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Trust in the Balance: Asymmetric Information, Commitment Problems and Balancing Behavior

Zachary Shirkey
CUNY Hunter College

Ivan Savic
Columbia University

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Realists argue that balancing occurs in response to changes to the balance of power. Recent informational approaches have focused primarily on informational asymmetries or commitment problems. The paper combines these two approaches and builds on them by incorporating characteristics of the revisionist state and the potential balancer, as well as the specific challenge to the balance of power. The model confirms that informational asymmetries often lead to commitment problems and that they are a necessary condition for balancing. However, whether or not informational asymmetries create commitment problems depends on both the nature of the challenger’s move and the relative power of the challenger and respondent. Finally, the paper shows under what conditions balancing is likely to occur and, counter-intuitively, that less revisionist challengers are often more willing to risk being balanced against than are more aggressive challengers.

Ivan Savic
Columbia University

Zachary C. Shirkey
St. John Fisher College

Introduction

A major trend in the study of international relations in the last decade has been an increasing focus on the roles that strategic interaction and information play in influencing state behavior in the international system. This trend has been quite fruitful, yet concepts from older schools of thought remain important to our understanding of international relations. This paper takes an older concept, that of balancing, and places it within a new framework of commitment problems and informational asymmetries. Specifically, this paper will argue that commitment problems are a necessary, but not sufficient, cause of all balancing. While this general conclusion is perhaps unsurprising, the model goes further. It shows that whether uncertainties
about intentions will lead to balancing or not depends upon two factors: first, the relative power differences between the challenger of the status quo and the potential balancer; and second, the long run advantage that a specific challenge to the status quo creates for a revisionist state (such as beneficial tactical positions for future military offensives). It further argues that while informational asymmetries are important they are not a necessary part of balancing because under some circumstance balancing will happen even with perfect information about intentions.

In arguing this, the paper is attempting to improve on Walt’s (1985) conception of balancing against threats as well as taking up Schweller’s (1997) call for scholars to state the conditions under which their propositions hold. To this end, we distinguish between commitment and information problems and analyze how these two aspects of balancing influence each other. Additionally, the model departs from the standard literature by breaking the revisionist state’s benefits from challenging the status quo into two components: the action’s intrinsic value and any relative gains vis-à-vis potential balancers.

The first section of the paper will examine the concept of balancing. The second will examine the role that commitment and informational problems play in balancing behavior. The third outlines the basic structure of the game-theoretic model used to analyze the role that commitment problems play in balancing behavior. The paper then examines the implications of this model under complete information, while the fifth section introduces informational asymmetries. The sixth section discusses the implications of our model for balancing behavior. The final section concludes and summarizes the findings.

1. What is Balancing?

Though balancing has long been an accepted concept in the study of international relations and is a core principle of the Realist framework, its definition is somewhat nebulous. In large part, this is because of its association with the term “balance of power” and with balance of
power theory. The concept of the “balance of power” is used in a wide variety of ways. Haas (1953) claims there are eight distinct meanings in the literature for the term “balance of power” and Wright (1966) finds nine. Even Morgenthau (1973) admits he uses the term in four distinct ways. Claude (1962) finds that balance of power is used to describe the current distribution of power, to identify a particular type of policy and as a symbol of realpolitik. However, even within these broad categories it is often used in distinct and even contradictory ways. Thus, it might seem that balancing as a concept is hopelessly muddled and should be discarded. This, however, is not the case. Rather, it is the concept of the balance of power and not balancing that has many meanings and is ill defined. Additionally, the vast majority of international relations scholars see balancing as a distinct type of state behavior. This is true even of scholars that do not support balance of power theory or the Realist framework. Thus, it should be possible to form a clear definition of balancing.

A key role in defining balancing is played by the concept of threat perception. Walt argues that balancing is a response to a threat and that states balance “to avoid domination by stronger powers.” In particular, aggressive behavior will prompt balancing. Wolfers (1962) sees balancing as the response of a status quo power to a threat. Similarly, Schweller (1994) and Schroeder (1994) see balancing as a response to a threat, though Schroeder argues that balancing is only one of a number of possible responses, along with bandwagoning, hiding and transcending. Lieber and Alexander state that balancing is “motivated by some perception of threat” and is not a “general desire for influence or the pursuit of power.” Both Schweller and Walt agree that not all threatened states will balance, but none of the balancing scholarship argues that states that are not threatened will balance.

Equally important is that balancing is a response to a threat that has yet to be actualized, rather than a response to an actual attack. Responding with force to an invasion or some other
military attack is defense, not balancing. Belgium and the Netherlands entered the Second World War not to balance against Nazi Germany, but because they had been invaded. To conflate their reasons for acting against Germany with those of France and Britain would be misleading and would obscure the rich variety of state behavior that exists in the security realm. Finally, balancing need not be directed at a hegemon, but may be directed at a regional or minor power. For example, in the 19th Century Argentina balanced against Brazil and Bolivia balanced against Chile. Thus, for the purposes of this analysis, balancing will be defined as the arraying of power by a state or states against a perceived, future threat. Balancing may be either internal (building up of one’s own military forces) or external (forming alliances to counter the perceived threat). Successful balancing will manage to array sufficient power against the threat to either defeat or deter it. Of course, not all balancing will be successful.

