprisings in Catalonia and Portugal in 1640, followed by revolts of Naples and Sicily in 1647. War losses trimmed the empire's outlying territories, while regional fragmentation accelerated in the heartland, until the French Bourbons won control of the throne in 1701.

Other policies had been possible. The Count of Humanes had proposed a course of strategic retreat similar to Lerma's. He argued in 1635 that Spain should abandon the Netherlands, make Milan an independent duchy, and use the money thus saved to enhance defenses of peninsular Spain and the Indies. Much later, in the 1660s, Olivares' son-in-law, the Duke of Medina de las Torres, advocated a conciliatory approach. In Medina's view, "the true reputation of states does not consist of mere

appearances, but in the constant security and conservation of their territories, in the protection of their subjects and the well-being thereof, in the respect which other princes have for their authority and military strength.”<sup>81</sup>

To a traditional deterrence theorist, the futility of Spain’s efforts to nurture its reputation should seem puzzling. Philip IV’s evident readiness to fight might have been expected to deter subsequent challenges. Sending troops to Bohemia should have intimidated the Dutch rebels. It did not. Instead, the Dutch, under the “war party” of Maurice of Nassau, refused to extend the Twelve Year Truce with Spain when it ended in 1621, and sent support to the Habsburgs’ Protestant opponents.<sup>82</sup> According to the conventional logic, Spain’s intervention in the Mantuan crisis should also have deterred the Dutch. The opposite occurred. Whatever it did for Philip’s *reputación*, his Italian campaigns absorbed resources. He was forced to sharply reduce support to Spanish forces in the Netherlands, where total financing dropped from 39 million florins in 1621-5 to 29 million in 1626-30.<sup>83</sup> The Dutch responded by stepping up attacks, capturing the Spanish treasure fleet in 1628, taking towns in the Rhineland and Brabant in 1629, and occupying the Brazilian province of Pernambuco in 1630.

The tradeoff Spain faced under Philip IV was exactly that captured by the rational appeasement model. Foreign interventions may indeed have enhanced the state’s reputation. However, these actions tied up troops that could not simultaneously deter attacks elsewhere, and helped undermine Madrid’s fiscal solvency, inviting additional challenges. Spain was sometimes engaged on three fronts simultaneously.<sup>84</sup> Fighting the French on the continent and intervening in Italy, it had fewer resources to protect its overseas possessions from Dutch penetration. By 1640, the monarchy could not even deter internal revolts as close to home as Catalonia.

## 5 Conclusion

For actors with limited resources facing multiple potential challenges, selective appeasement can be rational. If the stakes of conflict are either high or low, or if the costs of fighting are high, it may be the

*only* rational strategy. Fighting an early challenge is sometimes unnecessary to deter later ones—and sometimes counterproductive. If even “tough” states would appease, it is unnecessary; if the loss of resources outweighs any reputational gains, it is counterproductive. Even when it is rational to fight an early challenge, it will be optimal to lower future demands on more bellicose potential challengers.

Recognizing this—and modeling the point formally—serves several purposes. First, it has implications for security policy. In defending—and sometimes devising—policies, American leaders have often appealed to a view of reputation as fragile and universally exposed. If such arguments are sincerely believed, a closer look at the logic suggests they need to be rethought. If they are mostly rhetorical, an understanding of their logical weaknesses should help guard listeners against political manipulation. Adversaries do not have reason to draw far-reaching conclusions about US resolve from settings in which the stakes are very high or very low. Realizing this might help reduce the dissonance strategic planners must feel as they promise to “meet every threat” while budgeting for just two major wars.

In practice, most statesmen must realize there is a tradeoff between losing reputation and losing enforcement resources. Yet many still seem to find themselves stuck, unwilling to bear what they perceive to be large reputational costs. This surely was the main reason Nixon and Kissinger delayed leaving Vietnam. But there is a saving grace in such situations that few statesmen seem to notice: the higher are the resource costs of intervening, the lower the reputational costs of withdrawing. To leave Vietnam, given how costly it had become, would signal little about American resolve since almost any rational regime—even highly resolute ones—would do the same.<sup>85</sup> Similarly, states that withdraw from low-stakes conflicts should suffer only minimal loss of credibility. Objectively, Lebanon in the 1980s had little obvious importance for the US. Thus, when George Shultz claimed after the 1983 marine barracks bombing that: “If America’s efforts for peaceful solutions [in Lebanon] are overwhelmed by brute force, our role in the world is that much weakened everywhere,” he was stating the point in far too general terms.<sup>86</sup> Other terrorist groups hoping to dislodge the US from bases in the Middle East might indeed take heart.<sup>87</sup> But Soviet leaders did not draw inferences about American resolve.<sup>88</sup>

The model also has implications for theory and empirical testing in international relations. The rather extreme—and often empirically unsupported—predictions of deterrence theory have prompted some to reject rationalist explanations of conflict behavior. I show that introducing resource constraints into the standard model leads to more nuanced and plausible results. At the same time, this model—like most others of international signaling—highlights the importance of what game theorists call “off-equilibrium-path beliefs”—hypothetical interpretations of events that players believe will not occur. To study the formation of such beliefs, it may indeed be necessary—as critics of rationalist analysis argue—to turn to the social psychologists.

On the empirical side, the model suggests some hypotheses that might be tested against those of psychological models of reputation formation. One could test whether observers generalize more readily between cases in which stakes or costs of fighting are similar. One might explore whether states in fact have multiple reputations, conditioned on the stakes. Most empirical studies try to trace the incidence of violent conflict to characteristics of the states involved. The model suggests this is incomplete. A state’s motive to fight challenges should depend also on the expected bellicosity of *future* challengers. Including some estimate of this might improve predictive power.

Finally, however, the analysis suggests both that we should not expect too much from rational reputation models and that we should not conclude too quickly that they are wrong. Since both appeasement and deterrence equilibria are often possible for the same parameter values, most behavior could be rationalized in some way. To generate models with more predictive power and the fragility necessary for easy falsification, scholars may have to incorporate insights from psychology about how beliefs form and test for the existence of specific beliefs. In short, even those who keep the rationalist approach to explaining international behavior may need to learn more about the human mind as well as about deductive logic.

