International Relations Theory and the Psychology of Time Horizons

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To encourage another to “take the long view” sounds like sage advice, but heavily factoring future considerations into present decision-making is not always a boon in international politics. States would not launch preventive wars if they did not fear still-far-off shifts in the distribution of power. The United States would not have invaded Iraq in 2003 if decision-makers had not put stock in temporally distant prospective costs (that Iraq’s Ba’ath regime would eventually acquire nuclear weapons and perhaps share them with Al Qaeda) and/or benefits (that the overthrow of Saddam Hussein would touch off a democratic virtuous circle in the region). When states expect an international agreement to be long-lasting, they wrangle especially bitterly over the terms, endangering the negotiations’ successful conclusion. The long view is not an unalloyed good in international relations, but neither of course is short-sightedness. Leaders who discount long-term costs may find appealing diversionary wars to exploit the immediate rally effect. Myopic states forego international cooperation when it requires giving up small gains now for larger gains later.

“Time horizons” are key drivers of action in international politics. This is not news. The concept has been commonplace in the field since the publication of Robert Axelrod’s seminal *The Evolution of Cooperation*, which introduced the metaphor of “the shadow of the future.” But both individual works of scholarship, and even whole research programs, suffer from inconsistencies in their assumptions about the length of time horizons and in their conclusions about the implications of time horizons. Equally problematic, debates in international relations normally proceed in seeming ignorance of recent empirical findings regarding how people actually make intertemporal tradeoffs. Those findings, hailing from psychology and behavioral

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1 Fearon 1998.  
3 This is true even of recent mid-range theorizing that invokes time horizons as an explanatory variable. See Barkin 2004; Kreps 2008; Toft 2006. An important exception is Streich and Levy 2007.
economics, speak partly to the conditions under which individuals display short or long time horizons, but they are especially revelatory about how the length of actors’ time horizons shapes their present decision-making. We draw on these findings to challenge existing approaches to classic questions in international relations and to suggest possible answers to long-standing puzzles.

The paper proceeds in three parts. First, it briefly reviews how scholars have theorized time horizons—both their origins and consequences—in international politics. Second, it summarizes the relevant empirical literature, focusing especially on those findings that have not featured in IR. Third, and most important, it elucidates the implications of these findings for three core research programs: when states cooperate; how states cope with changes to the distribution of material power; and how and when states use force to coerce adversaries. Scholars of international relations, we suggest, should pay closer attention to their assumptions about intertemporal tradeoffs, and would be well advised to ground those assumptions in what we know about actual human decision-making.

**Temporal Discounting in IR Theory**

An actor’s “time horizons” describe how much value she assigns in the present to future outcomes. The length of her time horizons may be defined as the expected value of the good in question multiplied by her “discount factor,” which measures how much weight she gives to future units of time. Because present gains are assumed to be preferable to equivalent future gains, the discount factor is conventionally between 0 and 1. The less the future weighs in an actor’s present decision-making, the smaller her discount factor and the shorter her time
horizons.\footnote{The discount factor is inversely related to the discount rate. While it may be intuitive to think that lower discount rates lead to longer time horizons, the discount factor is more commonly employed in the political science literature.} As her discount factor increases, her time horizons lengthen, and her actions are increasingly affected by considerations of future outcomes.

Time horizons figure centrally, if sometimes only implicitly, in the major approaches to international politics. It is no exaggeration to say that there are as many theories about what shapes actors’ time horizons in international relations as there are theories of international relations. However, the centrality of time horizons has not been matched by scholars’ self-consciousness about their assumptions. As a result, individual works of scholarship as well as entire research programs rest on inconsistent assumptions about actors’ discount factors. There is no consensus about what effects shortening or lengthening time horizons has on decision-making. Most ironically, efforts to theorize time horizons normally marginalize the passage of time: discount factors are attributed to structure, agency, interaction—seemingly everything but the actor’s temporal distance from the event in question. Greater attention to the new empirical literature could help address these problems. It would require scholars to be more reflective about their assumptions about time horizons, and it might compel them to ground those assumptions in what we know about actual human decision-making or at least to explain why their assumptions diverge. And it would return time to the center of theorizing about time horizons, since the new literature recognizes that discounting and decision-making vary partly in response to temporal distance.

\textit{Time Horizon Length}

Structural realists are typical in making contradictory assumptions about time horizons. On the one hand, they assert that states are highly sensitive to relative gains, foregoing even substantial absolute economic profits in the short run out of the fear that present inequalities will
eventually produce large disparities in military capability. Such sensitivity to relative gains makes sense only if actors give almost as much weight to the future as to the present—that is, if they have long time horizons. Moreover, realists have argued that states fear that a currently satisfied country may become dissatisfied in the future and that this impedes interstate cooperation in the near term. On the other hand, realists (notably offensive realists) argue that states’ immediate security needs trump other, especially long-term, considerations. As a result of “worst-case” reasoning, states forego institutionalized cooperative relationships, even those from which they would profit over the long haul, to avoid short-term security costs that would leave them vulnerable should an existential threat arise. Neorealists thus appear simultaneously to presume that leaders’ discount factors are both large and small.

Seemingly sensitive to intertemporal tradeoffs, Mearsheimer asserts that states “pay attention” to both short and long term considerations. As evidence for this vague proposition, he purports to demonstrate that states sometimes forego opportunities to expand their power because they are foresighted enough to perceive the long-run costs. Yet such invocations of prudence remain theoretically ad hoc, and the claim that this behavior is rational cannot be disproved without a priori specification of the proper balance between investments in the near versus the distant future. Moreover, it is hard to reconcile Mearsheimer’s stated assumption—which we take to mean that neither short nor long time horizons systematically dominate—with his core claim regarding the logic of anarchy, which rests on the presumption that long time

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5 Grieco 1988a, 497-503; Mearsheimer 2001, 36, 52; Waltz 1979, 105-106.
6 If states can swiftly convert economic into military capacity, they might fear unequal gains without having long time horizons. However, neorealists argue that states are always at least somewhat sensitive to relative gains, even in dealings with allies with whom they do not expect to go to war in the near term. See Grieco 1988a, 501. On the factors affecting sensitivity to relative gains, see Grieco 1988b.
8 Brooks 1997, 450.
10 Mearsheimer 2001, 31; see also Mearsheimer 2009, 244.
Time Horizons and IR

horizons dominate. Only states with long time horizons would strive for hegemony, and a
weighty shadow of the future thus fuels the tragedy of great power politics.11

Even neoliberal institutionalists, who introduced time horizons to international relations,
have not been fully consistent. On the one hand, Keohane has argued that the origins of regimes
lie in the “demand” for them, in the functions they serve and the benefits they provide. Actors
absorb the short-run costs of setting up institutions because of foreseeable long-run gains—
implying that actors’ time horizons are long.12 Yet regimes are, at the same time, necessary
because actors’ time horizons are not long enough to sustain regular cooperation. From a
neoliberal perspective, actors’ time horizons seem to be quite long, yet not quite long enough.
Meanwhile, whereas Keohane presumed that time horizons were the product of stable interests,
he and others also depicted them as malleable, capable of being lengthened through interaction—
through strategies of reciprocity, through institutions that sustain expectations of indefinite
engagement, and through agreements that apportion benefits equally over time.13 Time horizons
may shift because these strategies, institutions, and agreements alter the expected future payoffs
from cooperation. But if interaction lengthens time horizons by altering states’ discount
functions—a possibility that neoliberals do not rule out—this would call into question the
stability of interests and thus the rationalist underpinnings of neoliberal theory.