Some might argue that this definition is flawed as it ignores balancing as described by Waltz. Waltz (1979) argues that states balance against power, not threat. However, his claim is not actually in opposition to the idea that states balance against threats. Waltz argues that states balance against states capable of being a threat because they can never be sure when or if that potential threat will become real. In determining if another state poses a threat, leaders look at two aspects of that state, its capabilities and intentions. Waltz is essentially arguing that intentions cannot be discerned, therefore, capabilities are inherently threats and should be balanced against. In essence, this makes all balancing the result of the inherent commitment problems found in any power imbalance. Many classical Realists, however, concede that intentions can be discerned to some extent and that estimates about intentions do factor into threat perception. Some Neo-Realists, such as Walt (1985), also argue that intentions matter to threat perception and that states balance against threat, not power. Certainly, Constructivists and Neo-Liberals believe that intentions matter and can be discerned to some degree. Walt,
however, connects the view that power is an implicit threat with the view that intentions matter in threat perception. He states that, “To ally with the dominant power means placing one’s trust in its continued benevolence.”12 Thus, power is a threat, but only if the state’s continued benevolence is unlikely. If the dominant power (or any other power), however, could credibly commit to remain benevolent there would be no need to balance against it.13 Thus, this definition of balancing is consistent with the literature at large and the apparent disagreement between our definition and certain strains of Realism is simply the result of some Realists seeing all capabilities as threats. The disagreement also highlights that commitment problems play a central role in balancing.

Additionally, Waltz (1979) suggests balancing is automatic, thereby implying that balancing is not a conscious choice made by individual states. Waltz, however, is careful to point out that his theory is one of international politics, not foreign policy. He argues that the system as a whole will tend to balance; thus it seems that balances form automatically, even though individual states may choose not to balance.14 Whether or not Waltz is correct that balancing is the predominant behavior, and there are reasons to think it is not,15 is beyond the scope of this paper. What is important is that even Waltz recognizes that individual states must choose whether or not they should balance. Viewing balancing as a conscious decision by a state is in line with an older school of Realism. Wolfers (1962) concluded that though balancing may appear to be automatic, it is in fact the result of conscious decisions by individual states.16 Morgenthau certainly does not see balancing as automatic and frequently encouraged status quo states to balance.17 Similarly Rosecrance and Lo (1996) argue that for systemic balancing to occur, collective action problems must be overcome and the “buck-passing” described in Christensen and Snyder (1990) must be avoided. This implies that the decision to balance is up to individual states. Thus, there is no conflict between the way Realists traditionally use the
concept of balancing and defining balancing within the framework of strategic interaction and individual state choice.

A final, possible criticism of the definition of balancing advanced herein is that balancing requires states to join the weaker side and that this should be explicit within any definition of balancing.\(^{18}\) This implies that joining the stronger side is bandwagoning. However, many of the examples of balancing given by political scientists do not fit within this restriction. The United States was more powerful than the Soviet Union, yet the formation of NATO is generally described as an act of balancing on the part of the United States and the Western European states.\(^{19}\) Additionally, any coalition that wishes to deter a threat does not wish to simply achieve parity with that threat, but rather wants to achieve supremacy over it. As Claude notes, “Balance of power theorists tend to put more stock in defeating aggressors by preponderant power than in deterring them by equivalent power.”\(^{20}\) Finally, it is not always clear what the true distribution of power is. Thus, states may join what they believe to be the weaker side, but what is in fact the more powerful. Would such an act be balancing under the restrictions suggested by Schweller and Schroeder? The answer is not clear. It is far clearer and more consistent with the literature to define balancing as the arraying of force against a perceived threat rather than attempted to define it in terms of whether a state is joining the stronger or weaker side. Thus, while the relative power of the challenger and potential balancer will be important, it need not be true that the challenger is more powerful than the potential balancer. With these definitional issues addressed we can now turn to examining the causes of balancing.

2. Balancing and Commitment Problems

In this section and in the rest of this paper we will refer to revisionist states (or challengers to the status quo) and balancers (or status quo states) not in absolute terms but only in the context of a particular case of balancing. Thus, a state may be revisionist on some issues and a
status quo state on other issues. In fact, it is hard to imagine any state which would not wish to change some aspect of the current international system and maintain the status quo in others.\textsuperscript{21}

We will also refer to \textit{potential aggressors} as those revisionist states which cannot credibly commit to not use the change in the status quo to their advantage at some point in the future.\textsuperscript{22}

Finally, we refer to \textit{potential balancers} as those states that can respond to the challenger but who have not yet done so.\textsuperscript{23}

It is the contention of this paper that commitment problems are a necessary cause of all balancing. Commitment problems are in fact an important \textquote{rational} explanation of conflict in the international system.\textsuperscript{24} Fearon (1995) demonstrates that commitment problems, along with private information and problems of indivisibility, are one of the few rational causes of war. Bueno de Mesquita, Morrow and Zorick (1997) extend Fearon\’s logic and show that these same conditions must exist for crises to occur. This is because crises, like war, are a form of costly bargaining and if each side knew how the crisis was going to end, they would simply agree to that outcome ex ante without paying the costs of a crisis.\textsuperscript{25} Thus, states will only engage in costly conflict if their dispute is irresolvable for the reasons stated in Fearon (1995).

Balancing is clearly a form of interstate bargaining, albeit often tacit. The state or states engaged in balancing hope that by mobilizing resources and forming alliances against the perceived threat, the threatening state or coalition of states will be deterred from attacking and ultimately desist from attempting to overturn the status quo. Failing this, the balancer aims to aggregate sufficient power to defeat the revisionist state in either a defensive or preventive war.

Like wars and crises, balancing is costly. It is generally seen as being more costly in the short term than other behaviors such as bandwagoning, though often it is less costly in the long term, hence the tension about whether to balance.\textsuperscript{26} Balancing often requires significant increases in armament expenditures or settling with former rivals in order to create alliances. Such
settlements are costly since they require sacrificing claims and potential advantages in order to bring about the alliance.\textsuperscript{27} Additionally, all balancing runs the risk of war with the state or coalition being balanced against.

Given that balancing is costly and that it is not a response to a direct attack (thus not immediately necessary for a state’s survival) states must consider whether the benefits of balancing are worth the costs. Such costs include not only the risk of war, the military expenditures necessary to oppose the threatening state, and the sacrifices necessary to bring about alliances, but also the forgone spoils that might have been available had the state bandwagoned with the revisionist state instead of balanced against it. Why would a state undertake such a costly action and forgo potential benefits? A state would only balance if it believed that it would be cheaper or more effective to address a potential threat now rather than at some future point when it may or may not materialize. In other words, balancing entails assuming definite short-term costs to avoid greater expected, but uncertain, long-term costs.