## Appendix: Proofs of Propositions

### Proof of Proposition 1:

Note that it is sufficient to identify perfect Bayesian equilibria (PBE's), since Fudenberg and Tirole (1991) establish that any PBE in a game of this type (a multiperiod game with observed actions in which players each have no more than two types, and types are independent and have non-zero probability) is also a sequential equilibrium. A PBE (in the sense of Fudenberg and Tirole 1991) of this game is a profile of behavioral strategies and beliefs such that: (1) each player maximizes his expected utility from each information set onward, given his beliefs at that information set, (2) beliefs at all information sets that are reached with positive probability in equilibrium are derived using Bayes' Rule, and (3) beliefs about player  $i$  at period  $t + 1$  depend only on the history of play up to  $t - 1$  and player  $i$ 's period- $t$  action.

A) If  $t < k$ , even  $C_S$  appears at time 4. Knowing this,  $L_2$  always challenges at time 3, so there can be no DE. Denote the belief at information set  $h_i$  " $\mu_i$ ". In a DE, both  $C_S$  and  $C_W$  must fight at time 2, on or off the equilibrium path. Given this, the only consistent belief at  $h_1$  is  $\mathbf{m}_1 = \mathbf{p}$ . Thus,  $L_2$ 's expected payoff from challenging,  $\mathbf{p}(-t - k)$ , is only less than or equal to that from acquiescing,  $-t$ , if  $t \leq \frac{k\mathbf{p}}{1 - \mathbf{p}}$ .

This is required for either on- or off-equilibrium path DE.

For any  $k \leq t \leq \frac{k\mathbf{p}}{1 - \mathbf{p}}$ , the following behavioral strategies and beliefs constitute a DE:  $L_1$  plays a;

$L_2$  plays a at  $h_1$ , c at  $h_2$ , a at  $h_3$ ;  $C_S$  plays F at all its choice nodes (time 2 and 4);  $C_W$  plays F at its time-2 choice node, and A at its three time-4 choice nodes. Beliefs are: at  $h_1$ ,  $\mathbf{m}_1 = \mathbf{p}$ ; at  $h_2$ ,  $\mathbf{m}_2 = 0$ ; at  $h_3$ ,  $\mathbf{m}_3 = \mathbf{p}$ .

B) The definition of on-equilibrium-path PDE requires  $C_W$  to mix at time 2, which requires that she get the same expected payoff from A and F. For this,  $L_2$  must also mix at  $h_1$ ,  $h_2$ , or both. ( $C_W$ 's payoff from F is a convex combination of  $-k$  and  $t - k$ ; that from A is a convex combination of 0 and  $t$ .) There are two ways  $C$ 's expected payoffs from A and F could be equalized: (a)  $L_2$  always plays a at  $h_1$ , and

mixes at  $h_2$ ; (b)  $L_2$  mixes at  $h_1$ , and either always plays c or mixes at  $h_2$ . Case (a) is impossible because if  $L_2$  always plays a at  $h_1$ ,  $C_S$  would always play F at time 2; given this, any  $C$  who plays A at time 2 must be weak and  $L_2$  will prefer always to play c at  $h_2$  rather than mixing as supposed. So in any on-equilibrium-path PDE,  $L_2$  mixes at  $h_1$ .

$C_S$  must play F at time 2 in this equilibrium. To see this, note that for  $C_W$  to mix, as supposed, it must be that  $x - y = -\frac{k}{t}$ , where  $x$  is the probability that  $L_2$  plays c at  $h_1$  and  $y$  the probability  $L_2$  plays c at  $h_2$ . If this is true,  $C_S$  must play F at time 2, since its expected payoff from A,  $y(t - k) + (1 - y)t$ , is less than that from F,  $2x(t - k) + (1 - x)(2t - k) = 2t - k(x + 1)$ , given  $x - y = -\frac{k}{t}$ . For  $L_2$  to mix at  $h_1$  it must get equal expected utility from a and c. This implies  $\mathbf{m}_1 = \frac{t}{t + k}$ . The belief at  $h_1$  must be derived by

Bayes' Rule from the equilibrium strategies. This implies:  $\mathbf{m}_1 = \Pr(\text{strong} | \text{F at time 2}) = \frac{\mathbf{P}}{\mathbf{P} + (1 - \mathbf{P}) p_w}$ .

In equilibrium,  $\frac{\mathbf{P}}{\mathbf{P} + (1 - \mathbf{P}) p_w} = \mathbf{m}_1 = \frac{t}{t + k} \Leftrightarrow t = \frac{\mathbf{P}}{(1 - \mathbf{P})} \frac{k}{p_w}$ . This condition is required in any on-equilibrium-path PDE.

In an off-equilibrium-path PDE,  $C_W$  must, by definition, mix off the equilibrium path at time 2. As before, this requires that  $L_2$  mix at  $h_1$ . For this,  $L_2$ 's expected utility from c must equal that from a, given its belief  $\mathbf{m}_1$ . This implies  $\mathbf{m}_1 = \frac{t}{t + k}$ . Consistency of beliefs, required by sequential equilibrium, means that  $\mathbf{m}_1$  must be arbitrarily close to the belief that would be derived using Bayes' Rule from a slight perturbation of the equilibrium strategies in which  $L_1$  plays c with positive probability. Note that, off the equilibrium path as well as on, for  $C_W$  to mix as assumed implies that  $C_S$  plays F at time 2. Thus, this limiting belief derived by Bayes' Rule must be  $\frac{\mathbf{P}}{\mathbf{P} + (1 - \mathbf{P}) p_w}$ . In sequential equilibrium

again  $\mathbf{m}_1 = \frac{\mathbf{p}}{\mathbf{p} + (1-\mathbf{p})p_w} = \frac{t}{t+k}$ , and  $t = \frac{\mathbf{p}}{(1-\mathbf{p})p_w} k$ .