These theories’ inconsistent assumptions about time horizons not only renders them logically
incoherent, but also contributes to the confusion surrounding basic questions in the field. As a
result, it is hard to know whether theoretical differences result from divergent assumptions about
actors’ discount factors (despite shared views about the basic structure of international politics)
or from differences over the basic structure of international politics and thus over the

12 Keohane 1982.
ramifications of time horizons (despite shared assumptions about the length of actors’ time horizons).

**Consequences of Time Horizons**

Nor is it clear whether long time horizons make international cooperation or conflict more likely. One view, associated with neoliberal institutionalism, is that long time horizons mitigate the uncertainty of international anarchy by giving states incentives to invest in relationships and by fostering stable expectations. This lay at the heart of Axelrod’s insight that an iterated Prisoner’s Dilemma, as opposed to a one-shot game, tempered the incentives to mutual defection. Moreover, long time horizons are conducive to “diffuse reciprocity,” allowing states to tolerate short-term inequalities in their international arrangements.\(^{14}\) The view that long time horizons conduce to peace and cooperation is also shared by defensive realists, who perceive similar advantages in the security and long time horizons that defense dominance generates.\(^{15}\)

Conversely, when states have short time horizons, they are wary of entering into international agreements impinging on their military capabilities, and they insist on specific reciprocity.

However, many realists (notably offensive and hegemonic realists) see long time horizons as conducive to conflict. First, cooperation is unattractive if actors presume increasing returns to scale. If unequal trade at \(t_0\) can have substantial military consequences at \(t_1\), anything other than balanced trade is intolerable. Actors with short time horizons can be tolerant of such inequalities, as long as they have no immediate impact on security. Second, long time horizons can give actors incentives to develop “tough” reputations that they believe will redound to their benefit in future rounds of interaction. In the game of Chicken, iterated play increases the players’ incentives to defect so as to cultivate a reputation for resolve. Third, contrary to neoliberals,

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\(^{14}\) Keohane 1986; Axelrod 1984. For related insights, see Jervis 1983.

\(^{15}\) The seminal work is Jervis 1978.
rational states that value future gains from conquest may be inclined to cheat on arms-control agreements, to gain an advantage over prospective opponents.\textsuperscript{16} Fourth, only leading states with long time horizons would consider preventive war to preserve their status. States with short time horizons would be less concerned about long-term negative trends in the distribution of power, and would certainly not be willing to take on present costs to prevent future losses.

The neorealist-neoliberal debate is thus in part a debate over the consequences of state leaders’ time horizons. If those consequences depend partly on whether international politics is structured as Chicken or Prisoner’s Dilemma, scholars might productively devote their energies to ascertaining which game is a better analogue for the most common, or the most important, international scenarios and arenas—as Jervis suggested. Where international politics looks more like Prisoner’s Dilemma, long time horizons would produce cooperation, and where it looks more like Chicken, long time horizons would produce conflict.\textsuperscript{17} Alternatively, all episodes of international cooperation involve a common two-stage strategic structure—bargaining followed by enforcement—and the effects of long time horizons might vary accordingly: Fearon persuasively argued that long time horizons complicate negotiations but ease enforcement.\textsuperscript{18}

Scholars of international relations have long debated whether and when neorealists or neoliberals are right. But neither approach may properly specify the effects of long time horizons because they remain wedded to a rationalist theory of decision-making. Both approaches presume that actors’ discount rates are independent of the temporal distance of the object or event in question and that actors focus on the same attributes of the object or event without regard to temporal distance. That assumption facilitates deduction. But the recent empirical research into inter-temporal decision-making casts doubts on its validity.

\begin{footnotesize}
\begin{enumerate}
\item A formal demonstration of this assertion is Powell 1999, 69-73.
\item Jervis 1988, 323-324.
\item Fearon 1998.
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Psychology and Intertemporal Tradeoffs

To the extent that theories’ assumptions regarding time horizons depart from the reality of human decision-making, those theories are likely to prove problematic. While this position is not uncontroversial, in practice IR scholars, including rationalists, often seek to show that leaders’ actual decision-making processes mirror their theoretical logics.\(^{19}\) If international politics and foreign policy often involve inter-temporal tradeoffs, then it makes sense to ground theory in empirical findings regarding the effects of time horizons on decision-making.

**Constant or Changing Discount Rate?**

IR theorists universally presume that state leaders discount time at a constant rate—that is, the value of an item or action (e.g. the conquest of territory or reneging on a trade agreement) declines at the same rate for each unit of time. Yet, in fact, human beings’ discount rates change as scenarios become more temporally distant: they engage in hyperbolic, rather than exponential, discounting. This means that they judge an item’s subjective value to drop more rapidly in the near term than in the more distant future, and the initial decline occurs faster than the classical discounted utility model would suggest.\(^{20}\) In short, actors with hyperbolic discount rates are more likely to sacrifice their greater long-term interests for smaller near-term rewards.\(^{21}\) While it is not irrational to have short time horizons, hyperbolic discounting presents a challenge to classical rationality in that it does not conform to the assumption of stationary preferences. Consider an individual asked to choose between a small reward ($S$) in 7 months or a larger reward ($L$) in 8

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\(^{19}\) This is true of all work that engages in process-tracing. For a rationalist example, see Kydd 2005.


\(^{21}\) Benzion, Rapoport, and Yagil 1989; Thaler 1981. Individuals not only heavily discount the near future but also apply declining discount rates to the more distant future, such that their discount function “plateaus.” At some point, distant payoffs might outweigh the effect of steep discounting in the near-term, but this presumes that individuals evaluate far-off time periods when making intertemporal tradeoffs. See Streich and Levy 2007, 209, 218.
months. Assume that she prefers to wait 8 months to obtain \( L \). If her discount rate is constant, as in Figure 1, her preference ordering will not change as long as the time separating \( L \) from \( S \) remains constant: \( S \), which starts out as less attractive than \( L \), remains so throughout the 8 month period. However, an individual with a hyperbola-like discount rate, as in Figure 2, will prefer \( S \) if the time to reception is reduced sufficiently—say, if she can obtain \( S \) after 6 months but must still wait a month to receive \( L \).\(^{22}\)

[INSERT FIGURES 1 & 2 ABOUT HERE]

The transitivity of preferences—that is, if an actor prefers \( A \) to \( B \) and \( B \) to \( C \), she prefers \( A \) to \( C \)—hinges on the assumption that preferences are stable over time. But hyperbolic discounting challenges the stability of preferences, transitivity, and thus rationality. It acknowledges a common and often frustrating reality of human behavior: a lack of impulse control.

**Sign**

Another departure from exponential discounting is the “sign” effect—that is, whether a future outcome is anticipated to be a loss or a gain. As temporal distance grows, people discount gains more heavily than they do losses: the idea of losing $100 in the future weighs more heavily than that of gaining $100 at that same point in time.\(^{23}\) However, studies documenting the sign effect share two potentially problematic attributes. First, they treat future outcomes as certain: it is not a question of whether some good will be realized, but when. Second, they also treat the outcome’s sign as certain: participants know ahead of time whether a specific occurrence will yield a gain or a loss. Given the prevalence of uncertainty in international politics and IR theory,\(^{24}\) findings based on the assumption of certain outcomes are likely of limited applicability.

\(^{22}\) Kirby and Herrnstein 1995.

\(^{23}\) See Benzion, Rapoport, and Yagil 1989, 275-276; Thaler 1981, 204.