Also, it must be the case that no cheaper alternative to balancing, such as buck-passing or accommodation, exists. This is crucial. No state wants to be the target of balancing as this threatens its security and autonomy in the international system. Further, if the state is truly revisionist, hostile balancing limits its long-term ability to change the status quo. Thus states which face potential balancers have incentives to come to some sort of accommodation in order to prevent balancing. This is true regardless of whether or not the revisionist state plans on attacking the potential balancer’s interests in the future. Thus, states perceived as potential aggressors should be willing to come to terms with potential balancers, even if this is merely to ensure that when they are ready to strike they can do so with minimal cost. Also, given the high cost of balancing, potential balancers should find an agreement with potential aggressors
appealing, provided of course they can somehow ensure the potential aggressor will not exploit the agreement to challenge their interests in the future.

So why do potential balancers and revisionist states sometimes fail to come to an agreement, tacit or otherwise? The answer, as alluded to above, is commitment problems. It is often difficult for revisionist states to credibly commit to limit themselves to the immediate and localized changes to the status quo they are proposing. This is because potential aggressors often seek agreement with potential balancers so that they can isolate and defeat their opponents in a piecemeal fashion. Alternatively they may seek to use the time gained to strengthen themselves relative to the potential balancers, striking only when they are confident of success. It is this inability of a revisionist state to bind itself in the future, and thus commit itself never to use its relative power gain against the potential balancer, which results in balancing behavior. Asymmetric information is chiefly responsible for these commitment problems. If the future intentions of the revisionist state were known to potential balancers, the decision to balance or not would be quite simple. Potential balancers could focus solely on the subset of revisionist states which had malevolent intentions for the future (i.e., potential aggressors). By analyzing the nature of the moves and power of the challenger, potential balancers could determine if balancing was necessary or not. However, both aggressive and benign challengers of the status quo (from the potential balancers’ point of view) have incentives to declare that they do not harbor future hostile intentions toward the potential balancers (and thus avoid being balanced against). It can be difficult for balancers to determine which revisionists they need to concern themselves with based on intentions. While balancers may be able to discern the intentions of some aggressors based on their behavior and capabilities, often the balancer will remain uncertain about the challenger’s type. The decision to balance or not also depends on the nature of the challenge to the status quo. There are some
changes that simply do not constitute enough of a threat no matter what the intentions behind them are. Thus, there may also be uncertainty about the nature of the challenge to the status quo. The model below helps illustrate these points.

3. Basic Structure of the Model

Our basic contention – that for balancing to occur, the existence of a commitment problem is a necessary, but not sufficient condition – is not particularly controversial. However, clearly identifying those commitment problems and showing how they lead to balancing is a useful contribution to our understanding of balancing. As Powell notes in his discussion of the role of commitment problems in war, unless this is done commitment problems become nothing more than a “catch-all” label that provides little insight. This section sets up the simple game-theoretic model we use to do this.

The first step is to realize that the traditional explanation for balancing – changes in capabilities and threat perception – are both insufficient and vague. The decision to engage in balancing by one state is not simply a response to a change in the capabilities of another. If this were so, then annual economic growth or any type of government action that improves the stability or well being of a state would be grounds for balancing behavior. This would make the scope of balancing ridiculously large. We also cannot simply reduce balancing to threat perception. If this were the case, then a state could one day simply “wake up” to find itself being balanced against without it having in any way tried to change the balance of power vis-à-vis the other state. Such “preemptive balancing” also stretches the scope of the problem too far. Rather, for balancing to occur, both a change in capabilities and a perception that this change threatens a potential balancer are necessary. This fits with the widely accepted view that threat perception is a function of both capabilities and intentions. In essence, the change in capabilities
will produce a threat if the state that is changing the status quo cannot credibly commit that this shift in power is not a threat to the potential balancer.

The game consists of two countries: a challenger and a respondent/potential balancer. The challenger is a revisionist state that wishes to change the state quo in a particular area. The respondent is a potential balancer who prefers the status quo. As noted above, it is important to keep in mind that these labels (“status quo power” and “revisionist power”) are not used in the absolute sense that the respondent does not want to change anything about the international system. Rather, these labels refer to the specific context in which the states find themselves in relation to a given issue. Thus on any given issue and at any given time, certain states will favor the status quo while others would like to see a revision of it.

The basic version of the game consists of two decisions. First, the challenger must decide whether to change the status quo by taking advantage of some opportunity (e.g., engaging in an arms buildup, seizing a strategic territory, etc.) or not. The challenger benefits from the move in two ways. First, the challenger would receive a benefit from the move itself. In other words there is some sort of intrinsic, absolute benefit to building more armaments, occupying a territory, etc. The second benefit from such a move is that it may enhance the challenger’s position relative to the respondent. The key provision here is that the challenger’s decision does not directly threaten the integrity or existence of the respondent or his core interests. As noted above, responding to such an act would be a case of defending against an actual aggressor, not balancing against a potential one. If the challenger decides not to make a challenge, then the status quo remains in effect. Otherwise, the respondent must decide whether to react to the challenge by balancing or to allow the balance of power to be revised by the challenger. This model investigates not only when balancing occurs, but also under what
conditions the initial challenge to the status quo will be made. Thus we have three possible outcomes: the status quo (SQ), unopposed challenge (UC), and balancing (B). See Figure 1.

[Figure 1 here]

The challenger’s payoff is as follows:

- **SQ**: 0
- **UC**: $v + r - c_c$
- **B**: $v - c_c$

Where:

- $v$ is the intrinsic value of the action the challenger undertook, $v \in \mathbb{R}^+$
- $r$ is the relative value of the challenge, that is the shift in the balance of power in favor of the challenger; and
- $c_c$ is the cost of undertaking the action.