**Proof of Proposition 2:** If  $t < \mathbf{a}k$ , even  $C_S$  appeases at time 4. Knowing this,  $L_2$  always challenges at time 3, so in any DE  $t \geq \mathbf{a}k$ . In a DE, both  $C_S$  and  $C_W$  must fight at time 2, on or off the equilibrium path. Given this, the only consistent belief at  $h_1$  is  $\mathbf{m}_1 = \mathbf{p}$ .  $L_2$ 's expected payoff from challenging at

$h_1$ ,  $\mathbf{p}(-\frac{t}{\mathbf{a}} - k)$ , is only less than or equal to that from acquiescing,  $-t$ , if  $t \leq \frac{\mathbf{a}k\mathbf{p}}{\mathbf{a}-\mathbf{p}}$ . This is required for

either on- or off-equilibrium path DE.

For any  $\mathbf{a}k \leq t \leq \frac{\mathbf{a}k\mathbf{p}}{\mathbf{a}-\mathbf{p}}$ , the following behavioral strategies and beliefs constitute a DE:  $L_1$

plays a;  $L_2$  plays a at  $h_1$ , c at  $h_2$ , and a at  $h_3$ ;  $C_S$  plays F at all its choice nodes (time 2 and 4);  $C_W$  plays F at its time-2 choice node, and A at its 3 time-4 choice nodes. Beliefs: at  $h_1$ ,  $\mathbf{m}_1 = \mathbf{p}$ ; at  $h_2$ ,  $\mathbf{m}_2 = 0$ ; at  $h_3$ ,  $\mathbf{m}_3 = \mathbf{p}$ .

The definition of PDE requires that, either on or off the equilibrium path,  $C_W$  mix at time 2, which requires that it get the same expected payoff from A and F. As in the proof of Proposition 1, this requires that  $L_2$  mix at  $h_1$ , which here implies  $\mathbf{m}_1 = \frac{\mathbf{a}t}{t+\mathbf{a}k}$ . For  $L_2$  to mix requires  $t \geq \mathbf{a}k$ , since if  $t < \mathbf{a}k$ , even

$C_S$  appeases at time 4, and  $L_2$  challenges at time 3. Denote the probability  $C_S$  plays F at time 2:

$0 \leq p_s \leq 1$ . On the equilibrium path, belief  $\mathbf{m}_1$  must be derived by Bayes' Rule, which here implies

$\Pr(\text{strong F at time 2}) = \frac{\mathbf{p} p_s}{\mathbf{p} p_s + (1-\mathbf{p})p_w}$ . In equilibrium  $\frac{\mathbf{p} p_s}{\mathbf{p} p_s + (1-\mathbf{p})p_w} = \mathbf{m}_1 = \frac{\mathbf{a}t}{t+\mathbf{a}k}$ , which

implies  $t = \frac{\mathbf{p} p_s \mathbf{a}k}{\mathbf{a}(1-\mathbf{p})p_w + \mathbf{p} p_s (\mathbf{a}-1)} \leq \frac{\mathbf{a}k}{\mathbf{a}-1}$ . In an off-equilibrium-path PDE, consistency requires

that  $\mathbf{m}_1$  be arbitrarily close to the belief that would be derived using Bayes' Rule from the equilibrium strategies if these were perturbed so that  $L_1$  played c with arbitrarily small positive probability. This,

again, implies  $\mathbf{m}_1 = \frac{\mathbf{p} p_s}{\mathbf{p} p_s + (1-\mathbf{p}) p_w}$ , so  $t = \frac{\mathbf{p} p_s \mathbf{a} k}{\mathbf{a}(1-\mathbf{p}) p_w + \mathbf{p} p_s (\mathbf{a} - 1)} \leq \frac{\mathbf{a} k}{\mathbf{a} - 1}$ . Thus,  $t \leq \frac{\mathbf{a} k}{\mathbf{a} - 1}$  in

any PDE.

**Proof of Proposition 3:**

If  $t < k$ , even  $C_s$  appeases at time 4. Knowing this,  $L_2$  challenges at time 3, so AE requires  $t \geq k$ . As noted in the text, no off-equilibrium-path AE's exist. In an on-equilibrium-path AE, both  $C_s$  and  $C_w$  appease at time 2. Since both types appease at time 2, the belief at  $h_2$  is  $\mathbf{m}_2 = \mathbf{p}$ .  $L_2$  will only play a if  $\mathbf{p}(-t - k) \leq -t \Leftrightarrow t \leq k\mathbf{p}/(1-\mathbf{p})$ . Given that  $L_2$  acquiesces at  $h_2$ , for  $C_s$  to play A there must be a belief associated with playing F that makes this unattractive. Sequential equilibrium permits arbitrary choice of belief here. I am interested in the broadest range of parameter values for which AE is possible. It is easy to check that  $\mathbf{m}_1 = 0$  yields the loosest condition on  $t$ . If  $\mathbf{m}_1 = 0$ ,  $L_2$  challenges at  $h_1$ , resulting in a payoff for  $C_s$  of  $\max[t + t/\mathbf{a} - 2k, t - k]$ . Playing A yields  $t$ . Thus, if either  $\mathbf{a}k \leq t \leq 2\mathbf{a}k$  or  $k \leq t < \mathbf{a}k$ ,  $C_s$  may play A. Since  $L_2$  plays a at  $h_2$ ,  $C_w$  will also prefer A at time 2. Finally, given that C plays A at time 2,  $L_1$  prefers to challenge. So an on-equilibrium-path AE exists for any  $t$  such that  $k \leq t \leq \frac{k\mathbf{p}}{1-\mathbf{p}}$ , and  $t \leq 2\mathbf{a}k$ .

For instance, for any  $k \leq t \leq \min[2\mathbf{a}k, \frac{k\mathbf{p}}{1-\mathbf{p}}]$ , the following will be an AE:  $L_1$  challenges;  $L_2$  plays c at  $h_1$ , a at  $h_2$ , a at  $h_3$ ;  $C_w$  plays A at all its decision nodes;  $C_s$  plays A at time-2 and F at its time-4 nodes. Beliefs:  $h_1: \mathbf{m}_1 = 0$ ;  $h_2: \mathbf{m}_2 = \mathbf{p}$ ;  $h_3: \mathbf{m}_3 = \mathbf{p}$ .