\(^{24}\) Rathbun 2007.
Fortunately, scholars from other psychological research traditions have explored the interaction of sign and uncertainty with temporal delay. In these studies, subjects are presented not with certain losses or gains, but with the prospect that they will gain, lose, or come out even. The amount of time until the realization of the outcome and the probabilities of the different outcomes are then varied systematically. In these “lottery” experiments, the findings are exactly the opposite of the sign effect: under conditions of uncertainty, the more an outcome is delayed, the more heavily individuals discount losses rather than gains.\(^{25}\) Put differently, under conditions of uncertainty, long time delays are conducive to wishful thinking; thus respondents judge distant threats as less likely than distant opportunities, and they gain confidence in their ability to “manage” distant threats.\(^{26}\)

That people reason differently about gains and losses is familiar to students of IR through prospect theory.\(^{27}\) Prospect theory states that people are prone to risky actions to avoid losses while they tend to be cautious in the pursuit of gains. The theory, however, would not expect an individual’s preferences to shift when possible outcomes are delayed but when the potential payoffs, and the odds of those payoffs, remain constant—yet that is what studies have found. Furthermore, prospect theory explains risky gain-seeking behavior by positing that people overweight low probabilities.\(^ {28}\) However, studies of intertemporal choice have found that as temporal distance grows under conditions of uncertainty, people simply pay less attention to probability and focus instead on the size of the potential gains. In other words, with long time delays, it is not that people overemphasize probability considerations; rather, they overlook


\(^{26}\) Highhouse, Mohammed, and Hoffman 2002, 51.

\(^{27}\) On prospect theory and international relations, see Levy 2000; Mercer 2005; McDermott 2004, 69-75. For applications, see Taliaferro 2004; McDermott 1998.

\(^{28}\) Levy 2000, 199, fig. 2; Schaub 2004, 399.
them. In fact, as the outcome of a lottery is delayed, people increasingly decide whether to buy a ticket based on the size of the pot rather than their odds of winning.  

*Construal Level*

One might think that individuals would always be mindful of the probabilities of achieving a given outcome, but, as their time horizons lengthen, they exhibit similar confidence in the likelihood of a positive outcome regardless of whether the task depends on skill or chance. One might think individuals would balance risk and payoffs the same way regardless of whether their time horizons are short or long, but in fact they prefer high-probability, low-payoff gambles in the near term and low-probability, high-payoff gambles in the long term. One might think that individuals would evaluate temporally near and distant alternatives using the same criteria (albeit with far-off payoffs more heavily discounted), but in fact, as temporal distance grows, they focus less on the feasibility of a given course of action than on the desirability of the outcome.

“Construal level theory” (CLT) sheds light on these behaviors that seem paradoxical from the perspective of classical rationality. Agnostic about the origins of time horizons, CLT offers hypotheses about the effects that lengthening or shortening time horizons has on an individual’s cognition. It starts with the intuitive premise that, ceteris paribus, people will find it more difficult to ascertain reliable details about distant events and actions than about those that are closer. To simplify the process of making assessments of temporally distant, and thus necessarily unclear, events or actions (whether located in the distant past or the far-off future), people rely on preexisting mental constructs, or abstractions. Abstract portrayals—“high level”

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30 Trope and Liberman 2003, 411.
32 Liberman and Trope 1998.
34 Somewhat more surprisingly, this finding holds whether distance is conceived in spatial, temporal, social, or emotional terms. In this paper, we focus only on temporal distance.
construals—are general, decontextualized, and focused on the reasons why an action was, or will be, carried out or an event did, or will, occur. The less temporally distant an individual’s focus, the more “low-level” her construal of an event or action. Low-level construal requires effortful inductive reasoning. It is detail-oriented, concrete, and more concerned with how an action was, or will be, carried out or an event did, or will, occur.\(^{35}\) Abstract representations emphasize ends, while concrete representations highlight means.\(^{36}\)

A foreign-policy analyst informed by CLT might expect that, when China’s achievement of superpower status is still far off, assessments of US-Chinese relations would in both countries be formulated in abstract terms—focusing on power transitions, economic interdependence, and so on. US decision-makers would talk broadly about the need to integrate China into the existing international order or alternatively to prevent its rise to superpower status, but they would not articulate a clear plan toward their preferred goals. As China’s rise to superpower status neared and time horizons became shorter, however, the debate would become less theoretical, more focused on the particulars of the case, and more concerned with the mechanics of policy.

Abstract thought makes possible the traversal of various forms of psychological distance. Like many heuristics, however, it may come to be used in situations inappropriately. Thus telling people that a person or object is far away (spatially or temporally) prompts high-level construal even if concrete information is provided.\(^{37}\) Telling people that an event is unlikely to occur leads them to construe it more abstractly than a likely event, even if all other details provided about the two events are the same.\(^{38}\) When considering the distant future, individuals ascribe others’ anticipated behavior to durable traits, which are more abstractly construed, rather than to

\(^{36}\) On this point, there is not complete consensus among psychologists. See Kozak, Marsh, and Wegner 2006, 551.
\(^{38}\) Wakslak et al. 2006.
situational factors, which are construed at a lower level. Such dispositional attribution occurs even when people have the same amount and quality of information about distant and near future conditions.  

Most crucially, CLT predicts that greater temporal distance generally results in unwarranted optimism about one’s actions. When actors contemplate the long term, they normally construe events in abstract terms: they focus on “superordinate” goals at the expense of “subordinate” processes—on “why” rather than “how,” on the desirability of their ends rather than the challenges entailed in reaching them, on the benefits of distant action rather than the costs. In short, wishful thinking ensues. Moreover, because individuals’ conceptions of distant future events are less complex and more prototypical, it becomes easier to assimilate ambiguous information into existing mental categories—reinforcing the tendency toward wishful thinking. On the other hand, when time horizons are relatively short, individuals engage in concrete construal, which presumes the task’s desirability and prompts investigation of its feasibility—“how” rather than “why.” Individuals with short time horizons are more receptive to revising their subordinate goals in line with available information, reducing the bias toward optimism. CLT thus might shed light on the politics of humanitarian missions, whose abstract goals tend to be viewed more positively than the concrete measures taken to attain them—whether foreign aid or military intervention. It would not be surprising, from the perspective of CLT, if the American public was found to be more supportive of the general concept of using the nation’s military forces to deliver humanitarian assistance at an unspecified time and place and more confident of their efficacy than of concrete proposals to deploy forces for specific humanitarian missions.

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40 Eyal et al. 2004, 782 explain that the potential costs of an action are relevant only insofar as the action is considered desirable, whereas the potential benefits are important regardless of an action’s “cons.”
41 Liberman and Trope 2008, 1204.
This pattern of cognition—realism and concreteness when considering the near future, optimism and abstraction when considering the more distant future—was apparent among top US decision-makers prior to the 2003 Iraq War. Bush and his advisers were active participants during the 16 months that plans for combat were being formulated.\textsuperscript{43} The same individuals, however, were reportedly disengaged during briefings on prospective postwar operations—even though the very rationale for war hinged on the success of these operations. They were satisfied with the “rosy, pie-in-the-sky” assessment of the invasion’s aftermath that Undersecretary of Defense for Policy Douglas Feith presented.\textsuperscript{44} Chronic overconfidence cannot explain this outcome, since then leading officials should have been as disengaged from war-planning as they were from “stability operations.” Bush administration officials’ intense involvement in concrete short-run military plans, their lack of planning for the more distant postwar period, their unwarranted optimism regarding the postwar situation are all consistent with CLT.\textsuperscript{45}

CLT research has also shown that, as temporal distance increases, people believe they would have greater regrets if something undesirable happened because they did not act than if something undesirable happened because they did act. In other words, when presented with distant threats and opportunities, individuals are disposed to (vaguely considered) action, because they fear errors of omission more than errors of commission.\textsuperscript{46} Thanks to the optimism bias, they enjoy excessive confidence that their actions will yield beneficial consequences (or at least mitigate the worst ones), even if the foreseen outcome is unwelcome, such as a detrimental change in the distribution of international power.

