

When Prospective Leader Turnover Promotes Peace*

Robert Schub[†]

Abstract

Scholars typically associate leader turnover with a high risk of military conflict. This paper shows that under some conditions, a higher likelihood of leader turnover in the future fosters peace today. When states take costly peaceful measures (e.g., arming to deter adversaries), the range of settlements preferable to war shrinks and the risk of conflict rises. If peace costs are onerous, potential leader turnover in adversaries promotes peace by introducing uncertainty about the future need for and costs of deterrent measures. When locked in a costly peace with minimal chance of leader turnover in the adversary, states attack. When locked in that same costly peace but with high prospects for leader turnover, states endure an unfavorable peace today given the potential for a favorable one tomorrow. Asymmetric consequences of future shifts in peace costs ensure the relationship holds even if costs do not change in expectation and could rise. Quantitative analyses of the prospects for future leader turnover, military spending, and war onset among rivals accord with the hypothesized relationships. In theory and practice, expectations of leadership volatility make it prudent to exercise peaceful forbearance.

*Thanks to Andrew Coe, Connor Huff, Brenton Kenkel, Jin Yeub Kim, Aseem Mahajan, Andrea Ruggeri, Anne Sartori, Duncan Snidal, Alex Weisiger, and participants at Harvard, Oxford, MPSA, and ISA for helpful discussions and feedback.

[†]University of Nebraska-Lincoln. Email: robert.schub@unl.edu

Upon entering office, President Eisenhower expressed dismay with the exorbitant costs of containing the Soviet threat. Nearly 13% of the nation's GDP went to defense spending in 1953.¹ The costs of arming were so high that he contemplated whether war might be the preferable choice, writing to his Secretary of State:

if the contest to maintain this relative position should have to continue indefinitely, the cost would either drive us to war—or into some form of dictatorial government. In such circumstances, we would be forced to consider whether or not our duty to future generations did not require us to initiate war at the most propitious moment.²

Yet peace prevailed between the US and USSR during this period. Of particular importance is that the costs to maintaining the US position did not “have to continue indefinitely.” Rather, Eisenhower recognized the possibility of cheaper containment, either through changes in the Soviet regime or through realigned strategy and new military technologies. He opted to endure a costly peace recognizing the possibility for a more favorable, cheaper one in the future.

Eisenhower's forbearance raises a broader question: how does uncertainty over the future costs of peace affect the likelihood of war? This paper's central argument is that greater uncertainty over future peace costs can promote peace when states would otherwise go to war. It builds on the recognition that while war entails costs, so too does peace.³ Sources of peace costs include arming to maintain the power balance and contain adversaries. The requisite guns come at the expense of butter (Powell, 1993, 1999; Garfinkel and Skaperdas, 2000). Servicing debt used to finance arms acquisitions (Slantchev, 2012), implementing arms inspections, and imposing sanctions (Coe, 2018) all require costly effort and introduce economic inefficiencies. These potentially onerous burdens shrink, and may even eliminate, the range of bargains mutually preferable to war.

Crucially, none of these burdens are fixed in perpetuity. Instead, they vary for a host of reasons, the most important of which is leader turnover. New leaders with potentially different priorities, risk tolerances, aims, or dispositions may require dramatically different investments to contain them. Prospects for leader turnover therefore produce uncertainty over future peace costs. Uncertainty, in turn, reintroduces the possibility of peace today when war is otherwise preferred. This holds even if peace costs do not change in expectation—that is, the new leader may be more or less hostile. An asymmetry drives the positive relationship between uncertainty and peace. If a less hostile successor will allow peace costs to decline, the containing state gets a boon from the more favorable peace of the future. If a more hostile successor will cause peace costs to rise, the containing state simply fights the war it initially put off in a similar position to its original one. Thus the

¹In 1954, after the truce in Korea, defense spending remained over 11% of GDP.

²Quoted in Gaddis (1982, p. 149).

³Peace, or the absence of military conflict, is not itself costly. Rather, a variety of activities associated with peace, particularly its maintenance via arming, entail costs. I refer to these as *peace costs*.

downside to waiting is capped (at the war payoff) while the upside is not. The asymmetric consequences of future turnover means that the loss to choosing peace over war in the current period can be more than offset by the expected gains to peace over war in the future. Consequently, potential leadership volatility in the adversary encourages peaceful forbearance as states strategically wait to see if a preferable leader comes to power. Under such conditions, patience is the prudent choice.

Quantitative analysis demonstrates that uncertainty over future peace costs due to prospective leader turnover is pacifying in practice as well as in theory. When states expect their adversary to remain constant and containment costs are high, war is likely. When they anticipate their adversary might change, for better or for worse, they exercise forbearance. I employ data on strategic rivalries with military spending as a percentage of economic output as a measure of peace costs and the recent history of leadership turnovers as a proxy for future uncertainty stemming from prospective leader turnover. Future peace costs are harder to predict if an adversary's regime is often fluctuating as opposed to deeply entrenched. Consistent with the argument, when peace costs are especially high, war is up to five times more likely when leader transition is improbable compared to when leader transition is probable.

The results contribute to several strands of scholarship. First, the findings speak to broader issues of leaders and war (e.g., [Saunders 2011](#); [Weeks 2012](#); [Horowitz and Stam 2014](#); [Yarhi-Milo 2014](#); [Saunders 2017](#); [McManus 2018](#); [Horowitz et al. 2018](#)) by examining the consequences of expected *future* turnover, as opposed to recent *past* turnover. Scholarship focused on retrospective turnover links leader transitions to a higher risk of war. Recent turnover brings new leaders who may spark conflict due to private information about their traits, incentives to establish reputations for resolve through words and deeds, incompetence in foreign affairs, or a dearth of connections with other leaders ([Wolford, 2007](#); [Potter, 2007](#); [Smith and Spaniel, 2016](#); [Lupton, 2018](#)). Potential future leader transitions, or prospective turnover, can increase the likelihood of war if incumbents adopt hawkish bargaining postures, opponents attack to hasten the demise of a resolute incumbent, or opponents attack to lock in favorable settlements ([Wolford, 2012, 2017](#)). In contrast to this expected belligerence, I identify circumstances when prospective leader turnover fosters peace. Second, I emphasize a neglected source of uncertainty—the potential for arming costs to fluctuate. Whereas other forms of uncertainty typically undermine peace ([Fearon, 1995](#); [Fey and Ramsay, 2011](#); [Slantchev and Tarar, 2011](#)), this one promotes it. The discrepant consequences attest to the importance of delineating between various sources of uncertainty and their heterogeneous implications. Uncertainty over the future costs of arming is linked to debates concerning trust and a state's ability to infer adversary intentions ([Jervis, 1978](#); [Kydd, 2005](#)). Whereas some claim that such uncertainty necessitates pessimism and high arming costs in perpetuity ([Rosato, 2014](#)), I identify instances where a related form of uncertainty pacifies rather than inflames relations. Third, context affects whether the shadow of the future promotes peace ([Axelrod, 1984](#)) or conflict ([Garfinkel and](#)

Skaperdas, 2000; Tingley, 2011). I illuminate another context in which the future's shadow fosters peace.

The paper proceeds as follows. Drawing from and building upon existing scholarship, the next section provides the foundations for the theory by specifying that peace costs have several sources, affect the likelihood of war, and vary over time. I then theorize how greater uncertainty over peace costs in the future due to potential leader turnover promotes peace today. The following sections operationalize concepts and find support for the hypotheses within dyadic rivalry data. A final section draws implications for scholarship and policy.

Costs of Peace: Forms, Consequences, and Fluctuations

When peace entails costs, greater uncertainty over its costs in the future—e.g., due to potential leader turnover—promotes peace today. Before explicating the logic of this central hypothesis, I specify three building blocks for the theory. These foundations establish that peaceful but costly measures (1) permeate international politics, (2) increase the probability of war, and (3) fluctuate over time which generates uncertainty about their future values.

Peace Costs. A state engages in a variety of costly non-violent actions in order to maintain, or alter, the military balance between itself and adversaries. Absent these costly measures, the military balance would shift in an adverse direction. A deterioration in the military balance affects the state's probability of military victory and the likelihood that it can successfully deter, contain, or prey upon its adversaries.