The respondent’s payoff is:

- **SQ**: 0
- **UC**: $-r$
- **B**: $-c_r$

Where:

- $r$ is the same as for the challenger, reflecting that this is the measure of the relative power swing; and
- $c_r$ is the cost to the respondent of balancing against the challenger’s actions.

### 4. Game with Perfect Information

However, this is not the entire picture, as the relative advantage of making an unopposed revision to the status quo in a particular situation will vary according to three factors. Each of these are important in order to understand how a change to the status quo becomes
threatening to the potential balancer; a simple change in capabilities is not enough. These three factors are:

1) **Intentions of the challenger**: i.e., the respondent’s beliefs about the challenger;

2) **Relative difference in power**: i.e., the balance of power between the challenger and the respondent under the status quo; and

3) **Type of opportunity** the challenger is responding to: i.e., its offensive value.

The first factor, the intentions of the challenger, is perhaps the most important factor in assessing threat. It is not merely the change in the relative balance between the challenger and the respondent that worries the respondent, but what the challenger intends to do with this relative gain. Two important facts about the challenger’s type must be recognized. First, it is not so much the challenger’s type itself that matters but rather the respondent’s belief about the challenger’s type. Second, the relevance of the challenger’s type is strongly tied to the other two factors: the opportunity type and the power differential between challenger and respondent.

This is illustrated by the often cited example that the United States found Iraq, but not the United Kingdom, threatening despite the fact that the UK not only has vastly greater capabilities than Iraq, but also has a nuclear arsenal. Thus, the mere possibility that Iraq might have had a WMD program was threatening enough to the US to impose sanctions and eventually invade Iraq. But not only did the US not find Britain’s nuclear weapons program threatening, they actively helped and encouraged its development during the 1950s. Clearly, intentions matter in threat perception.

In order to operationalize this aspect of threat perception the concept of perceived challenger types is used. In this model there are two types of challengers: “aggressive” and “non-aggressive.” Of course, these are simply ideal types each representing an extreme on a
continuum $\alpha \in \mathbb{R}^+$, where $\alpha = 0$ is the least aggressive type and $\alpha \rightarrow +\infty$ is the most aggressive type. The implications of this for the value of $r$ will be discussed below.\textsuperscript{31}

The second factor affecting how a respondent will react to an attempt to change the status quo is the relative balance of power between the challenger and the respondent under the status quo. The impact of the change will directly depend on the magnitude of the change compared to the original balance of power. Imagine three cases. In the first, the respondent is assumed to be much stronger than the challenger. Here the challenger’s gain will not warrant the costly balancing response by the respondent, provided it does not greatly diminish the respondent’s autonomy on a given issue. For example, if Luxemburg decided to spend a very large portion of its GDP on increasing its armed forces it is hard to imagine that it could pose a threat to any of its neighbors, let alone to any great power.\textsuperscript{32} In the second case, the challenger is assumed to be dominant. Any challenge it makes that is not directed at the territorial integrity of the respondent will not make much difference to the balance of power between them. Furthermore, as the power disparity increases, it becomes increasingly harder for the respondent to effectively balance against the challenger or even be motivated to try. Where challenging the status quo really matters is the third case: when the relative power of challenger and respondent are near parity. It is under this condition that even small changes to the balance between two states matters most. Thus, during the Cold War balancing appeared to be nearly automatic.

This factor is operationalize as the power differential $\beta \in \mathbb{R}$, where:

$\beta \rightarrow 0$ the relative power of challenger and respondent are near parity,

$\beta \rightarrow +\infty$ the relative power of the respondent is greater, and

$\beta \rightarrow -\infty$ the relative power of the challenger is greater.
The final factor is the strategic character of the opportunity presented to the challenger. This is important because certain changes to the status quo are simply more threatening than others. Of course, no action that changes the status quo is inherently defensive or offensive in nature. Even the most defensive capabilities can give an offensive advantage: securing your frontiers will make it easier for you to attack your neighbors without worrying about your core power base. And even the most offensive capabilities can be used in a purely defensive way: e.g., if a state has a second strike capability, then it can use nuclear weapons in a purely defenses way. However, the offensive capabilities of opportunities will vary from case to case.

In order to illustrate this it is useful to compare two instances: France building the Maginot Line (and less famous Alpine and Corsican extension in the 1930s) and the satellite states the Soviet Union set up in Eastern Europe after WWII. Both had very similar motives. After the experience of WWI, France sought a ready made defensive line to protect itself from future German aggression. Similarly, the Soviet Union was primarily motivated by a desire to create buffer states that would protect it in case of an attack like the ones it faced in WWI and WWII. However, despite similar intentions these actions were perceived very differently in part because of the nature of each defensive solution. Aside from the massive cost of the line, it soon became apparent that it would very difficult for France to use the Maginot Line offensively. The mobile strategic reserve the line was supposed to produce proved illusionary since it was realized that manning the line would take up a large portion of France’s military manpower. On the other hand, the Soviets could easily use their satellites as staging areas for an attack on Western Europe once the USSR recovered from its loses. Furthermore, the satellites were not just buffers, but provided the Soviets with manpower and resources to augment their power. Thus, there are some capabilities that cause commitment problems regardless of the immediate intentions of the challenger, because even though the challenger does not want to use this
advantage aggressively in the short run, it cannot credibly commit to never do so in the long run.

This is operationalized in a similar way as challenger type. Conceptually we can use the notion of two extreme types of opportunities: one “offensive” and one “defensive.” The parameter $\gamma \in \mathbb{R}^+$, such that if $\gamma = 0$ the opportunity is defensive in nature and if $\gamma \to +\infty$ the opportunity is offensive in nature. Thus, the relative value of the action is given by $r(\alpha, \beta, \gamma)$ such that $r$ is an increasing function of $\alpha$ – the challenger’s type – and $\gamma$ – the opportunity’s type – and a decreasing function of the absolute value of $\beta$ (i.e., $r$ decreases as $|\beta| \to +\infty$) – the relative balance of power between challenger and respondent in the status quo.