\textsuperscript{43} Bensahel et al. 2008, 236-237.
\textsuperscript{44} Woodward 2006, 131-134. See also Gordon and Trainor 2006, 161.
\textsuperscript{45} Elsewhere, one of this paper’s authors has addressed a range of explanations for the short shrift Bush administration officials gave to postwar considerations. See **Author.
\textsuperscript{46} Leach and Plaks 2009. This may seem to contradict the finding that people have a “status quo” bias, which would suggest they are prone to inaction. However, as Levy has pointed out, it is more accurate to say that people have a “reference point” bias. A predisposition towards inaction follows only if the status quo is the reference point. See Levy 2000, 202-203.
FDR’s policies toward Europe before and after the Munich crisis seem consistent with CLT. While Roosevelt was aware by 1936 that events on the continent were trending toward war, his response prior to September 1938 was to “experiment with evident enthusiasm.” While there is nothing irrational about policy experimentation in the face of uncertainty, it is hard to square Roosevelt’s decision-making process with rationality. Farnham concludes that this experimentation took place without “carefully weighing the advantages and disadvantages of alternative policies and making trade-offs… Indeed, Roosevelt habitually launched alternatives that had not even been fully evaluated individually. Moreover, there is no indication that he attempted to deal with uncertainty by calculating outcome probabilities.”\(^47\) CLT would expect such “enthusiasm” for action when time horizons are long, unaccompanied by the careful weighing of tradeoffs or probabilities of success. Put differently, Roosevelt seems to have been operating with the imperative: do something.\(^48\) CLT might also help account for Roosevelt’s approach after Munich. While Roosevelt was never known for dwelling on the details of policy, this changed somewhat as war loomed and then erupted, as his time horizons shortened. He still did not bother with the finer points, but he became intensely concerned with “how” questions—how to sustain Britain despite the public’s worry about a slippery slope to war, how to design aid packages that a skeptical Congress might pass, how to create an incident that might move a reluctant nation to war. While his public rhetoric continued to insist that the United States could, by supporting Britain and then the Soviet Union, avoid sending its soldiers to Europe, privately it

\(^{47}\) Farnham 1997, 80-81.

\(^{48}\) Farnham (ibid.) argues that FDR’s behavior between 1936 and 1938 is consistent with what she calls a “political approach” to decision-making. But that approach, which she defines in terms more or less consistent with loose rationality (30), rests uncomfortably with her own depiction of FDR’s less-than-rational decision-making process.
was clear that Roosevelt’s optimism bias had fallen away. Enthusiastic experimentation gave way to a “cautious crusade.”

CLT suggests that the length of individuals’ time horizons has paradoxical effects on their planning. Even if people care about the future—that is, even if they have long time horizons—they are not likely to prepare for it, because they are focused on the big picture, on the why rather than the how. Those who care less about the future—that is, individuals with shorter time horizons—are not as motivated to think far ahead, but they are more sensitive to overly optimistic or vague premises because they are primed to focus on the details, on the how rather than the why. Finally, CLT also has implications for participants in policy debate. It is easier for people to receive and comprehend information when it is presented at the same level (high or low) as their present mental state. When policymakers have long time horizons, those who present arguments in abstract terms will be more effective than those who present arguments in concrete terms; when policymakers have short time horizons, the opposite is true.

Moving from the Lab to the “Real World”

But can we safely extrapolate from these laboratory findings to the world of foreign policy decision-making? This concern with external validity is not trivial. The typical participant in psychological experiments is not representative of elite political actors, and laboratory settings cannot fully simulate strategic decision-making environments—neither their pressure nor their stakes. However, elites are more like “average” citizens than we normally think: experts

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50 It is not, however, always better to think concretely, rather than abstractly, about the future. Redoubling efforts at the operational level can lead actors to lose sight of their strategic goals and can contribute to “goal displacement”—to the confusion of priorities and the misallocation of scarce resources. It can be equally harmful to focus on grand strategy to the exclusion of operational considerations.
51 Fujita et al. 2008.
process information similarly to laypeople and are subject to the same cognitive biases. Moreover, some studies that have revealed optimism biases in future forecasting have been conducted with business leaders, who might be expected to account for long-term costs and risks at least as well as government officials. While the White House Situation Room is unquestionably a distinctive environment, whether that alone undermines the applicability of psychological dynamics should not be taken as an article of faith. In fact, given the wealth of studies that have successfully applied psychological insights to foreign policy, perhaps the burden of proof should lie with the skeptics. In general, there is no way of knowing whether any theory, psychological or not, is valid in a given context until it is measured against empirical evidence from that domain. For rationalist, as for psychological, accounts, the proof of the pudding must lie in the eating. This article, however, is more theoretically inclined. In the next section, we suggest that the pudding might in fact be delicious, but we cannot offer conclusive evidence of its tastiness.

However, there is no reason to think that individual-level variables will be important explanatory factors under all conditions. The extent to which processes of individual or small-group decision-making affect policy depends on structural factors within and between states. Domestic and international institutions may socialize actors to adopt alternative modes of decision-making when considering future events and outcomes; if decision-makers are aware of specific biases, they may even adopt procedures to counteract them. It is also possible that mid-level bureaucrats, due to their greater reliance on standard operating procedures, are less susceptible than their superiors to CLT, though they are also likely more vulnerable to organizational pathologies. Conversely, temporal construal should have a greater political impact

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when the political environment is novel or ambiguous, because social environments then provide fewer clear rules or guidelines to shape expectations.\footnote{Kahneman and Lovallo 1993, 28; Byman and Pollack 2001, 141-142; Greenstein 1987, 50-51.}

**Implications for International Relations**

What implication do these findings have for international relations? We focus here on three questions that have lain at the center of theorizing in international relations in general and international security in particular—cooperation and compliance, preventive war, and military coercion. We show that the recent findings from psychology and behavioral economics challenge old verities, suggest new explanations, and may elucidate enduring puzzles. In this section, we offer illustrative examples to clarify the hypothesized theoretical dynamics. We do not claim to have proved that psychological insights into intertemporal decision-making account for specific empirical cases, nor can we, given space constraints, address alternative explanations of these cases. Our more limited claim is that a particular instance is “consistent with” psychological insights that “may explain” the behavior or outcome. We leave it to future research to establish whether individual psychology is a contributing causal factor in any given case.

**Cooperation, Compliance, and Conflict**

Hyperbolic discounting challenges neoliberals’ optimism about the potential for cooperation among states in an anarchic international arena. As Streich and Levy have argued, because people discount hyperbolically, it is difficult to encourage them to extend their time horizons, international institutions notwithstanding. Even in well-institutionalized contexts, future rounds
of cooperation do not weigh heavily.\textsuperscript{56} In short, if cooperation in global politics is often more difficult to achieve than neoliberals expect, hyperbolic discounting may help explain why.\textsuperscript{57}

This is compounded by the effects of hyperbolic discounting on the stationarity of preferences. Neoliberals presume that leaders prefer trade to war because war is an inherently costly enterprise, but that they sometimes opt for war if its profits can be realized more quickly. If the discount rate is constant, sufficiently increasing the benefits of trade can shift the equation so that the long-term profits of trade weigh more heavily than the more immediate gains from conquest. From a neoliberal perspective, shortening the length of time until war yields its benefits will not change the calculus, as long as the temporal gap between realizing expected gains from war versus those from trade remains constant. But if the discount rate is hyperbolic, these preferences may flip if war is expected to produce gains sooner—even if that temporal gap remains stable. Consider the following scenario. State A expects that initiating conflict with state B will bear fruit after six months. While initiating trade with B would produce greater net gains, these gains would not be realized for eight months. Assume that under those conditions state A prefers trade to war. Then, A’s intelligence agencies release a revised estimate predicting war’s gains to materialize in two months and trade’s in four, but leaving unchanged its estimate of the net gains of each policy. If state A’s leaders discount exponentially, as in Figure 1, the revised estimate should not affect their choice: they should still prefer trade to war. However, if A’s leaders discount hyperbolically, as in Figure 2, accelerating the pace at which gains are realized may make all the difference, and they may now prefer war to trade.