Arming is the foremost example of peace costs. States invest in coercive military capacity to bolster their bargaining leverage. Allocations to otherwise non-productive military assets come at the expense of allocations that augment consumption (Hirshleifer, 1991; Powell, 1993, 1999; Fearon, 2018). Spending on guns rather than butter may also reduce the pool of resources available for either in the future (Garfinkel and Skaperdas, 2000). An arms race is a classic example of a costly, and typically inefficient, form of peace (Jervis, 1978). In a poetic moment, Eisenhower captured the idea, "Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed, those who are cold and are not clothed" (Gaddis, 1982, p. 133).

Actions beyond arming also generate peace costs. For example, servicing debt incurred to purchase arms constitutes a cost of peace (Slantchev, 2012). So too do arms inspection and monitoring programs that require technological (e.g., satellite surveillance) and human (e.g., analysts or on the ground monitors) resources (Coe, 2011). Alternatively, states may employ sanctions to contain adversaries (McCormack and Pascoe, 2017). Sanctions introduce costs to peace by stifling open economic exchange. Trade limitations—such as the US imposed embargo on Japanese oil

imports in the summer of 1941—similarly restrict aggregate welfare (Monteiro and Debs, 2016). Even simply abiding the status quo is costly to risk acceptant actors who forego the reward of the risk premium that accompanies war’s uncertainty (Coe, 2011). In short, states employ a variety of costly peaceful measures to check or challenge their adversaries.

Increasing Probability of War. Peace costs shrink the range of bargains mutually preferred to war. Bargaining theory stresses that war’s costs typically ensure the existence of a range of negotiated settlements which render war ex post inefficient (Fearon, 1995). Despite its inefficiency, rational actors can opt for war when they struggle to locate a preferable settlement in this range due to asymmetric information with incentives to misrepresent (Morrow, 1989; Powell, 1999; Fey and Ramsay, 2011; Slantchev and Tarar, 2011) or are unable to credibly commit to one (Van Evera, 1999; Powell, 2006). Greater war costs increase the size of the bargaining range. Peace costs have the opposite effect. The relative efficiency of peace declines when states invest in large military arsenals or stifle the optimal allocation of resources through trade restrictions.

By reducing the bargaining range, high peace costs can cause war through several pathways. In extreme cases, total peace costs may exceed total war costs and eliminate the bargaining range altogether. War then occurs because it is the efficient option, not because actors could not locate or commit to a more efficient peaceful settlement (Powell, 1993, 1999; Garfinkel and Skaperdas, 2000; Slantchev, 2012; Coe, 2018; Monteiro and Debs, 2016; Fearon, 2018). Though still destructive and costly, war is less costly than the alternative.⁴ Alternatively, a truncated bargaining range increases the risk that commitment problems, due to power shifts or first-strike advantages, prove intractable and spark conflict. A smaller bargaining range implies a reduced surplus from peace versus what actors can secure through force. As the surplus to peace shrinks, the probability of war due to commitment problems increases (Powell, 2004, 2006). Finally, war due to asymmetric information with incentives to misrepresent can become more likely as peace costs increase. The more costly the arming burden of deterrence, the greater the risks states might run during bargaining (Fearon, 2008, 2018).⁵

Leader Turnover and Uncertainty over Future Peace Costs. Departing from prior work, I emphasize that peace costs fluctuate over time and consequently introduce a neglected source of uncertainty into strategic interactions. Prospective leader turnover in an adversary is perhaps the most important cause of this uncertainty.⁶ An abstract example illustrates the logic. An adversary

⁴While theoretically compelling, the empirical frequency of wars due to fighting being the efficient option demands further research.

⁵Spaniel and Malone (2016) highlight an exception to the relationship between the relative inefficiency of war, which varies with peace costs, and the likelihood of war. If increasing war’s relative inefficiency is accompanied with increasing payoff differentials between opponent types where type is private information, the monotonic relationship between efficiency losses in war and war likelihood can breakdown.

⁶While beyond the scope of this paper, other factors may generate uncertainty over the future costs of containing an adversary. Sources of uncertainty include technological developments and strategy shifts akin to Eisenhower’s New

Y 's military prowess is, in part, a function of its leader. The leader affects Y 's military strength through his or her competence and talent as a steward of the state's forces as well as through budgetary priorities (Wolford, 2017). Given Y 's strength, state X must engage in costly peaceful measures to maintain the military balance. Leader turnover in the adversary Y brings a new leader with different skills sets and priorities which affect Y 's military strength. That is, Y 's new leader causes Y 's military strength to increase or decrease. The peace costs X must bear to maintain the military balance change in response to Y 's new leader. X 's burden increases if Y grows stronger under the new leader and decreases if Y becomes weaker. Wolford (2017) similarly emphasizes the effect of leader turnover on the military balance. I differ in considering how the other state (X) can maintain the previous military balance by scaling up or down its own costly countervailing measures.

Leader turnover in the adversary thus can change the peace costs a state must bear to check that adversary. A less hostile leader in an adversary enables states to decrease their arms spending while a more hostile leader prompts the opposite response. Gorbachev's ascension and subsequent US-Soviet dynamics illustrate the concept. With more amicable relations, US arming costs declined precipitously (roughly a third in the ensuing decade), providing the US a "peace dividend." More generally, leader turnover produces change in a state's foreign policy as measured by UN voting patterns (Mattes, Leeds and Carroll, 2015).

Future turnover introduces uncertainty over the magnitude of future peace costs. This paper's approach differs from past scholarship that analyzes contexts in which states know whether the successor is relatively hawkish or dovish compared to the incumbent (Wolford, 2012, 2017). In contrast, I analyze a scenario where actors are uncertain about a future leader's policy dispositions which affects the burdens requisite to maintain the current balance of military power. The prospect of future leader turnover thus produces uncertainty about whether the costs of peace will rise or fall.

Importantly, the scope of uncertainty over future peace costs varies across states. Uncertainty is minimal when confronting a deeply entrenched leader who will likely maintain power or at least transfer authority to a like-minded successor. In contrast, uncertainty is maximized when a state has frequent turnover between individuals with substantial policy preference gaps. This holds provided that states assess the likelihood of future turnover based, at least in part, on the frequency of past turnover. Accordingly, anticipated leader turnover is a source of uncertainty over future peace costs that varies across states depending on domestic political conditions.

Look strategy. New alliances can similarly change peace costs, allowing states to shift arming costs from internal to external sources.

Uncertainty over Future Peace Costs and Forbearance

Peace costs fluctuate over time which introduces uncertainty about future interactions. To show when and how greater uncertainty over peace costs in the future diminishes the probability of war today, I consider a simple strategic interaction. A *deterrer* and a *challenger* bargain over contested resources across two periods, which I refer to as *today* and *tomorrow* (or *the future*). The deterrer can contain the challenger and maintain the military balance with investments in arms and other costly peaceful measures. These measures shrink the range of negotiated settlements mutually preferable to war.

The actors know the costs of these peaceful measures today but may be uncertain about their value in the future. Uncertainty stems from potential leader turnover in the challenger. A new leader may be more or less committed to expanding the challenger's military prowess and therefore more or less expensive for the deterrer to contain. The degree of uncertainty is a function of the likelihood of leader turnover. When turnover in the challenger state is unlikely, uncertainty over future peace costs is low. Peace costs tomorrow will be roughly equivalent to peace costs today. The inverse holds when the challenger is likely to experience leader turnover, in which case the deterrer's peace costs tomorrow could differ dramatically from its costs today. Neither state knows whether the successor will be more or less hostile and thus whether costs will increase or decrease. To isolate the independent effect of uncertainty, I assume that the expected value of the shift in peace costs is zero. A simple model in the Supporting Information (SI) formalizes the logic while this section presents the theory informally.

High Peace Costs, Low Uncertainty, and Conflict

First consider a case when the costs of peace today are sufficiently high such that there is no peaceful settlement that both sides, when ignoring the future, prefer to war. The inability to strike a mutually preferable bargain stems from any of the aforementioned reasons. In the extreme case war becomes the efficient option because it costs less than peace. Alternatively, the reduced surplus to peace makes commitment problems intractable, perhaps due to first-strike advantages.