**Remark:** The belief that a C who deviates from the equilibrium path to fight is “weak” might seem unreasonable. Kreps and Wilson (1982, 263) call such beliefs “implausible”. If, by contrast, any C that fights at time 2 is believed “strong” (while the belief about appeasers remains  $p$ ), the conditions for AE

are not so different: either (a)  $t \leq \frac{kp}{1-p}$  and  $k \leq t \leq ak$ , or (b)  $t \leq \frac{kp}{1-p}$ ,  $ak \leq t \leq 2ak$ , and  $t \geq \frac{ak}{a-1}$ .

The only change is that a range of  $t$  from  $ak < t < \frac{ak}{a-1}$  is excluded.

**Propositions 4 and 5:** See <http://www.sscnet.ucla.edu/polisci/faculty/treisman/>.

**Proof of Proposition 6:** At  $h_1$ ,  $L_2$  plays a only if  $ak_c \leq t_2 \leq \frac{ak_2m}{a-m}$  (given  $t_2 > 0$ ), so the upper

bound on  $t_2$  such that  $L_2$  acquiesces increases with  $k_2$ . At  $h_i$ ,  $i = 2, 3$ ,  $L_2$  plays a only if  $k_c \leq t_2 \leq \frac{k_2m}{1-m}$

(given  $t_2 > 0$ ). Again, the upper bound on  $t_2$  increases with  $k_2$ . At  $h_4$ ,  $L_1$  plays a (given  $t_1 > 0$ ) only if (a)

she expects  $C_S$  to play F and  $C_W$  to play A at time 2, and  $t_1 \leq \frac{k_1m_4}{1-m_4}$  or (b) she expects both  $C$ 's to play F

at time 2 and  $t_1 \leq \frac{k_1}{1-m_4}$ . The upper bound on  $t_1$  such that  $L_1$  acquiesces increases with  $k_1$ .

## References

- Alt, James, Randall Calvert, and Brian Humes. 1988. Reputation and Hegemonic Stability: A Game-Theoretic Analysis. *American Political Science Review* 82 (2): 445---466.
- Ball, George. 1982. *The Past Has Another Pattern*. New York: Norton.
- Comfort, Nicholas. 1993. *Brewer's Politics: A Phrase and Fable Dictionary*. London: Cassell.
- Darby, Graham. 1994. *Spain in the Seventeenth Century*. New York: Longman.
- Elliott, J. H. 1963. *Imperial Spain, 1469-1716*. New York: Penguin.
- <----->. 1989. *Spain and its World, 1500-1700*. New Haven: Yale University Press.
- <----->. 1991. Managing Decline: Olivares and the Grand Strategy of Imperial Spain. In *Grand Strategies in War and Peace*, edited by Paul Kennedy, 87---104. New Haven: Yale University Press.
- Fearon, James. 1995. Rationalist Explanations for War. *International Organization* 49 (3): 379---414.
- Fudenberg, Drew, and Jean Tirole. 1991. Perfect Bayesian Equilibrium and Sequential Equilibrium. *Journal of Economic Theory* 53 (2): 236---260.
- Gaddis, John Lewis. 1982. *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy*. Oxford: Oxford University Press.
- Gutmann, Myron. 1988. The Origins of the Thirty Years' War. *Journal of Interdisciplinary History* 18 (4): 749---770.
- Harsanyi, John. 1967-8. Games with Incomplete Information Played by Bayesian Players. *Management Science* 14 (3, 5, 7): 159---182, 320---334, 486---502.
- Hirshleifer, Jack. 2001. Appeasement: Can it Work? *American Economic Review*. 91 (2): 342---346.
- Howard, Michael. 1981. British Military Preparations for the Second World War. In *Retreat from Power: Studies in Britain's Foreign Policy of the Twentieth Century*, Volume 1, 1906-39, edited by David Dilks, 102---117. London: MacMillan.
- Hughes, Jeffrey. 1988. The Origins of World War II in Europe: British Deterrence Failure and German Expansionism. *Journal of Interdisciplinary History* 18 (4): 851---891.
- Huth, Paul. 1997. Reputations and Deterrence: A Theoretical and Empirical Assessment. *Security Studies* 7 (1): 72---99.
- Jervis, Robert. 1991. Domino Beliefs and Strategic Behavior. In *Dominoes and Bandwagons: Strategic Beliefs and Great Power Competition in the Eurasian Rimland*, edited by Robert Jervis and Jack Snyder, 20---50. New York: Oxford University Press.
- Keltner, D., R. Young, and B. Buswell. 1997. Appeasement in Human Emotion, Social Practice, and Personality. *Aggressive Behavior* 23 (5): 359---374.