Thus, we have broken down the commitment problem that leads to balancing into three components. It is useful to think of the first two – the respondent’s perception of the challenger’s intention/type and the balance of power between challenger and respondent – as the context for the third component – the opportunity type – which we can think of as the commitment problem proper. Thus, the context is important for two reasons. First, intentions and relative power differentials determine the significance of the commitment problem proper. Second, this context is generally fixed during balancing. That is, given the short time horizon, the respondent’s perception and the balance of power are unlikely to shift dramatically. This means that the commitment problem proper – the strategic value of the opportunity the challenger is trying to capitalize on – is actually where the bargaining, explicit or tacit, will take place. Of course, the nature of the opportunity cannot be changed, but it can be rendered less threatening by the challenger (by taking some unilateral step to diminish its offensive value), the respondent (by balancing) or by both (through some negotiated settlement). This approach differs from that of Fearon and Powell, both of whom make the balance of power an integral
part of commitment problems. Separating the two, however, provides useful conceptual and modeling leverage over the problem of balancing.

**Outcomes with Perfect Information**

If both players have perfect information about the strategic situation, then the outcomes depend on the payoffs. For the respondent, the decision is between balancing against the challenge or doing nothing and depends on the cost of balancing compared to the cost of ignoring the actions of the challenger. Obviously, if the cost of balancing is less than or equal to the relative value of the challenge, the respondent will balance, while if it is greater, the respondent will ignore the threat. This leads to the critical value \( r^*_r = c_r \). The respondent will balance against any threat that is equal or greater than \( r^*_r \) and will ignore all other threats. See Figure 2.

This means that the challenger’s potential payoff of acting will be equal to \( v + r \) if \( r > r^*_r \), and \( v \) if \( r \leq r^*_r \). The challenger’s choice of action will depend on his net payoff, which means that there are three cost ranges that affect the outcome:

\[
\begin{align*}
    c_c & \geq v + r^*_r: \quad \text{There is no level of } r \text{ for which it is worthwhile to make a challenge so the only possible equilibrium is the status quo. See Figure 3.} \\
    c_c & \leq v: \quad \text{It is always worthwhile to make a challenge and there are two possible equilibria (see Figure 4):} \\
    & \quad r < r^*_r \quad \text{Unopposed Challenge (UC)} \\
    & \quad r \geq r^*_r \quad \text{Balancing Equilibrium (BE)}
\end{align*}
\]

[Figure 2 here]

[Figure 3 here]

[Figure 4 here]
\[ \nu \leq c_c \leq \nu + \nu^* : \] The challenger will challenge only if \( \nu + r \geq c_c \). This leads to a second critical value \( r_c^* = \nu + c_c \). If \( r \geq r_c^* \), a challenge will be made, but if \( r < r_c^* \), it will not. This leads to three possible equilibria (see Figure 5):

- \( r < r_c^* \) Status Quo (SQ)
- \( r_c^* \leq r < r_t^* \) Unopposed Challenge (UC)
- \( r_t^* \leq r \) Balancing Equilibrium (BE)

[Figure 5 here]

5. Game with Uncertainty Arising from Asymmetric Information

Uncertainty is introduced into the model through the challenger type parameter. As we discussed in section three, all three types of uncertainty are important. However, the uncertainty surrounding the type of challenger is the most common concern in both practical and theoretical discussions of balancing. The model does not consider uncertainty with respect to the type of opportunity or the balance of power between states because these parameters are generally much easier to gauge in the real world than are the intentions of a challenger.

However, before looking at the effect of uncertainty it is important to determine when uncertainty about intentions will have an effect. This depends on the values of \( \beta \) – the power difference between the two states – and \( \gamma \) – the offensive value of an opportunity. Remember that \( r \) is assumed to be a decreasing function of the absolute value of \( \beta \), and an increasing function of \( \gamma \). This means that as either \( |\beta| \to +\infty \) or \( |\gamma| \to +\infty \), the effect of challenger type becomes irrelevant. Thus, if the balance of power between states is so great that the power disturbance between them is relatively insignificant, then the intentions of the challenger will not matter. In this case, the more powerful state, whether it is the challenger or the respondent, will simply ignore the actions of the weaker state. Similarly, if the offensive potential of an opportunity is so great that it dramatically strengthens the challenger with respect to the
respondent, then type will not matter. The respondent will always balance regardless of the short-term intentions of the challenger as even a less aggressive challenger would not be able to credibly commit not to use the advantage in the future. Thus, for the challenger’s type to matter the offensive value of the challenge cannot be too high nor can the relative power difference between the challenger and potential balancer be too great. For the rest of this discussion we will assume that $\beta$ and $\gamma$ are held at values that do not make challenger type $\alpha$ irrelevant.

We have so far assumed that $\alpha$ is a continuous parameter such that $\alpha \in \mathbb{R}^+$, however, for the respondent what matters is not the level of $\alpha$ itself but the relationship between the relative gain of the challenger $-r(\alpha)$ to the cost of balancing $-c_r$. As was noted above this gives us the critical value for the potential balancer $r_r^* = c_r$, such that it will only respond to relative gains of the challenger that are greater than or equal to $r_r^*$. From this value, we can determine the critical value of the challenger type, $\alpha^*$ (for given levels of $\beta$ and $\gamma$) which gives us $r_r^*$. Thus, challenger type only matters to the extent that $\alpha \geq \alpha^*$. Therefore, challenger type is categorized into two discreet categories: aggressive (where $\alpha \geq \alpha^*$) and non-aggressive (where $\alpha < \alpha^*$).