Given the relative unattractiveness of peace versus war today, how does incorporating future considerations change state behavior? Start with the scenario with no uncertainty over future peace costs. The challenger's leader is entrenched, relations will remain hostile, and the deterrer must continue to bear heavy peace costs. Given this expectation, the two sides clearly cannot structure a peaceful settlement. War is preferable today and will remain so in the future.

When peace is unattractive and the challenger's leader is unlikely to change (uncertainty is low), the deterrer attacks. The Iraq War illustrates a case with relatively high peace costs and low

uncertainty over future peace costs. If Iraq successfully procured weapons of mass destruction it would shift the balance of power in its favor. Three consecutive US administrations deemed this shift intolerable and invested in costly peaceful measures to limit the chances of it occurring. Measures included sanctions, weapons inspections and monitoring, and patrolling no fly zones. For over a decade US officials believed these measures, while costly, were not so costly as to eliminate the possibility of preferable peaceful settlements. George W. Bush's administration arguably reached a different conclusion. Peace costs were rising due to a decline in international will to enforce sanctions, forcing the US to increasingly shoulder the costs of peace (Coe, 2018). Increasing peace costs, at a minimum, shrunk the bargaining range and increased the probability that the two sides could not locate a credible and mutually beneficial settlement. Importantly, there was little reason to believe peace costs would change in the near future. Having consistently defeated domestic opponents since the end of the Gulf War, Hussein maintained a generally solid hold on power. Consistent with the theoretical expectation, the US bore onerous peace costs, had little reason to expect those to change, and opted to attack. Whether this dynamic is sufficient to explain the Iraq war is obviously debatable (Lake, 2010; Rapport, 2012; Debs and Monteiro, 2014), particularly in light of the war's costs. Regardless, the case illustrates an instance in which high peace costs coupled with low uncertainty over future peace costs contributed to war's outbreak.

High Peace Costs, High Uncertainty, and Peaceful Forbearance

How does introducing uncertainty over future peace costs alter strategic dynamics? The prior section establishes that with sufficiently high peace costs and low uncertainty over their future magnitude, the two sides cannot reach a peaceful settlement and instead opt to fight. It follows that uncertainty about future peace costs is necessary for peace to possibly be preferable in the future if it is not so today. Uncertainty about prospective leader turnover creates the chance that a dovish leader assumes power in the challenger. A dove, for the purposes of this paper, is a leader who takes fewer actions to augment the challenger's military prowess which, in turn, reduces the deterrer's arming burden (peace costs). Lower peace costs for the deterrer following a change in the challenger's leadership restores the possibility of a peaceful bargain being preferable to war tomorrow, even if it is not preferable today.

However, the mere possibility that peace will be preferable tomorrow is insufficient to cause the deterrer to opt for peace today. The two sides still enter into conflict if the expected gains to peace tomorrow do not offset known losses to peace today. For peace to prevail today despite its high costs the deterrer must believe that peace tomorrow is not only possible but is sufficiently likely and attractive. The outcome hinges on two quantities: (1) the relative gain to war versus peace today and (2) the probability that peace is preferable to war tomorrow multiplied by the

expected relative gain to peace versus war tomorrow should peace be preferable. Intuitively, when the second quantity exceeds the first, the deterrer exercises peaceful forbearance. It endures an unfavorable settlement today, granting the challenger enough of the resource so that it is satisfied. In contrast, when the first quantity exceeds the second, the deterrer is unwilling to endure an unfavorable settlement in the present and initiates conflict.

Simply stated, peace is preferable when the expected gain to peace (vs. war) in the future more than offsets the loss to peace (vs. war) in the present. Asymmetric consequences of changes in future peace costs explain how this is feasible. The key is that the deterrer's downside is capped while its upside is not. To see this, consider how the traits of the challenger's next leader affect the deterrer. If more committed to increasing the challenger's military prowess, the deterrer's peace costs will rise. However, rather than pay the costs to check the new leader, the deterrer simply attacks. War was already preferable to peace and only became more so with the new hawkish leader. By attacking, the deterrer locks in its war payoff, which is conventionally theorized as function of a state's probability of victory and costs of fighting. Regardless of how much peace costs increase, the deterrer's payoff (its war payoff) remains the same. If, on the other hand, the challenger's new leader is more dovish, the deterrer's peace costs will decline in the future. With a large enough decline, the deterrer prefers peace to war. With more and more favorable declines in future peace costs, the deterrer's payoff to peace tomorrow continues to improve. These dynamics create the asymmetry: the deterrer's downside tomorrow is capped by its war payoff while the upside is not capped in this way and instead grows with further reductions in peace costs.

The cap on the deterrer's downside relies on its prospects in war tomorrow being the same as they are today. I assume that an increase in projected peace costs due to leader turnover in the challenger does not imply a corresponding increase in total war costs. Several considerations buttress this assumption. First, timing is key. The deterrer attacks once it recognizes that containing the new leader will be especially costly. It does not engage in an escalating arms race and then attack, which could make war more costly and thus reduce the deterrer's payoff. Second, even if arms spending does change before conflict, this does not inherently yield a corresponding change in the costs of fighting. Eisenhower's shift to massive retaliation as a deterrent strategy offers anecdotal support for this contention. Shifting from a strategy relying on ground forces to one based on nuclear capabilities diminished peace costs while plausibly *increasing* the expected costs of war. Systematic empirical tests below attest to the validity of assuming that changes in arming levels do not yield corresponding changes in war's toll. Third, the assumption follows much of the literature which decouples the military balance from the costs of war. Most relevantly, [Wolford \(2017\)](#) models a new hawkish leader improving her own state's prospects for military victory without changing the opponent's cost of fighting. Accordingly, there is good reason to believe the deterrer's downside to waiting is capped.

Greater uncertainty raises the potential upside of the future without changing the downside. Uncertainty has this effect because it changes (1) the probability that peace is preferable to war tomorrow and (2) the expected relative gain to peace versus war tomorrow. Both components increase with greater uncertainty. As shown earlier, the probability of peace is zero if initial peace costs are high and there is no uncertainty over their future value. With sufficient uncertainty, there is a chance that peace costs decline enough that peace is preferable to war tomorrow. This chance grows as uncertainty rises because greater uncertainty means that greater changes to peace costs are possible. Figure 1 illustrates this dynamic. The vertical dotted line is the cutpoint for whether the two sides can strike a bargain that is mutually preferable to war in the future. If peace costs decline by more than the cutpoint—i.e., fall to the left—then peace prevails tomorrow. When uncertainty is low because the challenger’s leader is unlikely to change (solid line in Figure 1) there is a low probability that peace costs decline enough for peace to prevail in the future. When uncertainty is high because the challenger’s leader will likely change (dashed distribution), the probability that peace prevails in the future increases.

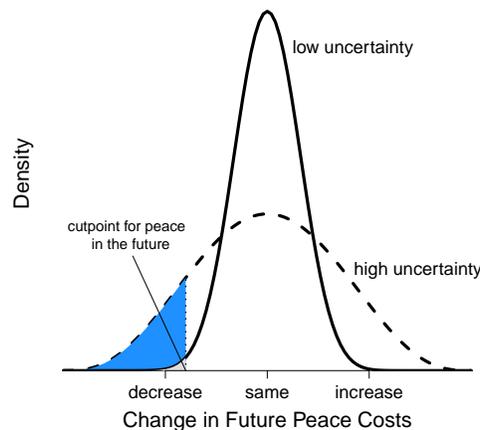


Figure 1: Higher uncertainty increases the probability of peace tomorrow and the expected value of that peace. Peace costs must decline at least as much as the cutpoint for the deterrer to opt for peace in the future. Shaded regions show values sufficient for peace in the future.

The expected value of peace tomorrow also increases with greater uncertainty. Figure 1 also makes this apparent. Conditional on the peace costs declining by more than the cutpoint, the expected gain to peace versus war is minimal when uncertainty is low because only relatively small reductions in peace costs are possible. In contrast, the expected value of the peace is more attractive as uncertainty increases because greater declines in peace costs become possible. Both the probability that peace will be preferable to war tomorrow and the expected relative gain to

peace versus war tomorrow increase with greater uncertainty.

Asymmetric consequences of greater uncertainty over future peace costs incentivize patience on the deterrer's part. Combining the analysis from the prior subsection and this subsection yields a testable implication.