- Kennedy, Paul. 1981. *The Realities Behind Diplomacy: Background Influences on British External Policy, 1865-1980*. London: George Allen & Unwin.
- <----->. 1982. Reading History: Appeasement. *History Today* (October): 51---53.
- <----->. 1983. The Tradition of Appeasement in British Foreign Policy, 1865-1939. In *Strategy and Diplomacy, 1870-1945*, edited by Paul Kennedy, London: George Allen & Unwin.
- <----->. 1987. *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*. New York: Random House.
- Kreps, David and Robert Wilson. 1982. Reputation and Imperfect Information. *Journal of Economic Theory* 27 (2): 253---279.
- Lebow, Richard Ned and Janice Gross Stein. 1989. Rational Deterrence Theory: I think, therefore I deter. *World Politics* 41 (2): 208---224.
- Lobell, Steven. 2001. Britain's Paradox: Cooperation or Punishment prior to World War I. *Review of International Studies* 27 (2): 169---186.
- Machiavelli, Niccoló. 1984. *The Discourses*. Edited by Bernard Crick. New York: Viking.
- Mercer, Jonathan. 1996. *Reputation and International Politics*. Ithaca: Cornell University Press.
- Milgrom, Paul and John Roberts. 1982. Predation, Reputation, and Entry Deterrence. *Journal of Economic Theory*, 27 (2): 280---312.
- Parker, Geoffrey. 1979. *Spain and the Netherlands, 1559-1659*. London: Collins.
- Powell, Robert. 1996. Uncertainty, Shifting Power, and Appeasement. *American Political Science Review* 90 (4): 749---764.
- Rock, Stephen. 2000. *Appeasement in International Politics*. Lexington: University Press of Kentucky.
- Sartori, Anne. 2002. The Might of the Pen: A Reputational Theory of Communication in International Disputes. *International Organization* 56 (1): 121---149.
- Schelling, Thomas. 1966. *Arms and Influence*. New Haven: Yale University Press.
- Selten, Reinhard. 1978. The Chain-Store Paradox. *Theory and Decision* 9 (2): 127---159.
- Snyder, Jack. 1991a. Introduction. In *Dominoes and Bandwagons: Strategic Beliefs and Great Power Competition in the Eurasian Rimland*, edited by Robert Jervis and Jack Snyder. New York: Oxford University Press.
- <----->. 1991b. *Myths of Empire: Domestic Politics and International Ambition*. Ithaca: Cornell University Press.
- Spence, Michael. 1974. *Market Signaling*. Cambridge: Harvard University Press.

Thucydides. 1972. *History of the Peloponnesian War*. London: Penguin.

Treisman, Daniel. 2002. Rational Appeasement. Unpublished manuscript, UCLA.

Walt, Stephen. 1991. Alliance Formation in Southwest Asia: Balancing and Bandwagoning in Cold War Competition. In *Dominoes and Bandwagons: Strategic Beliefs and Great Power Competition in the Eurasian Rimland*, edited by Robert Jervis and Jack Snyder, 51---84. New York: Oxford University Press.

Figure 1: Deterrence game

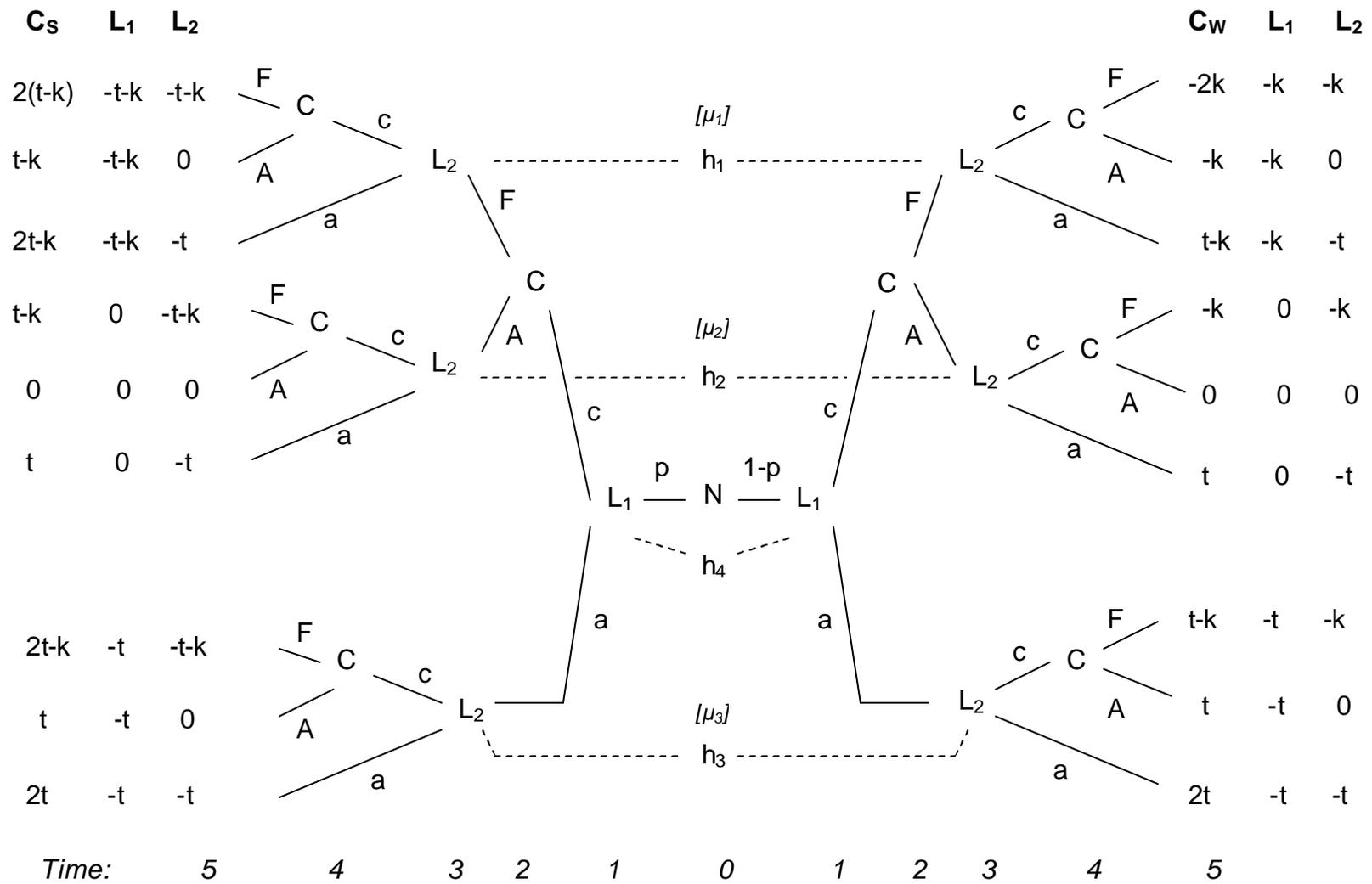
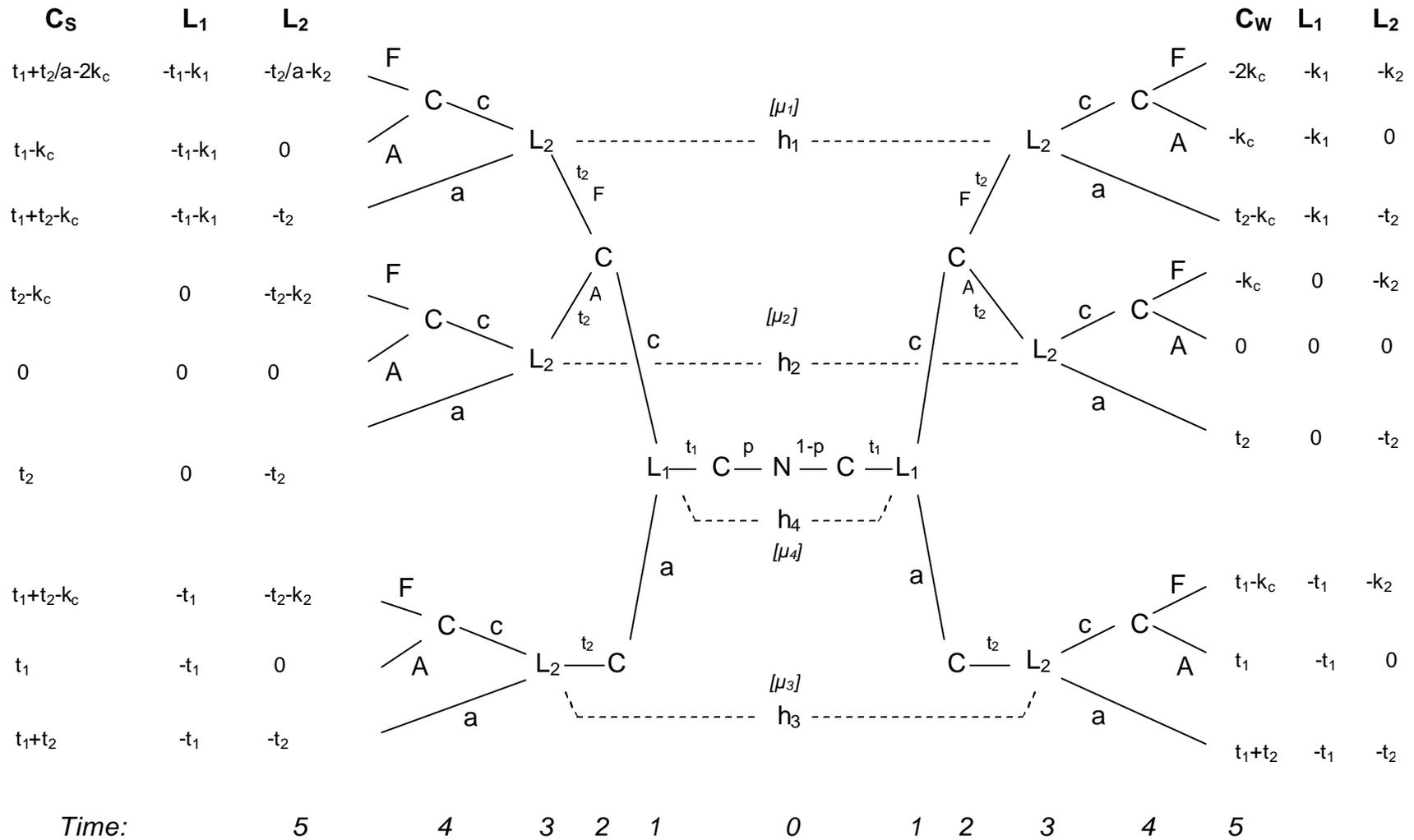