It is further assumed that the respondent does not observe $\alpha$ but rather a signal sent by nature $-a$. This signal is assumed to be related to the underlying challenger type but with an error or noise $\varepsilon$, such that $a = \alpha \pm \varepsilon$. It is further assumed that the respondent knows the value of the error term. The challenger of course knows his type, i.e., how aggressive his intentions are, but does not know the exact value of the signal $-a$ sent by nature. As we noted above for the respondent, the exact level of $\alpha$ is not as important as the relationship of $r(\alpha)$ to his cost of balancing $-c_r$. What matters is whether $r(\alpha^*) = r_r^* = c_r$ and challenger type matters to the extent that his level of aggressiveness is above the threshold level, i.e., $\alpha \geq \alpha^*$. Since the
respondent receives a signal $a = \alpha \pm \epsilon$, its value will be important to the extent that it is related to $\alpha^*$. This means that the upper limit of “safe signals,” i.e., those for which $r \leq r^*_r = c_r$, will be $a_{\text{safe}} < \alpha^* - \epsilon$; and the lower limit of the “danger signal,” i.e., those for which $r \geq r^*_r = c_r$, will be $a_{\text{danger}} > \alpha^* - \epsilon$. This gives the action rule for the respondent (see Figure 6):

$$
\begin{align*}
& a \in [0, \alpha^* - \epsilon) & & \text{or} & & r(a) < r^* (\alpha^* - \epsilon) & & \text{never balance} \\
& a \in [\alpha^* - \epsilon, \alpha^* + \epsilon] & & \text{or} & & r(a) > r^* (\alpha^* - \epsilon) & & \text{always balance} \\
& a \in (\alpha^* + \epsilon, +\infty) & & \text{or} & & r(a) > r^* (\alpha^* - \epsilon) & & \text{always balance}
\end{align*}
$$

[Figure 6 here]

Since the potential balancer always balance for $\alpha \geq \alpha^*$, under conditions of uncertainty the balancer will lower his threshold and always balance against a challenge if $r(a) > r^* (\alpha^* - \epsilon)$. This will reduce the challenger’s payoff from $v + r - c_c$ to $v - c_c$ in the range $a \in [\alpha^* - \epsilon, \alpha^*)$.

Thus, with uncertainty the challenger and the respondent will be made worse off in the range $a \in [\alpha^* - \epsilon, \alpha^*)$, since the respondent will be bearing a cost $c_r$ to meet a threat $r(\alpha)$ when $c_r > r(\alpha)$, where $a \in [\alpha^* - \epsilon, \alpha^*)$.

6. Discussion

There are a number of interesting implications that come out of our model. The first is that even with perfect information about the three relevant parameters that produce the commitment problems that lead to balancing – challenger type, the balance of power and the opportunity type – balancing can still take place despite the fact that balancing is costly. This is driven by the fact that in our model the challenger is motivated by both the intrinsic value the opportunity (i.e., absolute gains) and the relative advantage it confers (i.e., relative gains). Thus, under perfect information, balancing will occur if the challenger finds the intrinsic value of the opportunity high enough to act, despite of the prospect of being balanced against, and the respondent finds the change in the balance of power threatening enough that it justifies the cost of responding.
It is also significant that this would not change even if we allow for negotiation between challenger and respondent. In this situation the challenger knows that the respondent will balance, so he knows he cannot hold on to any relative gains.\textsuperscript{39} The only way to prevent balancing would be to voluntarily give up the relative gains of the opportunity. This is because no tacit understanding or treaty can remove this commitment problem unless it restores the balance of power prior to the challenger action. If we assume that such an action is costly, all else being equal, the challenger is better off letting the respondent bear the cost of restoring the balance of power.

It could be argued that such a refusal to negotiate by the challenger would negatively impact the respondent’s perception of the threat posed by the challenger, thus exacerbating the commitment problem caused by perceptions of the challenger’s type. However, this will only happen if the offensive value of the opportunity is very great. Even in this situation, the challenger may still be better off inviting the respondent to balance rather than trying to bear the cost of restoring the balance of power himself. If the challenger and balancer are already rivals, then the challenger has little incentive to make any such efforts especially as aggressive behavior will likely merely confirm the balancer’s view of his rival, rather than change his perception.

This conclusion is in opposition to the way a great deal of the rationalist literature has approached the problem of explaining costly outcome, such as war (e.g., Fearon 1995) or crises (e.g., Bueno de Mesquita, Morrow and Zorick 1997). That is, through the mechanism of asymmetric information.\textsuperscript{40} In our model, private information is not necessary for balancing. Under certain circumstances the ultimate goal of the challenger will be to gain the intrinsic value of an action and not the relative advantage it confers. In this case, the disruption in the balance of power is an externality which the challenger cannot take advantage of, due to the
respondent’s reaction. Furthermore, if we assume that removing the externality is costly, then, just as in the case of dealing with pollution, the producer of the externality (i.e., the challenger) will not benefit from neutralizing it. Thus, the problems falls to the respondent, for whom this externality is of course negative and must be considered.

Another counterintuitive finding is that a credible balancing response is more likely to deter an aggressive (i.e., power-seeking) challenger than a non-aggressive one. Given that we assume a self-help system, we can redefine a state as aggressive if it places more value on the relative gains resulting from the opportunity (i.e., \( r \)) than on the intrinsic value of the opportunity (i.e., \( v \)). In the extremes, the most aggressive states will derive their entire benefit from the relative power gain of the opportunity (i.e., \( r > 0 \) and \( v = 0 \)) and the least aggressive states will derive their entire benefit from the intrinsic value of the opportunity (i.e., \( r = 0 \) and \( v > 0 \)). Thus, when facing a credible threat of balancing the expected payoff of the most aggressive state will be a net loss of \( v - c_c = -c_c \leq 0 \). This means that as long as the respondent balances (which in our model happens when \( r \geq c_c \)) aggressive challenger will not initiate the challenge in the first place. On the other hand the least aggressive state will face an expected payoff of \( v - c_c \). As long as \( v - c_c \leq 0 \) it will have an incentive to challenge the status quo, no matter what the respondent does.