H1: When peace costs are already high, greater uncertainty over future peace costs due to potential leader turnover increases the probability of peace today.

If locked in a costly peace that is unlikely to change, states opt to fight. When locked in that same costly peace but those peace costs may change in the future, states exercise forbearance and wait out the unattractive conditions of today. The deterrer accepts an unfavorable bargain today and grants the challenger enough so that it is satisfied. The deterrer endures this unfavorable bargain today because it expects a more favorable one tomorrow will more than offset the loss.

An example helps cement the intuition for the hypothesis. Interactions with Iran preceding and under the Joint Comprehensive Plan of Action (JCPOA) illuminate a case with plausibly high peace costs and high uncertainty about the future need for the deterrer to bear those costs. Before the JCPOA, Iran increased its uranium enrichment capacity and pursued a plutonium path to the bomb despite efforts—such as economic sanctions, international opprobrium, and cyber-attacks—to stifle its program and deter its future pursuit. Installed centrifuges rose from under 1,000 in 2006 to nearly 20,000 in 2013. Numerous states, first and foremost the US, would not tolerate the dramatic shift in power that successful proliferation would entail. Consequently, these states took costly measures to prevent the latent power shift from occurring. Peace costs persisted under the JCPOA in the forms of monitoring, inspections, and some remaining sanctions. Additionally, some states, especially the US, arguably bore new costs as the sanctions relief that did go into effect plausibly emboldened Iran's missile program and regional interference.

The theory suggests the US was willing to endure these costly peaceful measures, in part, because of leadership and policy volatility in Iran. Changes in Iran's foreign policy posture and intentions likely alter the vigor with which Iran pursues nuclear weapons which in turn affects the costs of containment. Though circumscribed by the Supreme Leader's near-permanence, electoral fluctuations and variance in the ruling coalitions generate volatility in Iranian foreign policy as the transitions from Rafsanjani, Khatami, Ahmadinejad, and Rouhani indicate. Fractures among elites further propel the unpredictability of future Iranian postures. Consistent with the theory, uncertainty does not imply reasons for optimism or pessimism about future Iranian positions. Further reformist gains coupled with favorable (from the US perspective) demographic shifts could produce a less hostile regime less interested in investing in nuclear proliferation. However, with a similar probability a hard-line resurgence in Tehran could make containment even more costly. President Obama and Secretary of State Kerry recognized these dual paths, offering sober assess-

ments for a thaw in US-Iran relations. For Kerry, “I have spent zero time basing anything we’ve done here on the notion of doing something other than getting rid of the nuclear weapon. If it happens, we’re obviously open to seeing what they might do or want to do, but there’s not a bet on it” (Goldberg, 2015).

The uncertainty, not an expectation of improvement, is key. US officials acknowledged Iranian intentions were unlikely to change in expectation, but the uncertainty opens the possibility that they might. In an address at American University, President Obama alluded to the sizable upside and limited downside afforded by uncertainty over future Iranian postures. He stated:

The majority of the Iranian people have powerful incentives to urge their government to move in a different, less provocative direction—incentives that are strengthened by this deal. We should offer them that chance. We should give them that opportunity. It’s not guaranteed to succeed. But if they take it, that would be good for Iran, it would be good for the United States. It would be good for a region that has known too much conflict. It would be good for the world. And if Iran does not move in that direction, if Iran violates this deal, we will have ample ability to respond.⁷

Uncertainty incentivized the US to wait and see if this favorable scenario played out. A favorable change in Iran’s leadership offers sizable gains to the US while US losses to an unfavorable Iranian leadership transition are capped at the war payoff. Obama stressed the latter point: “the same options available to stop a weapons program as we have today, including—if necessary—military options” are available in the future.⁸ Theory and anecdotes suggest uncertainty over future leader transitions and thus the costs of peace tomorrow increase the relative appeal of peace today.

Several factors narrow and expand the conditions under which the hypothesis holds. While uncertainty over future peace costs fosters peace today, it is not a panacea. For instance, if peace is initially far less efficient than war, then no amount of uncertainty can induce the deterrer to wait. Similarly, if the deterrer is impatient and values the present much more than the future, then uncertainty has a limited pacifying effect. Other factors expand the conditions under which the hypothesis applies. For simplicity, the theory involves only two periods with the second period resolving all uncertainty about the challenger’s leader. In reality, a new leader coming to power resolves some immediate uncertainty about the challenger’s direction. However, it simultaneously introduces new uncertainty as recent turnover may provide reason to expect more turnover in the future, and thus more uncertainty over the costs of containing the challenger. A deterrer may continue to endure an attractive negotiated settlement even after recent turnover reveals no improvement in the

⁷See <https://www.whitehouse.gov/the-press-office/2015/08/05/remarks-president-iran-nuclear-deal> for the full text of the address. Accessed 3/24/16.

⁸While struggling to account for the Trump administration’s withdrawal from the JCPOA, the theory does highlight considerations that a hypothetically strategic actor would take into account when revisiting the agreement. These include the costs of enforcement and potential changes to the military balance while the agreement is in place.

challenger's policies. The deterrer does so because recent turnover in the challenger could suggest further turnover in the near future, thus extending the dynamics that the theory highlights forward to the next period.

Low Peace Costs and Peace

Lastly, I consider an interaction with low peace costs in which case states can readily find negotiated settlements preferable to fighting. Under these conditions, uncertainty about future peace costs has no bearing on the likelihood of war today. The analysis thus far focuses on cases when peace costs are sufficiently onerous that war is attractive either because it is cheaper than peace or because commitment problems prove intractable given the truncated surplus to peace. In contrast, when peace costs are low, peace prevails regardless of the extent of uncertainty over future peace costs. The central asymmetry driving the previous result is still operative. If peace is initially preferable to war, then the expected value of the future is at least as high as the payoff to peace today.

The lack of a relationship between uncertainty and peace when peace costs are low yields a second testable implication.

H2: When peace costs are already low, greater uncertainty over future peace costs due to potential leader turnover does not affect the probability of peace today.

Hypothesis 2 offers something akin to a placebo test. High uncertainty due to expected leader turnover fosters peace *conditional* on peace costs already being high. We should not observe this relationship when today's peace costs are low. It would cast doubt on the paper's theory if we do observe that high uncertainty due to prospective leader turnover promotes peace under all conditions.

Research Design

The sample for testing the hypotheses should consist of observations that satisfy several conditions underpinning the theory. Dyads in the sample must have contested stakes and a positive probability of war. Moreover, the constituent states must plausibly allocate resources to peaceful measures aimed at containing each other. Strategic rivalries, particularly the [Thompson and Dreyer \(2011\)](#) conception, are especially likely to meet these conditions. In rivalrous dyads "the actors in question must regard each other as (a) competitors, (b) the source of actual or latent threats that pose some possibility of becoming militarized, and (c) enemies" ([Thompson, 2001](#), p. 560). Strategic rivalries entail opposing interests and the possibility of conflict, both of which are features of the theory.

Rivals anticipate hostility from one another and prepare accordingly. These preparations include costly peaceful measures, such as arms spending. Moreover, states that consider each other long-term threats are especially likely to be concerned with leader turnover and the possibilities of doves replacing hawks and vice-versa (Colaresi, 2004; Wolford, 2017). The unit of analysis is the *directed rivalrous dyad year* as coded in Thompson and Dreyer (2011). A directed approach is necessary because I anticipate that a specific state—the deterrer bearing onerous peace costs—initiates war.

War Initiation is the outcome variable. It is a dichotomous indicator for the first year of war between two states as coded in Reiter, Stam and Horowitz (2014). This data set improves upon past work by only coding those dyads in which states directly fought one another. It excludes states fighting on opposite sides of a war but on distant fronts. Following typical practice, I exclude dyad years with war already underway. War initiation occurs in 0.8% of directed rivalrous dyad years. Even among rivals, war initiation is relatively rare.