Figure 2: Deterrence game with limited resources and endogenous stakes



## Endnotes

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<sup>1</sup> Comfort 1993, 20.

<sup>2</sup> Kreps and Wilson 1982, Milgrom and Roberts 1982.

<sup>3</sup> In fact, if all types appease, none loses face by doing so.

<sup>4</sup> Keltner et al. 1997, 362.

<sup>5</sup> Kennedy 1981, 1982, 1983.

<sup>6</sup> Kennedy 1983, 195.

<sup>7</sup> I agree, however, that Britain engaged in appeasement, not just by Kennedy's definition but also by mine (see section 4).

<sup>8</sup> Rock 2000.

<sup>9</sup> Hirshleifer 2001.

<sup>10</sup> Powell 1996.

<sup>11</sup> If one views the models I present as rounds in a repeated game, and limits consideration to stationary strategies, then the models can also rationalize appeasement even when a challenger's long run aims are known to be unlimited, so long his demand in any given round is limited. Although appeasing in such circumstances only postpones the fight, it may help the state survive longer (by preserving sufficient resources to deter *other* challenges) than fighting immediately (in which case, the state's weakness provokes other challenges.) Of course, if a challenger seeks to destroy its adversary in a single round, then acquiescing is never rational. On this point, my analysis concurs with that of Powell and all others. My model also differs from Powell's in that it does not rely on asymmetric information about the challenger's type. One could derive similar results under asymmetric information. But I am able to show that appeasement can be rational even in the harder case of complete information about challengers' types, where appeasing confers no informational benefit.

<sup>12</sup> Huth 1997.

<sup>13</sup> Lebow and Stein 1989; Mercer 1996.

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<sup>14</sup> Even if one accepts the social psychological critiques, this exercise may be valuable for two reasons. First, to assess the persuasiveness of psychological theories, it would be useful to test them against more realistic models of rational signaling. Second, whatever the validity of rational deterrence theories, many decisionmakers use their concepts and claims to choose policies and anticipate their adversaries' reactions. This alone is reason to examine their logic.

<sup>15</sup> Sartori (2002) makes a related argument, suggesting that states may appease adversaries in order to preserve a reputation for honesty. Her model differs from mine in that she assumes that players types change randomly between interactions, and so investing in a reputation for resolve is ruled out by assumption. Since her aim is to show that "cheap talk" in diplomacy can be rendered meaningful by the honesty-reputation effect, this lies beyond the scope of her article.

<sup>16</sup> Thucydides 1972, 402.

<sup>17</sup> Ibid, 119.