Hyperbolic discounting also has important implications for the design of international institutions. Whereas neoliberals suggest that states find ways to increase the long-run gains of

\textsuperscript{56} Streich and Levy 2007, 215-218. Their argument presumes that cooperative institutions do not socialize individuals to alter their discount rates.

\textsuperscript{57} For relevant empirical evidence, see Harris and Madden 2002; Yi, Johnson, and Bickel 2005.
cooperation and costs of defection, psychologists attuned to hyperbolic discounting might advise focusing instead on limiting short-run temptation. By analogy, people might be better encouraged to cut down on their consumption of sweets by keeping sugary food out of the house, than by holding out the promise of better health. Realists would be skeptical that there are effective ways of closing off immediate temptations, because states will not concede substantial autonomy. Human psychology, however, suggests that while leaders might not sacrifice state autonomy for the sake of future gains alone, they might to avoid future losses, such as exclusion from a “club.” If, per the sign effect, actors expend more effort to avoid certain losses than to secure certain gains, framing cooperation as a means of avoiding certain loss will help lengthen the shadow of the future and thereby encourage states to cede control over key aspects of national policy. This may explain, for instance, why British leaders were so eager to join the European Community, even though entry involved high transaction costs and uncertain short-run commercial gains: they feared what would transpire if they were left on the outside looking in.

Psychological findings on construal also challenge both neoliberal and especially neorealist approaches to cooperation and conflict. Recall the central finding that, as time horizons lengthen, individuals reason more abstractly, focus more on expected payoffs, and thus engage in wishful thinking. According to CLT, neoliberals are partly right—but for the wrong reasons. When actors’ time horizons are long, the magnitude of potential payoffs weighs especially heavily relative to their likelihood, and the more actors perceive they stand to gain from a cooperative relationship in the future. In line with neoliberal theory, and contrary to neorealism, CLT suggests that long time horizons are conducive to cooperation. Where neoliberals are clearly wrong, according to CLT, is in the causal mechanism and the policy implications. The

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58 On the exclusion costs of clubs, see Gruber 2000, esp. 47, ch. 43.
59 Moravesik 2000, 5-6, 18-21. See also Gruber 2000, ch. 8-9.
transaction costs of cooperation, which neoliberals seek to lower through international
institutions, are not a great impediment to the abstract thinker with long time horizons because
potential obstacles to his ends, such as high transaction costs, are not salient. Similarly, for this
abstract thinker, the enforceability of any agreement—the central problem from a neoliberal
perspective—would be secondary. According to CLT, long time horizons facilitate cooperation
more because they make individuals attentive to the size of future payoffs than because they
generate transparency, increase the costs of defection, and thereby bolster enforcement.
Moreover, institutions that perform these functions have high start-up costs, making near-term
considerations more salient. Ironically, rigorous institutional design may shorten time horizons,
not lengthen them. That neoliberals are right for the wrong reasons impacts policy too. If the
implication of CLT—that the magnitude of the expected future gains from international
cooperation matters most—is right, negotiators may harm the prospects for long-term
cooperation by seeking from the start to establish strong institutions; cooperation may benefit if
institutions develop more gradually.\(^{60}\)

Construal level theory is even more problematic for neorealists, who argue that states’ long
time horizons intensify relative gains concerns and impede cooperation. As critics have noted,
states in a neorealist (or at least an offensive realist) world do not weigh outcomes’ expected
probabilities.\(^{61}\) Nor are neorealists clear on how small disproportionate gains from trade in the
short run yield large disparities in national material capabilities in the long run. Consistent with
CLT, states in a neorealist world reason abstractly, are less attentive to detail, and focus more on
possible than on probable outcomes. But, in contrast to neorealism, CLT does not find that actors

\(^{60}\) It is suggestive that negotiators who focus more on concrete, specific issues are less willing to engage in
reciprocal concessions than those whose focus during bargaining sessions is more general and abstract. See
Henderson and Trope 2009, 411-412

\(^{61}\) Brooks 1997.
with long time horizons consistently engage in worst-case reasoning. Just the opposite: they downplay the potential negative consequences of future actions. Structural realists, in contrast, seem to suffer from a pessimism bias.

Perhaps most challenging, however, to both neorealist and neoliberal accounts are the findings with regard to sign. Recall that the effects of an event’s sign vary depending on the degree of certainty associated with it. Neoliberals and neorealists agree that uncertainty in international politics makes cooperation harder, but they disagree about whether uncertainty can be alleviated. From a psychological perspective, however, the effects of an event’s sign yield expectations at odds with *both* theories. Presume that neoliberals are correct—that the uncertainty of anarchy can be eased and that, as a result, cooperation can be facilitated. Under conditions of certainty, future gains are discounted more heavily than future losses. As time horizons lengthen, the rewards of cooperation—that is, the primary reason to cooperate—matter less to present decision-making than the costs cooperation imposes. From the perspective of institutionalist theory, this is ironic. The conditions that neoliberals have argued are conducive to cooperation—that is, institutions that reduce uncertainty—would then actually undermine cooperation by deemphasizing its gains and emphasizing its costs. Alternatively, presume that unyielding realists are correct—that the uncertainty of anarchy can never be substantially alleviated and that little cooperation can be facilitated beyond that which we already observe. Under conditions of uncertainty, future losses are discounted more heavily than future gains. Thus, as time horizons lengthen, the costs of cooperation figure less in present-decision-making than the rewards cooperation promises. Human psychology suggests that, the more neorealists are right about the uncertain state of the world, the more easily actors may cooperate.
The psychological literature cannot tell us whether neorealist or neoliberal assumptions about the basic conditions of international politics pertain. It cannot tell us whether uncertainty regarding others’ intentions can be substantially relieved. But it does raise questions about the conclusions that both schools of thought draw from their respective assumptions.

Preventive War

E.H. Carr famously placed the problem of effecting “peaceful change” at the center of international theory.\(^{62}\) For declining powers eager to retain their dominant position, waging war to prevent the otherwise inevitable changing of the guard is an option. Scholars have explored what regimes are likely to launch preventive wars and how shifts in power differentials conduce to or impede war.\(^{63}\) But they have left unexplained two puzzles. First, it is generally presumed that the declining power waits until quite late to initiate war, until the power difference between it and the rising power is small. Would it not be rational for the declining power to intervene far earlier to prevent the challenger from nearing power parity? Would it not be less costly to fight when the dominant power’s advantages are relatively great?\(^{64}\) Second, if states do not launch a preventive war early, why are they willing to launch a preventive war late, when it would be more costly? Gilpin recognized that declining states had several policy options, of which preventive war was only one—alongside retrenchment and renewal—though he deemed it often the “most attractive.”\(^{65}\) When do states opt for preventive war and when for an alternative? The literature has not addressed this question, even though Levy long ago called it “the important theoretical question.”\(^{66}\)

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\(^{62}\) Carr 1951, 208-209.


\(^{64}\) This important question is raised in Edelstein 2009.

\(^{65}\) Gilpin 1981, 191.

\(^{66}\) Levy is also exemplary in beginning to think through the factors exacerbating the preventive motivation to war. Levy 1987, 85 [emphasis added].
States’ reluctance to undertake early preventive war, but their willingness to do so later, is consistent with hyperbolic discounting. Because the value of the future, under hyperbolic discounting, falls off more rapidly than classical rationalist models expect, the challenger’s rise seems less costly when the moment of transition is relatively far off. As a result, the costs of war now for the dominant power appear high relative to the costs of standing pat (i.e. further decline), even though war now would be waged on relatively favorable terms. As the moment of transition draws near, however, that outcome weighs more heavily in present decision-making, and while the objective costs of losing primacy have not changed, the subjective costs have. As time horizons shift, so do preferences, and thus declining powers fight preventive wars later, and on less favorable terms, than would otherwise be expected.