Peace Costs

Whether future uncertainty promotes peace today is conditional on the costliness of the prevailing peace. H1 posits it does when peace costs are high; H2 posits it does not when peace costs are low. I use military spending as a percentage of the gross domestic product (GDP) to measure peace costs. The guns/butter tradeoff is the canonical example of peace costs and data is widely available on the variables. I employ data from Fordham and Walker (2005), which studies resource allocations to the military. Their data uses the military spending component of CINC scores (Singer, 1987) and GDP data from Gleditsch (2002).⁹ Fearon (2018) similarly uses military spending as a share of GDP to capture the intensity of military effort. A potential problem with the measurement approach for this study is that military expenditures often rise precipitously when wars begin. In this case high expenditures may be a cost of war, not peace. I lag all variables one year to mitigate this concern. Within the sample, the average spending level is just over 4% of GDP with a median just under 2%.

Military Spending is a binary indicator for high versus low spending as a percentage of GDP for the potential initiator. I dichotomize the variable to ease interpretation and because the theory does not yield continuous predictions. H2 stipulates that conditional on being below a threshold, variation in peace costs does not affect the probability of war. I use a 10% of GDP cutoff for the main analysis, although all results are robust to varying the cutoff as described below. The potential initiating state exceeds the 10% cutoff in roughly 11% of observations.

⁹GDP data is widely available from 1950 onwards. Fordham and Walker (2005) supplement this data. The approach estimates GDP from pre-1950 “by regressing observed values of GDP in the 1950–1997 period onto energy consumption, iron and steel production, total population, and urban population.”

Future Uncertainty

Prospects for leadership turnover provides a measure for uncertainty about future peace costs. The need for and extent of investments aimed at containing an adversary fluctuate with that adversary's leader transitions. How might states assess the prospects for turnover in the near future? Past turnover offers states (and researchers) a reasonable proxy for evaluating the likelihood of future turnover. Regular elections and leadership contestation in the recent past is suggestive of future behavior. The inverse holds as well. States facing adversaries with deeply entrenched leaders with long tenures likely expect that leader to continue to hold power. Indeed, past studies indicate that a ruling coalition's time in power is a good proxy for that coalition's consolidation of power (Svolik, 2012; Knutsen and Nygard, 2015). The approach is admittedly imperfect as deterrers surely use additional information to assess an adversary's staying power. But even with more nuance, sudden changes after long periods of stability surprise outside observers. Past stability generates expectations for future stability. The surprise that greeted Egyptian leader Mubarak's fall exemplifies the pattern.

Past turnover is a proxy for future turnover. But not all leader turnover is relevant. The tenor of relations and costs of peace are unlikely to change when proteges replace incumbents. Change in the source of support for leaders—for instance, their political parties—is a more revealing indicator of whether leader turnover will yield policy changes. Results below attest to the validity of distinguishing between all leader transitions and those where the leader's base changes. Accordingly, I employ a data set that captures Change in Source of Leader Support (CHISOLS) (Mattes, Leeds and Matsumura, 2016) which codes for when the societal faction backing the leader changes. I calculate the number of CHISOLS in each target country for the prior 10 years. More turnover (which I use interchangeably with CHISOLS) in the recent past generates greater uncertainty over the near future. Analyses in the SI confirm that past turnover strongly predicts future turnover. A leader transition occurs in 5% of state years when that state had zero turnovers in the prior decade. One turnover in the past decade increases the probability of a turnover to 11% while states with two or more turnovers in the past decade see a new turnover 14% of the time.¹⁰

CHISOLS data begins in 1919. Given the 10 year window, my data set begins in 1929 and includes 238 unique directed rivalrous dyads.¹¹ Across the data set, states average just below one turnover in the prior 10 years. Due to the infrequency of CHISOLS, the main specifications code *Leader Turnover* with a three-level measure—zero, one, or two or more—for the extent of turnover in the previous decade. The results section expands on this modeling choice while the SI shows all

¹⁰An alternative measurement strategy might model the determinants of CHISOLS and generate predicted probabilities of turnover for each state year. However, I am unaware of scholarship that theorizes and tests predictors of CHISOLS as opposed to narrower leader or broader institutional transitions.

¹¹The data set ends in 1998 which is the last year of data on military spending as a percentage of GDP in Fordham and Walker (2005).

results are robust to continuous or binary operationalizations of the variable.

Controls and Specification

I control for variables commonly associated with war occurrence. Some of these, such as years since the prior conflict, are plausible confounders. They may be a common cause of both prior leader turnover (Croco, 2011) and subsequent conflict.

Contiguity is an indicator equal to one when states share a land border or are separated by 400 miles of water or less, and zero otherwise (Stinnett et al., 2002). Territorial disputes are a common cause of war (Vasquez, 2009; Starr and Thomas, 2005). *Alliance* is a binary measure for whether states share a military alliance, non-aggression pact, or entente (Gibler and Sarkees, 2002). Allies are less likely to fight one another. *Relative Capabilities* measures the weaker state's share of total dyadic capabilities. Though imperfect, I employ CINC scores given their broad temporal and spatial coverage. At the dyadic level, power parity is typically associated with more conflict (Reed, 2003). To account for temporal dependence I follow Carter and Signorino (2010) and include a series of polynomials measuring *Peace Years* in a dyad (higher order coefficients are not reported in the tables). Due to a lack of any jointly democratic rivalrous dyads I do not include controls for the well-known democratic peace (Oneal and Russett, 1997; Dafoe, 2011). Given the dichotomous outcome variable, the main specifications use logistic regression with standard errors clustered on the directed dyad. All results are robust to using rare events logit (Firth, 1993) and Ordinary Least Squares (OLS).

Results: When Leader Turnover Fosters Peace

Does uncertainty over the future costs of peace facilitate peace today? Does this effect vary depending on the current level of peace costs? Figure 2 offers descriptive answers before turning to parametric analysis. The scatter plot on the left shows the number of leader turnovers in the prior decade in the target (challenger) state of a directed-dyad year and whether that dyad year ended in war initiation or peace. I split the sample by the initiating state's (deterrent's) level of military spending. Most notably, among observations with high military spending, war never occurs if the target had two or more turnovers in the prior decade. This is readily apparent in the right panel which plots the percentage of directed rivalrous dyad years with war onset as a function of prior leader turnover and levels of military spending. Observed relationships are consistent with the hypotheses. When military spending levels are high (gray circles), more leader turnover is associated with less conflict. Consistent with H1, war never occurs in these highly armed instances if the adversary's leadership changed two or more times in the prior decade. If peace costs are high,

greater uncertainty due to leadership volatility fosters peace. In contrast, when military spending levels are lower (black diamonds), there is limited association between leader turnover and war. The contention is that when war occurs in these lower armed instances, it is due to a different logic and largely unrelated to peace costs. Because the costly peace impetus for fighting is inoperative, greater uncertainty over future peace costs should have little effect on war onset, which is consistent with H2.

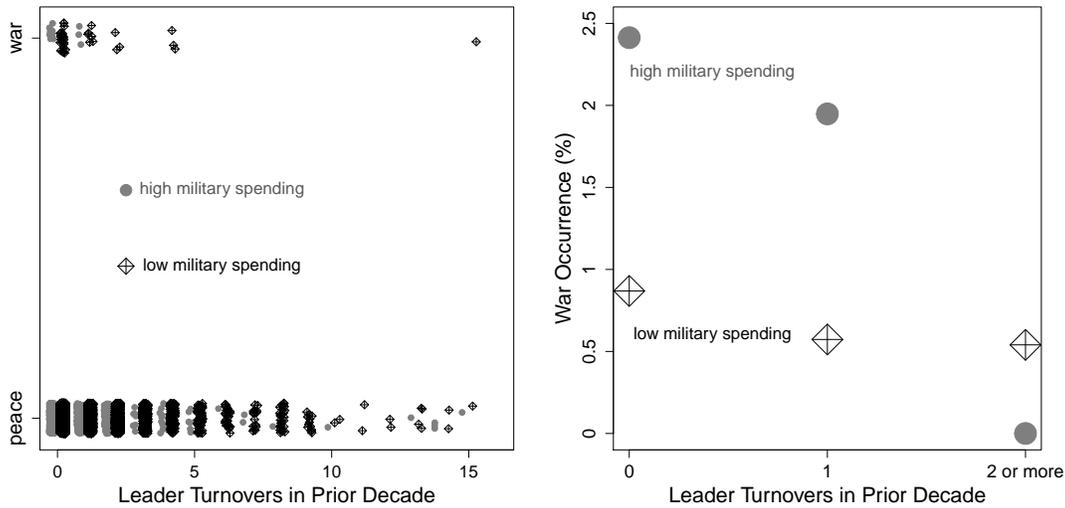


Figure 2: Descriptive plots of military spending, leader turnover, and war. *Left*: Scatter plot split by level of military spending; jitter added for readability. *Right*: Average war occurrence by military spending and adversary leader turnover where 0, 1, and ‘2 or more’ indicates the target’s number of CHISOLS in the prior decade.