<sup>18</sup> Machiavelli 1984, 313.

<sup>19</sup> Bush, addressing the German parliament in May, 2002, compared the threat of global terrorism to that of Nazism and warned that it "cannot be appeased or ... ignored" (Official transcript, [www.whitehouse.gov](http://www.whitehouse.gov)). For many earlier examples, see Gaddis 1982, Rock 2000, and Jervis 1991. Some have questioned whether policymakers sincerely believe in the vulnerability of reputation or merely employ such arguments for rhetorical effect (e.g. Snyder 1991a, b). But there are enough examples of policymakers expressing such views in private conversations or diaries to make it likely they do shape thinking to a considerable extent.

<sup>20</sup> Schelling 1966 discussed the interdependence of threats and the importance of demonstrating commitment.

<sup>21</sup> Harsanyi 1967-8, Spence 1974.

<sup>22</sup> Selten 1978.

<sup>23</sup> Kreps and Wilson 1982, Milgrom and Roberts 1982.

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<sup>24</sup> Kreps and Wilson (1982, 275) suggest their reputation argument could apply to international diplomacy.

<sup>25</sup> Thucydides 1972, 221.

<sup>26</sup> Keltner et al. 1997.

<sup>27</sup> Thucydides 1972, 122.

<sup>28</sup> For a previous application of the chain-store game to international relations, see Alt, Calvert, and Humes 1988.

<sup>29</sup> Although theory does not require the monopolist's benefit to equal the foregone profits to an entrant, I assume this here for simplicity.

<sup>30</sup> In section 3.3, I let players have different fixed costs.

<sup>31</sup> This is for convenience; one could derive the same results assuming  $C_S$  and  $C_W$  both get some fraction of  $t$  when they fight ( $s_s$  and  $s_w$ , respectively, where  $0 \leq s_w \leq s_s \leq 1$ ). The key point is that in the last interaction  $C_W$  always appeases. If  $C_W$  fought in the last interaction, he would not need to invest in a (false) reputation for strength to deter challenges—his true preferences would be sufficient deterrent.

<sup>32</sup> This corresponds to the equilibria in Kreps and Wilson 1982 and Milgrom and Roberts 1982, in which no actual challenges occur until deterrence unravels late in the game.

<sup>33</sup> Fudenberg and Tirole 1991, 236.

<sup>34</sup> If only  $C_S$  fought such challenges, then any deterrence would be explained just by a high prior probability that  $C$  is strong: reputation building would have nothing to do with it.

<sup>35</sup> It might seem odd to include  $t \geq k$  as a boundary condition for equilibrium since this essentially states that there are at least some  $C$ 's for whom fighting is beneficial. Absent such "tough" players, reputation-building cannot occur. However, a main point of this paper is that whether or not there are "tough" players in this sense is itself endogenous and depends on previous moves in the game. To restrict attention to either games in which there are "tough" players or those in which there are none precludes

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analysis of the strategies players rationally adopt when they recognize that one game can change endogenously into the other.

<sup>36</sup> Notice that this definition, again, deliberately leaves many actions unspecified: any pure strategy sequential equilibrium that includes the play defined in (1) or (2) is an AE.

<sup>37</sup> What is interesting is not that states with limited resources sometimes appease. After all, “the strong do what they will, and the weak do what they must.” The novelty is that appeasing *reduces* the risk of subsequent challenges.

<sup>38</sup> For appeasement to make sense, the cost of fighting,  $k$ , must be relatively large. If costs are low, a central actor could fight many times without losing credibility. This renders the analysis less relevant to, say, monopolists controlling many small markets (although not monopolists with a few large ones). But it seems to fit well the realities of international politics, when even a “hyperpower” like the USA only claims to be able to fight two wars simultaneously.

<sup>39</sup> Recall that  $t > 0$  is just a normalization. A central actor might also appease in advance not just by lowering a demand but by providing a positive transfer to the local actor.

<sup>40</sup> Due to the complexity of the game—with continuous tax rates and multiple decisions—I defer consideration of mixed strategy equilibria to future work. The results of this section should therefore be viewed as suggestive rather than definitive.

<sup>41</sup> Proofs of Propositions 4 and 5 are omitted here due to space constraints; they are available at <http://www.sscnet.ucla.edu/polisci/faculty/treisman/>.

<sup>42</sup> I assume throughout that fighting depletes the center’s military resources. There might, however, be cases in which fighting actually strengthens the center. The defeated power might have raw materials or industrial capacity that enhance the victor’s military capacity by more than fighting depletes it. In such cases, appeasement is never an equilibrium. But nor, strictly speaking, is deterrence—the center will always prefer to fight whether or not it is challenged; and each time it fights it will become stronger, until

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it has defeated all other states. In such a situation, the questions discussed in this paper simply do not arise. Reputation and information are irrelevant. That statesmen *do* usually seek to avoid conflicts suggests that this possibility is an exception rather than the rule. If it were generally true that the net effect of fighting were to strengthen the aggressor, the world would by now consist of a single state.

<sup>43</sup> This is a different case from the “low-prior” one that most interested Kreps, Wilson, Milgrom and Roberts. But in international relations the moderate-to-high prior is often the most relevant. We usually think it pretty likely that a state will respond militarily to, say, incursions on its territory. It is precisely in such contexts that questions of reputation are most frequently raised.

<sup>44</sup> Here, AE’s do not appear to exist for lower values of  $k_c$  than DE’s.

<sup>45</sup> For DE’s this range is  $\frac{ap^k}{a-p} - ak$ ; for PDE’s it is  $\frac{ak}{a-1} - ak$ . Both these expressions decrease with increases in  $a$ .

<sup>46</sup> The range is either  $\frac{ak_2p}{a-p}$  or  $\frac{(1+a)k_2p}{a-p} - \frac{\bar{t}}{a}$ . The derivative of the first with respect to  $a$  is always negative; the derivative of the second is negative so long as  $\bar{t} < \frac{k_2a^2p(1+p)}{(a-p)^2}$ .