This outcome, however, might be rational—though we find such explanations wanting. First, and most straightforwardly, it is not irrational for state leaders to have short-to-moderate time horizons and thus to make some future concessions to avoid the immediate costs of war—in blood, treasure, legitimacy, and domestic political capital. Nor is it irrational for leaders to be risk-averse and thus be unwilling to undertake an inherently risky venture like war, even when the distribution of power is favorable. However, even states with short-to-moderate time horizons are not always better off delaying war, since the costs of war increase over time as the rising state grows more powerful: war now with a weaker opponent may be less costly than war later with a stronger opponent. Similarly, standing pat is not risk free, and the risk of losing a war only goes up as power parity approaches; even risk-averse leaders in a declining hegemon should sometimes find war now with the rising power more appealing than war later. Neither short time horizons nor risk aversion can account for the absence of early preventive war.

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68 On this in the context of preventive war, see Levy 2008, 21.
But does this not presume that war is inevitable, later if not sooner? Might not the declining state’s concessions satisfy the rising power and preserve the peace? At the very least, as Powell has suggested, might not delay, via negotiations and concessions, allow a declining state to infer a rising power’s aims and perhaps avoid an unnecessary war? In other words, there is a second possible rationalist explanation for waiting: a declining state can delay preventive war to gather information about its prospective opponent’s goals and power. The problem is that a challenger with limited aims cannot credibly commit to abstain from converting concessions into military strength and political influence in the future. Without such a credible commitment, declining states should fear that rising competitors will increase their demands as their power grows, that concessions will beget calls for further concessions. Due to this insoluble commitment problem, the declining power continues to have incentives to launch an early preventive war.

Third, even preventive war may not be able to prevent the challenger’s rise. Countries may prosper and stagnate for reasons that are endogenous to their development, resource base, and technological change. Intervening early might slow a country’s rise, but not alter its trajectory. If true, however, this renders the declining power’s subsequent decision to opt for war even more puzzling, since the presumption that states can do little to forestall the inevitable applies as much, if not more, as the power transition approaches.

Other features of the psychology of time may also help explain why, for declining states, the default stance toward the challenger’s rise is denial. When the anticipated change in the distribution of power is uncertain and far off, CLT expects a presently dominant state to be

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69 Powell 1996.
70 Rational states should continue to revise the status quo so that the distribution of benefits accords with the distribution of power. See Powell 1999, 85; Gilpin 1981, 187.
71 Delay might also be rational if a declining state needs time to mobilize its economy for war. This is logically sound, but it leads to the expectation that declining states undertake early mobilization. Such cases of early mobilization to hedge against a competitor’s rise seem to us rare as well.
disposed toward action (since it fears errors of omission more than errors of commission).

However, it is also expected to have excessive confidence in its capacity to prevent, or mitigate, the feared negative outcome. Thus while a declining power should act to maintain its position, its decision-makers should not consider carefully multiple courses of action or make painful or costly choices, like retrenchment or renewal, let alone war. Moreover, because temporally distant events are construed abstractly, a declining state facing the prospect of a far-off transition should not prepare rigorously for multiple contingencies in case its preferred policy fails. As the power transition nears—that is, as time horizons shorten—the optimism bias should fall away, and policymakers should re-assess their presuppositions. In line with prospect theory, officials in the declining state should then take on substantial risks to prevent imminent losses. The result may be war under conditions that are, for the declining power, less than ideal.

US policymaking with respect to China in recent years may be consistent with CLT. While China’s rise has been rapid and remarkable, it is not a “peer competitor” of the United States and will not be for some time: in short, the power transition remains, by most accounts, relatively far off. Although there has been considerable debate over whether the United States should lean toward engagement or containment of China, policymakers from both parties have pursued a consistent policy of engagement while in power, and they seem to have displayed a resilient faith that this policy will funnel China’s rise so that it prefers integration into the existing international order—perhaps reflecting the predilection to action and the optimism bias typical of those with long time horizons. Indeed, in policymaking circles, there does not seem to be any

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72 As time horizons shorten, individuals prefer low-payoff, low-risk gambles to high-payoff, high-risk gambles. Preventive war clearly falls into the latter category. However, unlike laboratory settings, in which participants are always presented with at least one safe, low-yield choice, declining powers in international politics confront only costly and/or high-risk options as the power transition approaches.

73 War is then possible, but not certain or necessarily probable. As the optimism bias decreases, declining powers may reach the conclusion that the game of primacy is not worth the candle.

74 See, for instance, National Intelligence Council 2008; Zakaria 2008.

75 Friedberg 2005, 12; Mearsheimer 2001, 402; Christensen 2006.
clear alternative to engagement, nor have there been standards clearly articulated by which one might judge engagement to have succeeded or failed—in line with CLT expectations for actors confronting far-off events. Of course short-term profit motives, rather than long-term strategic considerations, may be driving engagement. The test will come as power parity approaches. As time horizons shrink and as uncertainty decreases, construal should become more concrete, the optimism bias should fade, policymakers should become more realistic about their prospects, and the loss of primacy should appear a real and costly prospect to American leaders. This might engender fatalism among American decision-makers, but they might also assume substantial risks to prevent the power transition, and advocates of containment—if not more aggressive policy options—might seize the upper hand.

Students of great power politics might agree that declining powers tend toward inertia, but they might disagree with the explanation. Perhaps states are rational to avoid costly choices as long as possible, and thus leaders neither accept a narrower conception of their interests (retrenchment) nor undertake massive reinvestment (renewal). As the power transition nears, renewal, which is necessarily a long-term process, becomes increasingly unavailable, and retrenchment becomes more costly as choices narrow. War might appear the least bad of a host of unattractive alternatives. If this explanation were right, we would expect to see leaders engage in fine-grained calculations of the costs and benefits of retrenchment, renewal, and war; we would expect to see detailed plans of renewal drawn up, considered, and rejected; and we might expect to see authoritarian regimes opt more often for renewal and perhaps retrenchment, since the domestic costs of these courses of action would be more limited.

Our cursory review of the historical evidence is that these hypotheses do not capture decision-making under decline and uncertainty and that the evidence accords more closely with
the psychological account. Careful calculations of alternative courses of action are the exception, not the rule. While British leaders at the turn of the twentieth century, for instance, were acutely conscious of, and may even have exaggerated, their nation’s growing financial limitations, they also avoided making difficult decisions on national security, refusing either to reduce British commitments abroad or to expand defense outlays. This was not a case of prudent, considered delay. Rather, Friedberg concludes, Britain’s leaders pursued “a combination of treaties, appeasement, and wishful thinking” so that “the threats to which the empire was exposed were deemed to have been miraculously reduced”; because contending values then did not have to be balanced, any careful cost-benefit analysis was rendered unnecessary. The result, Friedberg writes, was that Britain tried “to continue to play the part of a world power without being willing to pay for the privilege.”\textsuperscript{76} Nor do authoritarian regimes seem especially likely to embrace retrenchment or renewal. Even as the exertions of the Cold War bankrupted the Soviet Union, its leaders expanded global commitments and helped doom détente. They refused to consider substantial internal reform that might have strengthened the country’s foundation. Reform did eventually take place, albeit too late, but it took an extraordinary change in leadership—the ascendance of Mikhail Gorbachev—to bring about the (ultimately ill-fated) attempt at renewal.\textsuperscript{77}

Psychological approaches may also provide some support for the expectation of “power transition” theory that rising powers are particularly likely to initiate war, as the power transition nears but before the challenger attains superiority.\textsuperscript{78} This claim has stumbled on the objection that it would be irrational for the rising power to initiate war before it could be confident of its

\textsuperscript{76} Friedberg 1988, 298, 303.
\textsuperscript{77} English 2000. However, see Brooks and Wohlfforth 2000/2001.
\textsuperscript{78} We associate “power transition” theory with especially A.F.K. Organski: see Organski and Kugler 1980, ch. 1, 3; Organski 1968, 371. Other accounts of hegemonic transition, such as that of Gilpin discussed above, expect that if war results, it is because the declining power initiates. While Organski is open to this possibility, he asserts that initiation by the challenger has been more common in history.
If power transition theorists are nevertheless right that rising powers often initiate war early, CLT may explain why. Because rising powers foresee long-term gains in an uncertain future, these weigh especially heavily in their decision-making, and they may be prone to the wishful thinking that war requires when one does not enjoy material advantages—such as presuming that the tide of history, swelling morale, or a crusading spirit favor them. Moreover, because far-sighted leaders focus on the desirability rather than the feasibility of their goals, state officials in the rising power may discount the concrete advice of military planners that war would be less costly later. Such arguments construed in low-level terms may have greater traction as conflict appears imminent, but by then leaders might find it politically impossible to back down. The psychology of temporal construal thus may lead to a situation in which the declining power is too confident that it will stay on top and the rising power is too confident that it can triumph over its still-powerful adversary.