Thus, all else being equal, an aggressive challenger is more likely to be deterred by a credible threat of balancing than would a non-aggressive challenger. For an aggressive challenger, strategic interaction plays an important part in their calculations because they place a great deal of importance on relative gains, which are dependent on the response of the potential balancer. Since non-aggressive challengers are less, if at all, concerned about relative gains, they are in effect able to act non-strategically. This result, of course, depends in part on the fact that in our model balancing is a one-shot game and does not incorporate the possibility
of balancing escalating into all out war. However, even with the possibility of escalation, the finding that non-aggressive challengers are more likely to act unilaterally can still hold. Because an aggressive challenger wants to gain a relative advantage over the potential balancer they are even less likely to act if their challenge is likely to not only produce balancing but also escalate into a conflict with the potential rival sooner than the aggressive challenge is ready. On the other hand, because the non-aggressive challenger is more interested in the absolute gains of the challenge, he will be willing to face balancing and even escalation of the crisis up to the point where the cost of doing so outweighs the intrinsic value of the revision he wants to achieve. Thus, the possibility of escalation will make the non-aggressive challenger more mindful of the potential balancer’s reaction, but he will still be more willing than an aggressive challenger to ignore the respondent.

This finding has a couple of interesting implications. First, while it is intuitive to assume that a challenger who does not back down when faced with a credible threat of balancing is aggressive, this is not necessarily the case. In our model, standing firm in the face of balancing is in fact a very costly signal that the challenger is not interested in changing the balance of power but only in gaining the intrinsic value the opportunity. This is something an aggressive challenger, i.e., one focused on the relative gains the challenge would bring it, would not do. Second, this means that aggressive challengers are more likely to opt for small revisions to the status quo that are too small to merit a response but are still worth while (i.e., when the relative gains in power are higher than the costs of challenging the status quo but smaller than the costs of balancing – \( c_r \geq r \geq c_c \)). As long as such actions are not perceived as threatening, they may accumulate into a long term advantage. On the other hand, non-aggressive challengers are more likely to make large, individual revisions to the statue quo if their inherent value is greater.
than the cost of undertaking them. Finally, when dealing with an aggressive challenger, balancing should happen only if the challenger underestimates the balancer’s resolve.

Given that balancing happens under perfect information, what impact does introducing uncertainty have in our model? As indicated in figure 6, uncertainty produces a gray area where it is harder for the respondent to gauge the risks they are facing against the cost of responding to them. Assuming risk aversion, this will lead to a lowering of the threshold for the balancing response and increase the number of cases in which balancing will occur. Thus introducing asymmetric information into our model does not dramatically change the nature of balancing; rather it lowers the threshold at which the respondent will balance.

Introducing uncertainty increases the stakes for an aggressive challenger. Since they are more likely to face a balancing response they are less likely to make a challenge in the first place. Of course, in keeping with our previous argument, non-aggressive challengers will not change their behavior and will still act non-strategically (i.e., without seriously considering the respondent’s actions). Thus with the introduction of uncertainty, we are closer to the realist worldview where all challenges to the balance of power must be responded to.42 But interestingly, the most common challengers to the balance of power will still be those states that are not really interested in grand revisions (i.e., revisions that would impact the system as a whole, rather than minor changes to some aspect of it).

Of course, the model does not capture all the complexity of balancing and there are a number of interesting extensions to the model that may prove fruitful. Of these the most promising are: 1) exploring in more detail the implication of our three types of uncertainties and how they interact, 2) making an iterated rather than a one shot game, and 3) increasing the number of players. But even without these, our model produces some interesting results.
Conclusion

This paper has shown that commitment problems play a central role in balancing. These commitment problems are most commonly conceptualized as arising out of uncertainty about the challenger’s intentions (i.e., type) but other factors such as the relative balance of power and the opportunity available to the challenger play crucial roles in the creation of commitment problems. We find that due to incentives to misrepresent intentions, even challengers that do not plan to later harm potential balancers cannot easily resolve problems arising from asymmetric information. Under certain conditions such challengers are more likely to face balancing because they are less likely to back down in the face of credible threats. Most importantly, the model shows that uncertainties about the challenger’s intentions are not sufficient in themselves to bring about balancing; the nature of the challenge and the relative power of the states involved must be considered. There are, of course, facets of balancing behavior which reside outside of the scope of this paper. Further research into how additional players, an escalation option for the challenger and the three different types of uncertainty incorporated in the model affect balancing should prove interesting. It is our hope these avenues will be further explored.

REFERENCES


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1 For example see Nye (2002) and Huth and Russett (1984).

2 Walt (1985), 12.

3 Wolfers (1962), 125. It should be noted, however, that the archetypes of “status quo” and “revisionist” state are problematic. States often favor the status quo in one issue area, but are revisionist in another. Therefore, even a state that is primarily revisionist can engage in balancing. This is discussed in more detail in the next section.

4 Schroeder (1994), 111 and 116–17. Schweller (1994) argues that states may bandwagon for reasons other than as a response to a threat, most notably to fulfill revisionist aims and to acquire spoils.

In certain cases it may be easier to determine another state’s intentions than capabilities. For example, leading up to the current Iraq War, the United States arguably had less difficulty in determining Iraq’s intentions toward the US than Iraq’s capabilities.

And according to Waltz, they do so at their own peril.


Arguably, the relative proximity of the USSR to Western Europe and the distance of the US made the USSR the stronger of the two from the perspective of Europe. However, given the US military presence in Europe, its economic strength and the long recovery the Soviets faced, it is more reasonable to view the US as the stronger in 1949. See Kennedy (1989), 460–5.

Thus, the category ‘potential aggressor’ includes both actual aggressors (those that want to use the change in the status quo as a means for further revisions) and non-aggressive revisionist states (those that do not). Therefore, the aggressiveness of the revisionist can be discussed in two ways. First, in terms of the status quo states’ perception of the revisionist’s intentions (this is the primary usage in Sections 4 and
5 where we discuss the model). Second, in terms of the value the revisionist states places on the absolute gain from changing the status quo vs. the relative gain vis-à-vis the status quo state (this is the primary usage in Section 6, where we discuss the implications of the model).

23 This will be discussed in more detail in Section 3.

24 The term ‘rational’ is used in the same way as it is commonly used in rational choice theory approaches and denotes explanations distinct from psychological and other non-rational explanations of conflict.