Further descriptive analysis supports the coding rule that distinguishes between leader transitions depending on whether the leader’s support base remains the same or changes. I compare observations with some leader transitions but no CHISOLS versus observations with no leader transitions at all. If the coding rule is appropriate, these observations should exhibit similar patterns. Consistent with the expectation, the probability of war in high military spending observations with no CHISOLS is very similar regardless of whether a leader transition occurred (2.3%) or not (2.6%). The evidence corroborates the claim that not all leader turnover is equivalent. When proteges replaces incumbents, war remains approximately as likely as when no turnover occurs at all. Deterring states are more likely to expect an adversary’s policy to fundamentally shift when the base of support for leaders fluctuates as opposed to when it is static.

Finally, note that trends evident in Figure 2 suggest a three-level coding of *Leader Turnover* is appropriate. A continuous coding is subject to floor effects because additional turnover beyond the second one in high military spending observations cannot reduce the probability of war which is

already at zero.¹²

Regression analysis accounts for potential confounders and other causes of war. To ease interpretation, the first analyses split the sample based on military spending. Models 1 and 2 of Table 1 test H1 and thus only include cases when the potential initiator's military spending exceeds 10% of GDP. In both models prior leader turnover in the adversary reduces war onset. Consistent with the hypothesis, when the costs of peace are high, greater uncertainty over the future costs of peace reduces the probability of war. If an adversary's leadership changed in the prior decade, the deterring state may infer leadership will change again and it is worth waiting out the incumbent. Turnover can bring a more favorable regime to power and reduce the need for and costs of arming.

Predicted probabilities facilitate interpretation of the logit coefficient (King, Tomz and Wittenberg, 2000). With all other variables in Model 2 set to their median values, there is a 1.2% predicted probability of war when the adversary has no leader transitions in the prior decade. This probability drops to 0.2% if the adversary had two leader turnovers in that period. The marginal effect of leader turnover represents a roughly 80% drop in the relative probability of war, which is statistically significant at the 95% level. Again, interstate war is relatively rare even among rivals spending a high percentage of GDP on the military. It becomes substantially more rare when prospective leader turnover is likely in the adversary.

To assess H2, Models 3 and 4 analyze the relationship between leader turnover and war when the deterrer's peace costs are not especially onerous (less than 10% of GDP). As the hypothesis stipulates, leader turnover has a substantively small and statistically insignificant effect on war onset. When the costs of peace are moderate to low, uncertainty over their future value has little effect on the probability of war. Indeed, the predicted probability of war only declines from 0.5% to 0.4% (which is statistically insignificant) when moving from no turnover to some turnover in the past decade.

Model 5 includes the full data set with an interaction term between the initiator's military spending level and the target's previous leader turnover. Substantively, the specification reconfirms the above results.¹³ Figure 5 plots the interactive effect. When military spending is high, uncertainty due to the prospect of future turnover in the adversary promotes peace. When spending is low, uncertainty has a substantively and statistically insignificant effect. Note that whether the difference in effect sizes is itself significant (it happens to be at the 90% level) is not a derived hypothesis. The hypotheses specify a substantive effect under one condition (H1) and not the other (H2). The difference between those effects is not pertinent to testing the hypotheses.

¹²A continuous specification in the SI yields similar results despite the floor effects.

¹³Model 5 also shows that high peace costs, which shrink the range of mutually preferable peaceful settlements, are generally associated with more war. The one exception is when there is sufficiently high uncertainty over the future need to pay the costs of peace (consistent with H1). Though outside of the theory, Model 5 finds that rivals which recently fought are more likely to fight again.

Table 1: Turnover, Military Spending, and War

	High Mil. Spending		Low Mil. Spending		Interacted	
	(1)	(2)	(3)	(4)	(5)	(6)
Turnover	-0.84*	-1.05***	-0.26	-0.12	-0.16	-0.32
	(0.44)	(0.33)	(0.22)	(0.23)	(0.22)	(0.27)
High Mil. Spending					1.07***	1.05**
					(0.40)	(0.46)
Turnover*Mil. Spending					-0.89*	-1.03*
					(0.50)	(0.54)
Relative Capabilities		-1.40		-0.07	-0.35	0.32
		(2.53)		(1.26)	(1.17)	(1.23)
Contiguity		-1.02		-0.74*	-0.78**	-0.91**
		(0.70)		(0.41)	(0.36)	(0.36)
Alliance		0.81		-0.66	-0.21	-0.04
		(0.56)		(0.43)	(0.32)	(0.38)
Target Regime Type						0.06**
						(0.02)
Peace Years		-1.12*		-0.36***	-0.28***	-0.24***
		(0.61)		(0.09)	(0.08)	(0.09)
Constant	-3.63***	-2.15**	-4.76***	-3.35***	-3.43***	-3.47***
	(0.31)	(1.01)	(0.22)	(0.53)	(0.49)	(0.52)
N	654	650	5,106	5,077	5,727	5,412

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression with directed rivalrous dyad year as the unit of analysis. Standard errors in parentheses are clustered on the directed dyad. Results for higher order *Peace Years* are not shown.

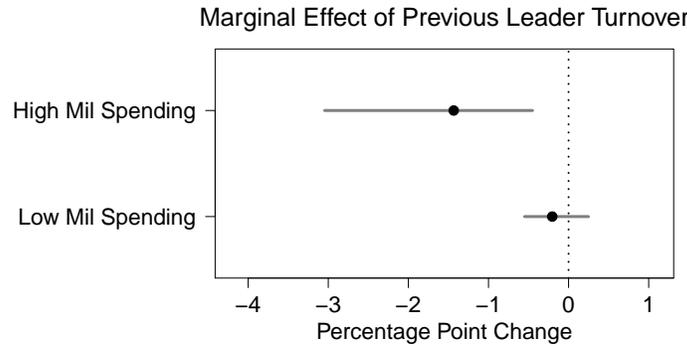


Figure 3: Marginal effect on the probability of war of an adversary having two leadership turnovers in the past 10 years versus zero turnovers. Effects differ conditional on peace cost intensity, as represented by military spending as a percentage of GDP.

In sum, quantitative results corroborate the hypotheses both descriptively and after accounting for additional variables. Uncertainty over the future due to potential leader volatility promotes

peace today. But it only does so in the specific context the theory identifies; namely, when current military spending is high. The results are consistent with states waiting out an unattractive costly peace where there is a viable prospect of a more favorable one in the future. If opponents are deeply entrenched in power, then the future is unlikely to substantively differ from the present. States bearing heavy arming burdens initiate wars at a higher rate when they have little reason to believe circumstances will change.

Robustness and Alternative Explanations

All results are robust to numerous alternative specifications. These include varying the cutpoint for low versus high military spending, controlling for a state's number of rivals, using a binary or continuous measure for leader turnover, and using either OLS or penalized logistic regression given the rarity of war. While results are steady across these specifications (see the SI), several alternative explanations merit scrutiny as military spending and leader turnover are not randomly assigned. Alternative explanations should be theoretically consistent and able to account for the conditional effect observed in the analysis. The alternatives fail on these metrics.

First, perhaps recent leader turnover is a proxy for regime type. Democracies definitionally have mechanisms to enable leader turnover. A relationship exists between the two with polity scores (higher for more democratic states) positively correlated with turnover (correlation coefficient=0.43). Nonetheless, Model 6 shows that controlling for the adversary's polity score does not alter the substantive results. Additional specifications in the SI similarly show that controlling for the target's regime type does not alter the subsample results discussed earlier. The findings on prospective leader turnover are *not* merely an artifact of the target's institutions. Moreover, it is unclear why adversary regime type would only matter when military spending is high and not when it is low.