The Logic of Coercion

Among the long-standing research programs in international security is how states use military force in limited ways to achieve political ends. Schelling’s classic writings on deterrence and compellence, and the large follow-on literature, have elucidated this terrain. Political psychologists have long explored how various cognitive heuristics and mental constructs complicate coercion. The recent literature suggests that the outcome of coercive contests hinges not only on the balance of power and interests, which have long featured in rationalist theories of coercion, nor only on perceptual biases and motivated reasoning, nor only on sign (gain/loss) a la

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80 See especially Schelling 1966; Schelling 1960. See also Art and Cronin 2003; Byman and Waxman 2002; George and Smoke 1974.
prospect theory, but also on time horizons and their the interaction with sign. These findings also shed light on a longstanding puzzle: is compellence harder than deterrence, and why?

Theorists of coercion have argued that defenders of the status quo hold the advantage. One common explanation for the relative difficulty of compellence is that the costs of conceding to the defender’s threat are higher. Because targets of successful compellence must change their behavior, they cannot as easily deny that they conceded, and thus they bear the costs of “loss of face,” internationally and domestically. This is reinforced by prospect theory. Because compellence requires the target to relinquish something, it resides in the domain of loss and should be risk-acceptant. Conversely, deterrence requires a target to forego a prospective gain, in which case the target should be risk averse—hence the relative ease of deterrence. There is one caveat, however. Prospect theory also holds that individuals are very slow to “renormalize” losses—that is, to incorporate losses into their baseline. Thus deterring an actor from seeking to recover a perceived loss should be very difficult, even if the loss transpired a long time ago, and perhaps as difficult as compelling the actor to accept a loss in the present.

These arguments have merit, but they do not take sufficient note of temporal variation: episodes of coercion vary in their time to realization—that is, in how much time must pass until the coercive attempt either produces the desired behavior, or is deemed to have failed—and the reviewed findings on intertemporal decision-making thus have relevance. The key to who wins coercive contests, we suggest, lies in the interaction of time and sign. It is essential to what follows to recall that, under conditions of uncertainty—and we presume that coercive contests

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82 Schelling 1966, 100.
83 Jervis 1979; Schelling 1966, 82.
85 Levy 2000, 208.
are rife with uncertainty over preferences, resolve, reservation values, and so on—losses are discounted more heavily than gains as outcomes are delayed.

Compellence often requires short-term exertions by the actor issuing the threat, with compliance coming either quickly or not at all. The US-led effort to compel Iraq to retreat from Kuwait, beginning in November 1990, is a typical instance; similar are threats to impose economic retaliatory measures unless one’s target removes trade barriers or revalues its currency. In other words, in many episodes of compellence, the coercer has short time horizons. Furthermore, in typical cases of compellence, the target of coercion is already engaging in the undesirable behavior, and we follow the existing literature in assuming that the prospect of coercion is a gain relative to the status quo for the compeller and a loss for the target. In line with CLT, short time horizons should produce caution on the part of the compeller, who stands to gain: the potential negative repercussions of actions should not be heavily discounted relative to the potential gains; high-probability, low-payoff gambles should be preferred; concrete reasoning and careful calculation should dominate decision-making; and errors of commission should be more feared than errors of omission. At the same time, the target must choose between an immediate, certain loss if it acquiesces to its opponent’s demands, and the possibility of escalated conflict. Located in the domain of loss, the target should be risk-acceptant and resist the compeller’s demands. Given the imbalance in risk-orientation, the advantage lies with the target, and compellence is difficult.86 Even if compellence follows hard on the heels of a perceived loss, as when the United States tried to compel the Soviet Union to remove its nuclear missiles from Cuba in 1962, coercion will not be much easier, since the target will also perceive itself as seeking to avoid loss and will accept large risks to that end. These expectations are consistent with prospect theory, which is not surprising in light of the actors’ short time horizons.

In some cases, however, participants in compellence may have long time horizons, as the compeller seeks to avoid a possible loss by coercing the target to forego uncertain gains in the more distant future. This may, for instance, characterize Western efforts to compel Iran to abandon its (alleged) ambitions for nuclear weapons. In these cases, the target is being pressured to give up a policy it is already carrying out (unrestricted research into nuclear energy), whose goals it may be years away from realizing (weaponized nuclear capability). Compelling a target to forego future gains should be difficult: leaders in the target state should exhibit overconfidence that their chosen course of action will be successful and be relatively insensitive to risk. Long time horizons, moreover, should have similar effects on the compeller, which suggests that this is a potentially explosive scenario—in line with the Iran example. The one saving grace is that because the compeller faces the prospect of future losses, and because actors discount losses more heavily than gains as outcomes are delayed under conditions of uncertainty, it might be expected that compellers will often back down before things get too out of hand. Once again, advantage target, and the relative difficulty of compellence. These expectations are at odds with prospect theory, which should be more sanguine about the prospects for long-term compellence: it would expect compellers facing future losses to run greater risks and thus to have an advantage over target states hoping for gains.

Coercers and targets’ time horizons need not parallel each other of course. Compellers might seek to halt ongoing losses and thus have short time horizons, while targets seek gains in the distant future. Israel, for example, has sought to use military force to compel Palestinian groups

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87 Ironically, compellence should become easier as the target comes closer to its goal and thus as both parties’ time horizons shorten. Potential negative repercussions of its actions will become more salient to the gain-seeking target, and the compeller’s prospective loss will be weighted increasingly heavily, bolstering its resolve. The outcome differs from short-term compellence in which the target has already acquired its goal—e.g. a piece of territory from which the compeller seeks to force its withdrawal—and thus in which the target experiences successful compellence as a loss (rather than a foregone gain) and the compeller might experience it as a gain over the status quo.
to end rocket attacks from Gaza; while Israel’s objectives are immediate (stop the launches),
their Palestinian opponents’ goals are longer term (an independent Palestinian state). This
circumstance is even more volatile than that of the West-Iran confrontation, because short time
horizons remove the compeller’s discounting constraints: Israeli leaders would be expected to
move deliberately, but, sitting in the domain of loss, they should be highly risk acceptant—as
reflected in Operation Cast Lead (2008), which was preceded by much planning but which Israel
undertook despite the likelihood of global opprobrium. Alternatively, compellers might have
longer time horizons than their targets, as when the former seek long-run gains (e.g. bolstering
their reputation for resolve) while the latter seek to avoid the immediate losses that concessions
would bring. This too is expected to be a dangerous situation: the compeller’s long time horizons
conduce to abstract construal, wishful thinking, and the downplaying of risk, and its long-term
gains are not rapidly discounted; highly motivated to avoid loss in the short run, the target would
accept substantial risks to thwart the compeller’s efforts. Prospect theory would expect the target
to be risk-acceptant, but cannot explain overconfidence on the part of the compeller, and it is the
combination that makes this circumstance so unstable.