25 Costs associated with crises include the possibility of lost prestige, the material costs associated with mobilization and the possibility that the crisis may escalate into a war.

26 Rosecrance and Lo (1996); Schroeder (1994); Schweller (1997).

27 This is not to say that there will never be side benefits to balancing. The alliances formed and weapons built may have other uses and benefits. Weapons procurements, however, always have a clear monetary cost. Smith (1995) argues alliance formation is always costly and it is states’ willingness to pay these costs which makes their alliance commitments credible. Additionally, if the side benefits of balancing outweigh the costs then these actions would have been taken before the threat emerged. Of course, balancing could help a leader overcome domestic or international opposition to building up armaments or creating alliances, but in this case the leader is not really engaged in balancing but is using it as a pretext.


29 For example, in the case of the Cuban Revolution and the Missile Crisis that followed it, the USSR was a revisionist power and the US was a status quo power. This does not mean that on other issues, such as regime change in Hungary in 1956 or Czechoslovakia in 1968, the USSR was not in favor of the status quo or US did not want to revise it.

30 Here we are not trying to rehash the old debate surrounding relative vs. absolute gains but rather build on the conclusion of that debate: that the relative importance of each type of gain will depend on the strategic context.

31 Conceptually, one could also argue that respondents have types: a fearful respondent will increase his valuation of the relative gain achieved by the challenger ($r$) and a more trusting one would decrease the
value of $r$. However, the “fearfulness” or “trustfulness” of the respondent should be based on the three above-mentioned factors: the challenger’s type, the offensive value of the opportunity and power difference between the two players. Also, it is not the challenger actual type that matters but how he is perceived by the respondent that really matters. Therefore, in our model, the challenger’s type incorporates the respondent’s type because it depends on his perception. Under perfect information adding a respondent type would not make a difference. Under uncertainty, which will be examined in the next section, the level of fear will be reflected by the latter two factors and the signal that the respondent receives about the challenger’s type.

32 Of course, this is assuming that the respondent has no intentions of attacking the challenger in the near future. Since we have defined the respondent as the status quo power in the context of the game this case is not possible in the framework of the game.

33 Obviously, the character of the French and Soviet regimes played a role in how their actions were perceived. However, it would be a mistake to paint one regime as inherently interested in the status quo state and the other as inherently revisionist. For example, the original aims of Clemenceau at the 1919 Paris Conference included the French annexation of the Saar and the creation of independent Rhineland states under permanent allied occupation. France only gave these up in exchange for security guarantees from Britain and the US and the promise of German reparations payments. See Graham (1983/1996), 40.

While Stalin and the Bolsheviks were interested in expansion in the long run, in the 1940s the Soviet Union was in no position to plan further conquests. It was much weaker than other states realized – a fact it actively tried to hide. The Soviets did see themselves as global players, but their initial priority was rebuilding their strength, not further expansion. See Kennedy (1989), 467–70. Stalin even refused Marshal Plan aid, which was theoretically available to him, because revealing the extent of recovery needs was a condition of receiving. See Gaddis (1997), 41–3.

34 Despite the conventional wisdom that the Maginot Line was a financial white elephant and a strategic disaster there is still disagreement about the value of France’s fortifications during WWII. The French did over commit their field divisions to supporting the line. However, this may have less to do with the
inherent weakness of the line and more to do with a failure of French strategic planning. See Kaufmann (1988), 74.


36 It may at first seem a bit odd that the potential balancer will ignore a threat if the costs of balancing are too high, but this makes sense if you consider the fact that it would be a waste of resources to do so and this would be dangerous in a self-help system.

37 For example, historically it was a major tenet of British foreign policy that the Low Countries (especially the Southern Netherlands, i.e., modern Belgium) should not be controlled by any great power, no matter what its intentions, because it was a perfect staging ground for an attack on Britain. The one exception to this rule was Austria, which held the territory from 1713–1794. Britain did not oppose Austrian control because Austria’s base of power lay in Central and South-Central Europe and Austria had virtually no navy. In fact, the British insisted Austria take over the territory in 1713, as Austrian control was seen as the way to prevent the more dangerous prospect of French control. In essence, like a minor power, the Austrians lacked the capability to exploit the possession of the Southern Netherlands in a fashion that was threatening to Britain. Thus, it was the Austrians’ lack of naval capabilities and not their supposedly benign intentions that mattered. See McKay and Scott (1983/1995), 63–6.

38 It may seem as if the challenger’s perceived type is defined endogenously in this model, however, the underlying aggressiveness of the challenger is determined exogenously by nature. It is only the level of the challenger’s aggressiveness as perceived by the potential balancer that is in part determined endogenously.

39 This is because in a self-help system a relevant change in the balance of power between two states will lead to a commitment problem. In other words, the challenger cannot credibility commit not to use the change in the balance of power to his advantage at some future date.

40 A notable exception to this is Powell (2006). For a good discussion of the importance of asymmetric information in explaining war and the problems with this see Powell (2006), 171–80.

41 This is analogous to Schelling’s (1966) concern about salami slicing tactics.
Morgenthau (1973); Waltz, (1979); Wolfers (1962).
Figure 1  Basic structure of the Game

N

\[ \text{Chooses: } \alpha, \beta, \chi \]

C

doesn't challenge

S

Q


R

doesn't respond

respond

UC

BE
Figure 3  Case of Unique Equilibrium: Status Quo (SQ) Quo

\[ c^* > v + r_r \]

\[ v + r \]

\[ r \]

\[ r_r^* \]

\[ c_r \]

\[ -r \]
Figure 4  Case of Two Possible Equilibria: Status Quo (SQ) or Balanced Equilibrium (BE)
Case of Three Possible Equilibria: Status Quo (SQ), Unchallenged Revision of the Statue Quo (UC) or Balanced Equilibrium (BE)
Figure 6  Potential Balancer’s Action Rule with Uncertainty