Second, high military spending is endogenous and likely spikes before conflicts. Endogenous spending is unproblematic in part because it is central to the theory: states spend on arms to contain challengers. Unlike the hypotheses, endogeneity cannot explain why high spending promotes war when coupled with no leader turnover but does not when there is turnover. Spending is endogenous for both, yet in only one is associated with more conflict.

Third, leader turnover could facilitate peace through a different pathway, though there are several reasons for skepticism. If turnover pacifies, it is odd that it only does so when military spending burdens are onerous. Additionally, leader turnover is commonly associated with more, not less, war. [Wolford \(2007\)](#) shows that uncertainty over a new leader's resolve increases the risk of war due to informational asymmetries. Additionally, crises involving new leaders tend to last longer and be more fatal ([Smith and Spaniel, 2016](#)). Turnover can also increase war likelihood due to the

relative ineptitude of incoming officials in managing crises or their lack of established relationships with foreign leaders (Potter, 2007). Alternatively, states may attack when adversaries have new leaders before the latter can consolidate power. Leadership turnover may offer a window of opportunity in which to fight a temporarily weak adversary (Blainey, 1988; Gleditsch and Ruggeri, 2010).

The preceding discussion also suggests that the effect of turnovers found in the models is predominantly prospective rather than retrospective. A retrospective interpretation would predict that past leader turnover leads to *more* conflict, consistent with the argument from the prior paragraph. In contrast, I find that past turnover is associated with *less* conflict conditional on high military spending. The subsequent decline in the probability of war is consistent with the paper's prospective argument which asserts that prior turnover generates an expectation of future turnover. Anticipation of additional turnover in the future incentivizes states to wait out a hostile adversary. This dynamic can operate even if a hawkish leader recently assumed power in the target state because that leader transition signals the possibility of additional future transitions.

Fourth, the costs of war could vary in ways that change the proper interpretation of the findings. Unfortunately, there is no systematic measure for war's projected toll. A counter-argument, referenced earlier, might hold that lower peace costs (less arming) produces lower war costs as well. If true, then forbearance serves no purpose because the relative inefficiency of peace is fixed. However, evidence indicates that war costs and peace costs are not closely linked. I analyze the relationship in wars between peace costs, using military spending as a percentage of GDP from the year before war initiation, and war costs, using battle deaths per capita (Sarkees and Wayman, 2010). The belligerents' average arming intensity has a slightly *negative* correlation (-0.13) with their average fatality rates. The analysis (in the SI) indicates that war and peace costs do not track each other, thus preserving the asymmetry that incentives deterrer's to wait out a costly peace.

Candidate alternative explanations fail to withstand scrutiny. For some, empirically accounting for them does not change the main results. For others, the logic is incomplete. They either suggest the results should run in the other direction or cannot account for the conditional relationship that the theory generates and the data corroborates.

Conclusion

War is costly and frequently so too is peace. When the burden of purchasing guns rather than butter is especially onerous, the range of peaceful settlements mutually preferable to war shrinks. States may then rationally opt for war. Building from this premise, I develop a theory that illuminates the importance of uncertainty over the future magnitude of peace costs. Arms spending need not remain at current levels in perpetuity. Changes in the opponent's characteristics, new

technologies, or alternative strategies all introduce uncertainty over the future. Uncertainty over these costs, even when they do not change in expectation, reopens the door for peace when war is otherwise preferred. In its most obvious form, peace is preferable when the expected gain to peace (vs. war) in the future more than offsets the loss to peace (vs. war) in the present. Asymmetric implications of future shifts in the costs of peace drive the result. The containing state enjoys all the gains from a favorable shift while its losses are capped at its war payoff under unfavorable shifts. Observed patterns of war among strategic rivals accord with the theoretical implications. When locked in a costly peace with little hope of leadership transition in the adversary, states attack more frequently. When locked in that same costly peace but leadership change is plausible, states endure the unattractive peace today. Waiting it out is optimal when the future may look different.

Two theoretical and two policy implications emerge. For theory, the paper highlights a form of uncertainty that promotes peace. This differs from the majority of work on strategic bargaining in which uncertainty is often central to bargaining failure—e.g., [Fearon \(1995\)](#). Divergent implications emerge because the source and form of uncertainty differs from that in canonical models. Uncertainty here stems from stochastic features of the future, rather than from private information. The theory and findings also point to the pacifying effect of the shadow of the future. Consideration of future interactions restores the possibility of peace in the present. As actors increasingly value the future, this paper's contentions become more salient.

For policy, I show that there are benefits to leader volatility. While the immediate aftermath of turnover introduces potentially problematic information asymmetries ([Wolford, 2007](#); [Smith and Spaniel, 2016](#)), the prospect of future turnover can have distinct implications. If all actors know successors will be more hawkish than incumbents, then anticipated turnover can have deleterious consequences ([Colaresi, 2004](#); [Wolford, 2017](#)). If, however, state leaders are uncertain about who they will be negotiating with in the future, then anticipated turnover can be a blessing for peace. Sometimes it helps to know that the incumbent has limited staying power. Additionally, the paper stresses the importance of accounting for future interactions when optimizing policy choices today. A banal but occasionally neglected point in policy debates is that strategic interaction reoccurs in the future. Deals struck today are not the end of bilateral interaction. US critics of the JCPOA at the time of its implementation often cited its expiration date as a demerit. Suggesting Iran would be free to pursue weapons at that point, Senator Collins (R-ME) deemed that “[t]he agreement is fundamentally flawed because it leaves Iran as capable of building a nuclear weapon at the expiration of the agreement as it is today.”¹⁴ This critique is misguided and non-strategic. It ignores the possibility of a more amicable Iranian regime with limited nuclear ambitions. More fundamentally, JCPOA's expiry never necessitated US disengagement. As the deal's expiration

¹⁴ Accessed 3/22/16 at <http://bangordailynews.com/2015/09/08/politics/susan-collins-says-shell-vote-against-iran-deal/>.

dates approached, the US could reengage and reevaluate its strategic options, including military ones. Enduring an unattractive peace is neither an act of naive optimism nor a forfeiture of agency. Rather, under the right conditions, it is prudent policy.

References

- Axelrod, Robert. 1984. *The Evolution of Cooperation*. Basic Books.
- Blainey, Geoffrey. 1988. *The Causes of War*. London, Macmillan.
- Carter, David B. and Curtis S. Signorino. 2010. "Back to the Future: Modeling Time Dependence in Binary Data." *Political Analysis* 18:271–292.
- Coe, Andrew. 2011. "Costly Peace: A New Rationalist Explanation for War." Working paper.
- Coe, Andrew J. 2018. "Containing Rogues: A Theory of Asymmetric Arming." *Journal of Politics* 80(4):1197–1210.
- Colaresi, Michael. 2004. "When Doves Cry: International Rivalry, Unreciprocated Cooperation, and Leadership Turnover." *American Journal of Political Science* 48(3):555–570.
- Croco, Sarah E. 2011. "The Decider's Dilemma: Leader Culpability, War Outcomes, and Domestic Punishment." *American Political Science Review* 105(3):457–477.
- Dafoe, Allan. 2011. "Statistical Critiques of the Democratic Peace: Caveat Emptor." *American Journal of Political Science* 55(2):247–262.
- Debs, Alexandre and Nuno Monteiro. 2014. "Known Unknowns: Power Shifts, Uncertainty, and War." *International Organization* 68(1):1–31.
- Fearon, James D. 1995. "Rationalist Explanations for War." *International Organization* 49(3):379–414.
- Fearon, James D. 2008. "A Simple Political Economy of Relations among Democracies and Autocracies." Working paper.
- Fearon, James D. 2018. "Cooperation, Conflict, and the Costs of Anarchy." *International Organization* 72(3):523–559.
- Fey, Mark and Kristopher W. Ramsay. 2011. "Uncertainty and Incentives in Crisis Bargaining: Game-Free Analysis of International Conflict." *American Journal of Political Science* 55(1):146–169.