Deterrence too can entail varied time horizons. Because the other has not yet engaged in the
undesirable behavior, we presume that the defender seeks to prevent a loss relative to the status
quo, while the challenger seeks to secure a gain. This simplifying assumption may be
problematic: actors may have different understandings of the status quo in deterrent episodes,
and thus “challengers” may see themselves not as seeking gain but as trying to recoup past
losses. But such simplification is useful in allowing us to highlight the unique contributions of
time horizons, which rational deterrence theorists and prospect theorists alike ignore.

88 Jervis 1992, 192.
When deterrence is specific and immediate, and thus time horizons short, the defender’s prospective loss is not heavily discounted relative to the challenger’s prospective gain. A la prospect theory, the defender is expected to be more risk acceptant than the challenger—advantage defender, and the relative ease of deterrence. Moreover, successful deterrence requires that the challenger not act, and thus the fear of errors of commission that CLT expects to accompany short time horizons reinforces the defender’s advantage. While the defender may wish to take some costly concrete actions, such as building up forces, to make its immediate deterrent threats more credible, deterrence is successful when the defender need not follow through, again limiting the fear of errors of commission.

However, when the rewards of successful deterrence for the defender and the costs for the challenger are felt farther off in the future—as when an actor issues a deterrent threat to protect its reputation for resolve—deterrence should be more difficult. As with long-run compellence, the value for the defender of uncertain loss should decline more rapidly than does the value to the challenger of uncertain gain, and thus the balance of interests should favor the challenger. Because distant threats are judged less likely to occur than distant opportunities when time horizons are long, the defender should be less willing to invest now for the sake of long-term deterrence, while the challenger should think the prospects for eventual aggression bright. Because actors pay less attention to the feasibility than to the desirability of achieving distant goals, challengers should give less consideration to the defender’s actions and resolve. This expectation stands in contrast to the both rational deterrence theory and prospect theory. The former would see the outcome in such cases as contingent: when both challenger and defender have long time horizons, and thus both discount equally, the outcome hinges on the balance of interests and perhaps inherent risk orientation. Prospect theory provides a more striking contrast:
it does not anticipate the difficulty of deterring challengers with long time horizons, because it does not expect actors to be risk-acceptant when pursuing gains.89

In cases of deterrence as well, the actors’ time horizons are often not identical. The defender may have longer time horizons than the challenger. For instance, the general US commitment to Taiwan’s defense against China—as distinct from deterrent threats in specific crisis situations in the Strait—is oriented to maintaining America’s regional reputation for resolve and preventing a regional arms race if Japan came to doubt America’s will. In contrast, China’s time horizons with respect to Taiwan, while not immediate, are more closely tied to its need for domestic political legitimation, which must be continually renewed. Rational deterrence theory might be skeptical of the credibility of the American commitment, since the imbalance of interests would appear to favor China.90 But the psychological literature suggests a possible explanation for the puzzling US policy as well as a sanguine conclusion regarding the stability of the Taiwan Strait. Long time horizons may explain why the United States persists in this seemingly irrational commitment, as they may lead the United States to focus on the desirability of maintaining and enhancing its reputation as an Asian power rather than on the feasibility of defending Taiwan or careful consideration of the US-China balance of interests. At the same time, because China presumably has short time horizons (relative to the United States) and if it considers the acquisition of Taiwan a gain,91 it may be predisposed to caution and be hesitant to challenge the American deterrent.92

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89 To explain such cases, prospect theorists would have to argue that the challenger was actually in the domain of loss, which, while not impossible, is often counterintuitive and places the burden of proof on the analyst.
90 For this view, see Betts and Christensen 2000/2001, 26-28; Christensen 2001, 17-20.
91 It is possible of course that China resides in the domain of loss, either because it views Taiwan as a loss still to be recouped or because the regime fears the prospective domestic costs of being insufficiently nationalistic. For the sake of argument, we have asserted that China is in the domain of gain, but we regard this as an empirical question.
92 This is consistent with Chinese analysts’ reported respect for US resolve; see Ross 2002, 68-71. On other reasons for confidence in the region’s relative stability, see Ross 1999. On China’s often-cautious behavior with respect to its various border disputes, see Fravel 2008.
Relatedly, scholars have suggested that states should not bother expending resources to try to bolster their reputation for resolve: either cultivating such a reputation is beyond actors’ control, or such reputations have no impact on crisis decision-making. The puzzle is why state leaders normally believe otherwise. Psychology, and CLT in particular, may supply an answer. The enterprise of formulating strategy, of bringing means and ends into alignment, is necessarily long term: future outcomes should guide present choices. It is also necessarily abstract: strategic principles should be applicable across space and time. Leaders engaged in the design of strategy thus have long time horizons, and they should be attracted to arguments framed in abstract terms—that is, featuring stable, decontextualized properties of international affairs, rather than variable aspects of specific crisis situations. Strategy debate thus privileges reputational arguments, which are highly abstract and which invoke stable national attributes. If this explains why general deterrence and reputation are enduring features of how state leaders think about foreign policy, it does not explain why leaders might find themselves trapped in costly military interventions for their sake. First, once a belief in the importance of reputation takes root, actors will respond to any provocation that they perceive threatens it. Second, when time horizons are long and construal is abstract, individuals devote more attention to the desirability of their goal than to its feasibility, fail to weigh carefully alternative courses of action, and pursue low-probability, high-payoff gambles. When abstract objectives like reputation for resolve frame policy debate, proposed military interventions receive less careful scrutiny, their costs are minimized, alternatives fail to be explored, and wishful thinking dominates. Even once the costs of intervention subsequently become more salient, leaders will likely feel compelled to

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93 See respectively Mercer 1996; Press 2005.
94 Rightly or not, actors tend to perceive their own personal attributes, including their reputation, as stable. See Nussbaum, Trope, and Liberman 2003.
deepen their commitment to the venture, perceiving that the nation’s reputation, as well as their own as a strong leader, is on the line.

**Conclusion**

Policymaking often entails weighing smaller gains now against larger gains later. Although elected representatives in democracies are often thought to be driven by the election calendar and uniformly to display short time horizons, sometimes they do take the long view. Indeed, unless long time horizons sometimes featured in their thinking, what policymaker would undertake fundamental, painful organizational reforms, design social insurance schemes, or intervene in protracted conflicts abroad, such as that between Israel and the Palestinians? Understanding the sources and consequences of short and long time horizons has understandably been a persistent feature of political science literature, in all three empirical subfields.  

While political science’s interest in time horizons has been enduring, it has not been matched by engagement with research in other disciplines that reveals how human beings actually make intertemporal tradeoffs. Those findings, emerging out of psychology and behavioral economics, suggest strongly that the presumptions underpinning political scientists’ models of decision-making are deeply problematic. This article has sought to show that taking those findings seriously both raises questions about existing approaches to classic questions in the field of international relations and helps address enduring puzzles in that field’s core research programs. It is well past the time to bring time horizons back in.

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95 For recent contributions, beyond those cited earlier, see Healy and Malhotra 2009; Jacobs 2008; Rosen 2004, 135-178; Wright 2008.
Figure 1: Constant-Rate Discounting and Stationary Preferences

Waiting Periods (months)

Utility of reward at time $t$

- Smaller, Sooner Reward (available after 7 mos.)
- Larger, Later Reward (available after 8 mos.)
Figure 2: Hyperbolic Discounting and Non-Stationary Preferences

Utility of reward at time $t$

Waiting Periods (months)

- Smaller, Sooner Reward (available after 7 mos.)
- Larger, Later Reward (available after 8 mos.)
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