<sup>47</sup> If resolve were modeled as continuous rather than as two types, appeasement at high or low stakes would reveal that one was not of the small minority of extreme conflict-seekers. But the slight loss in reputation would often be offset by the gain in conserved resources.

<sup>48</sup> This confirms the insight of Jervis (1991, 27): “If a country retreats rather than pay an enormous price for an object of little intrinsic value, it is not clear that others should or will expect it to back down on issues that matter more to it.” The model shows that others should *not* make such inferences.

<sup>49</sup> Quoted in Jervis 1991.

<sup>50</sup> *New York Times*, April 28, 1983, A12, quoted in Walt 1991.

<sup>51</sup> *New York Times*, April 22, 1982.

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<sup>52</sup> Robert Kennedy’s rhetorical question “if Americans did not stop Communism in South Vietnam, how could people believe that we would stop it in Berlin?” actually has a straightforward answer. If the US could demonstrate that for it the objective stakes were higher in Berlin than in Vietnam—as even the Soviets clearly believed at the time—that would be sufficient (quoted in Ball 1982, p.382).

<sup>53</sup> More precisely, for a given  $k_c$ , as  $k_2$  falls we pass from the range in which both deterrence and appeasement equilibria are possible into the range in which only appeasement equilibria exist (i.e.

$$\text{from } k_c < \frac{k_2 \mathbf{p}}{\mathbf{a} - \mathbf{p}} \text{ to } \frac{k_2 \mathbf{p}}{\mathbf{a} - \mathbf{p}} < k_c < \frac{k_2 \mathbf{p}}{1 - \mathbf{p}}).$$

<sup>54</sup> This also suggests that scholars who seek to predict the outcome of crises by focusing on the relative power of just those states in conflict may be missing something: whether or not a state fights should depend also on the relative power and vulnerability of *future* opponents.

<sup>55</sup> It might seem that this part of the model, which assumes the center knows the challenger’s type, underpredicts conflict. As Fearon (1995), has pointed out, interstate conflicts can arise because of two-sided incomplete information about states’ net benefit from fighting. This is quite compatible with the model presented here. One might assume a small, zero-mean, stochastic element,  $e$ , in the center’s perception of the second challenger’s cost of fighting, so that  $k_2 = k_{2t} + e$ , where  $k_{2t}$  is the true value of the second challenger’s fighting cost. This would render Fearon-type conflicts possible without changing the predictions: the center would still engage in anticipatory appeasement.

<sup>56</sup> The Roman Empire also survived in part by appeasing challengers on its vast periphery in order to preserve military forces that could respond to threats elsewhere. See Treisman 2002.

<sup>57</sup> Thus, this is a case of “off-equilibrium-path” play. Why Spanish leaders apparently got the model wrong is best left to historical experts. That officials do sometimes make mistakes seems hard to deny. In this case, Spain suffered consequences consistent with the structure of the games sketched above.

<sup>58</sup> Alt, Calvert and Humes’s case 3” appears to be the relevant one (1988, 452). In this case, the first challenger challenges; if the hegemon appeases, the second challenger also challenges. Yet in the British

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case, France did not immediately challenge Britain after it appeased the US. Instead, it backed off without a fight at Fashoda. My point is not to criticize the Alt et al. model for failing to explain cases the authors never claimed to address; it is just to show that certain historical cases appear inconsistent with the chain store logic, but are illuminated by the models of this paper.

<sup>59</sup> Powell 1996.

<sup>60</sup> Kennedy 1981, 105.

<sup>61</sup> Rock 2000, 27.

<sup>62</sup> Ibid, 42.

<sup>63</sup> Lobell 2001 also argues that Britain was forced to choose its fights carefully during this period and relates the country's dilemma to the chain-store paradox.

<sup>64</sup> Kennedy 1981, 113.

<sup>65</sup> Ibid., 108-9.

<sup>66</sup> Ibid., 112-3. In fact, not even the American side viewed the British concessions as a sign of "softness".

In January 1896 the *Philadelphia Press* wrote of the British moderation on Venezuela that: "No American has dreamed of attributing this to cowardice" (quoted in Rock 2000, 43). Rock concludes there is no evidence that Britain's "capitulation on one matter elicited harsher demands on another."

<sup>67</sup> Ibid., 287.

<sup>68</sup> Howard 1981, 103-4.

<sup>69</sup> Kennedy 1981, 294.

<sup>70</sup> Howard 1981, 109.

<sup>71</sup> In 1934, Chamberlain urged the Air Ministry to come up with a plan "based on the consideration that Germany might become a major threat within five years" (Hughes 1988).

<sup>72</sup> Ibid, 861.

<sup>73</sup> Elliott 1991, 89.

<sup>74</sup> Ibid, 102.

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<sup>75</sup> Elliott 1963, 380.

<sup>76</sup> In Kennedy's image, "Spain resembled a large bear in the pit: more powerful than any of the dogs attacking it, but never able to deal with all of its opponents and growing gradually exhausted in the process" (1987, 49).

<sup>77</sup> Darby 1994, 87.

<sup>78</sup> Elliott 1991, 93.

<sup>79</sup> *Ibid.*, 96.

<sup>80</sup> *Ibid.*, 97

<sup>81</sup> Elliott 1989, 135.

<sup>82</sup> Gutmann 1988.

<sup>83</sup> Parker 1979, 38.

<sup>84</sup> Kennedy 1987, 49.

<sup>85</sup> George Ball cautioned at the time that fighting when the costs were so high that even resolute, rational players would withdraw could even *damage* a state's reputation—for rationality: "What we might gain by establishing the steadfastness of our commitments, we could lose by an erosion of confidence in our judgment" (Ball 1982, 382).

<sup>86</sup> Quoted in Jervis 1991.

<sup>87</sup> Osama bin Laden, in 1996, called the US pullout from Beirut a sign of American softness. Saddam Hussein also mentioned the Beirut bombing in a speech in early 1990. If he deduced from this that Washington would not oppose his invasion of Kuwait, he was misreading the stakes in the two cases. While Lebanon produces little oil, the Gulf states' output is important for the world economy.

<sup>88</sup> Jervis 1991, 41.