- Firth, David. 1993. "Bias Reduction of Maximum Likelihood Estimates." *Biometrika* 80(1):27–38.
- Fordham, Benjamin O. and Thomas C. Walker. 2005. "Kantian Liberalism, Regime Type, and Military Resource Allocation: Do Democracies Spend Less?" *International Studies Quarterly* 49(1):141–157.
- Gaddis, John Lewis. 1982. *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy*. Oxford, UK: Oxford University Press.
- Garfinkel, Michelle R. and Stergios Skaperdas. 2000. "Conflict without Misperceptions or Incomplete Information: How the Future Matters." *Journal of Conflict Resolution* 44(6):793–807.
- Gibler, Douglas and Meredith Sarkees. 2002. "Coding Manual for v3.0 of the Correlates of War Formal Interstate Alliance Data set, 1816-2000." Typescript.
- Gleditsch, Kristian S. 2002. "Expanded Trade and GDP Data." *Journal of Conflict Resolution* 46(5):712–724.
- Gleditsch, Kristian S. and Andrea Ruggeri. 2010. "Political Opportunity Structures, Democracy, and Civil." *Journal of Peace Research* 47(3):299–310.
- Goldberg, Jeffrey. 2015. "John Kerry on the Risk of Congress 'Screwing' the Ayatollah."
- Hirshleifer, Jack. 1991. "The Paradox of Power." *Economics and Politics* 3(3):177–200.
- Horowitz, Michael C. and Allan C. Stam. 2014. "How Prior Military Experience Influences the Future Militarized Behavior of Leaders." *International Organization* 68(3):527–559.
- Horowitz, Michael C., Philip Potter, Todd S. Sechser and Allan Stam. 2018. "Sizing Up the Adversary: Leader Attributes and Coercion in International Conflict." *Journal of Conflict Resolution* 62(10).
- Jervis, Robert. 1978. "Cooperation Under the Security Dilemma." *World Politics* 30(2):167–214.
- King, Gary, Michael Tomz and Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44(2):347–61.
- Knutsen, Carl Henrik and Havard Mogleiv Nygard. 2015. "Institutional Characteristics and Regime Survival: Why are Semi-Democracies Less Durable Than Autocracies and Democracies?" *American Journal of Political Science* 59(3):656–670.

- Kydd, Andrew. 2005. *Trust and Mistrust in International Relations*. Princeton, N.J.: Princeton University Press.
- Lake, David A. 2010. "Two Cheers for Bargaining Theory: Assessing Rationalist Explanations for the Iraq War." *International Security* 35(3):7–52.
- Lupton, Danielle L. 2018. "Signaling Resolve: Leaders, Reputations, and the Importance of Early Interactions." *International Interactions* 44(1):59–87.
- Mattes, Michaela, Brett Ashley Leeds and Naoko Matsumura. 2016. "Measuring Change in Source of Leader Support: The CHISOLS Dataset." *Journal of Peace Research* 53(2):259–267.
- Mattes, Michaela, Brett Ashley Leeds and Royce Carroll. 2015. "Leadership Turnover and Foreign Policy Change: Societal Interests, Domestic Institutions, and Voting in the United Nations." *International Studies Quarterly* 59(2):280–290.
- McCormack, Daniel and Henry Pascoe. 2017. "Sanctions and Preventive War." *Journal of Conflict Resolution* 61(8):1811–1739.
- McManus, Roseanne. 2018. "Making It Personal: The Role of Leader-Specific Signals in Extended Deterrence." *Journal of Politics* 80(3):982–995.
- Monteiro, Nuno P. and Alexandre Debs. 2016. "An Economic Theory of War." Working paper.
- Morrow, James D. 1989. "Capabilities, Uncertainty, and Resolve: A Limited Information Model of Crisis Bargaining." *American Journal of Political Science* 33(4):941–972.
- Oneal, John R. and Bruce M. Russett. 1997. "The Classical Liberals were Right: Democracy, Interdependence, and Conflict, 1950-1985." *International Studies Quarterly* 41(2):267–293.
- Potter, Philip. 2007. "Does Experience Matter? American Presidential Experience, Age, and International Conflict." *Journal of Conflict Resolution* 51(3):351–378.
- Powell, Robert. 1993. "Guns, Butter, and Anarchy." *American Political Science Review* 87(1):115–132.
- Powell, Robert. 1999. *In the Shadow of Power: States and Strategies in International Politics*. Princeton, N.J.: Princeton University Press.
- Powell, Robert. 2004. "The Inefficient Use of Power: Costly Conflict with Complete Information." *American Political Science Review* 98(2):231–241.

- Powell, Robert. 2006. "War as a Commitment Problem." *International Organization* 60(1):169–203.
- Rappoport, Aaron. 2012. "The Long and Short of It: Cognitive Constraints on Leaders' Assessments of "Postwar" Iraq." *International Security* 37(3):133–171.
- Reed, William. 2003. "Information, Power, and War." *American Political Science Review* 97(4):633–41.
- Reiter, Dan, Allan C. Stam and Michael C. Horowitz. 2014. "A Revised Look at Interstate Wars, 1816-2007." *Journal of Conflict Resolution* 60(5):956–976.
- Rosato, Sebastian. 2014. "The Inscrutable Intentions of Great Powers." *International Security* 39(3):48–88.
- Sarkees, Meredith R. and Frank Wayman. 2010. *Resort to War: 1816-2007*. Washington DC: Congressional Quarterly Press.
- Saunders, Elizabeth N. 2011. *Leaders at War: How Presidents Shape Military Interventions*. Cornell University Press.
- Saunders, Elizabeth N. 2017. "No Substitute for Experience: Presidents, Advisers, and Information in Group Decision-Making." *International Organization* 71(S1):S219–S247.
- Singer, David. 1987. "Reconstructing the Correlates of War Dataset on Material Capabilities of States, 1816-1985." *International Interactions* 14:115–32.
- Slantchev, Branislav L. 2012. "Borrowed Power: Debt Finance and the Resort to Arms." *American Political Science Review* 106(4):787–809.
- Slantchev, Branislav L. and Ahmer Tarar. 2011. "Mutual Optimism as a Rationalist Explanation for War." *American Journal of Political Science* 55(1):135–148.
- Smith, Bradley C. and William Spaniel. 2016. "War, Uncertainty, and Leader Tenure." Manuscript.
- Spaniel, William and Iris Malone. 2016. "The Uncertainty Tradeoff: Does Interdependence Decrease War?" Manuscript.
- Starr, Harvey and G. Dale Thomas. 2005. "The Nature of Borders and International Conflict: Revisiting Hypotheses on Territory." *International Studies Quarterly* 49:123–39.

- Stinnett, Douglas M., Jaroslav Tir, Philip Schafer, Paul F. Diehl and Charles Gochman. 2002. "The Correlates of War Project Direct Contiguity Data, Version 3." *Conflict Management and Peace Science* 19(2):58–66.
- Svolik, Milan. 2012. *The Politics of Authoritarian Rule*. Cambridge: Cambridge University Press.
- Thompson, William R. 2001. "Identifying Rivals and Rivalries in World Politics." *International Studies Quarterly* 45(4):557–86.
- Thompson, William R. and David R. Dreyer. 2011. *Handbook of International Rivalries, 1494-2010*. Washington D.C.: Congressional Quarterly Press.
- Tingley, Dustin. 2011. "The Dark Side of the Future: An Experimental Test of Commitment Problems in Bargaining." *International Studies Quarterly* 55(2):521–544.
- Van Evera, Stephen. 1999. *Causes of War: Power and the Roots of Conflict*. Ithaca, NY: Cornell University Press.
- Vasquez, John A. 2009. *The War Puzzle Revisited*. Cambridge: Cambridge University Press.
- Weeks, Jessica L. P. 2012. "Strongmen and Straw Men: Authoritarian Regimes and the Initiation of International Conflict." *American Political Science Review* 106(2):326–347.
- Wolford, Scott. 2007. "The Turnover Trap: New Leaders, Reputation, and International Conflict." *American Journal of Political Science* 51(4):772–788.
- Wolford, Scott. 2012. "Incumbents, Successors, and Crisis Bargaining: Leadership Turnover as a Commitment Problem." *Journal of Peace Research* 49(4):517–530.
- Wolford, Scott. 2017. "Wars of Succession." *International Interactions* 44(1):173–187.
- Yarhi-Milo, Keren. 2014. *Knowing the Adversary: Leaders, Intelligence, and Assessment of Intentions in International Relations*. Princeton, NJ: Princeton University Press.