Rising Power on the Mind

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Abstract

Explanations of international conflict and cooperation emphasize a variety of factors. One prominent explanation of conflict is that unitary actors—states—bargain with each other but face commitment problems when there are shifts in bargaining power. A second set of explanations focuses on the role of domestic politics, with part of this literature highlighting the role of the public. This paper conducts the first public opinion based analyses of shifting power explanations of conflict. Furthermore, the paper engages with emerging questions about the role of public commitments and whether they have a constraining effect on behavior. Using a series of survey experiments, this paper begins to spell out public reactions to shifting power in the international arena. Methodologically, the paper leverages new techniques in unsupervised textual analysis to paint a heterogeneous picture of the mechanisms that shifts in power drive.
1 Introduction

A common explanation for conflict between countries is shifting power. States that are declining in power may act to prevent such declines, and states that are increasing in power cannot credibly commit to not taking advantage of new found power in the future. A large literature has built up these types of explanations in various forms, ranging from power transition theory to more modern formal accounts emphasizing commitment problems (Powell, 2006; Fearon, 1995). Most of these literatures adopt a “billiard ball” view of the state. The influence of the mass public and domestic politics more generally is bracketed. This is in contrast to other literatures that see a greater role for the mass public and domestic politics in international relations (e.g., Baum and Potter, 2008; Tomz, 2007; Milner and Tingley, 2014; Rho and Tomz, 2014).

This paper combines the theoretical and empirical motivations of both sets of literatures. It is the first to directly engage with whether the mass public holds views that are consistent with theoretical mechanisms suggested by models with shifting power. While a broad cross section of research posits some role for the public in constraining or enabling particular foreign policies, this literature has never directly engaged with ideas prevalent in game theoretic accounts of international bargaining and conflict. Furthermore, much survey work disengages with propositions and insights from more game theoretic literatures.

This paper asks, through a series survey experiments whether the mass public uses decision-making models that comport with the mechanisms offered in previous theoretical work. In particular, it examines using experiments how individuals respond to changes in the power of other countries. This is done both using a hypothetical—though still international relations based—example, but also with an additional experiment that primed individuals to think about China’s rising power. Previous work on this topic has used

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1See for example Kriner (2010, pg. 55 and cites there in) as well as Milner and Tingley (2014, chapter 3).

2Exceptions include Tomz (2007); Tingley and Tomz (2013); Chaudoin (2014); Chapman (2012); Milner and Tingley (2013).
more abstract, laboratory based, experiments to investigate these mechanisms (Tingley, 2011; Tingley et al., 2013; Quek, 2012; Rathburn et al., 2014). A second innovation of the paper is to examine mass political attitudes in situations where their own country has recently become more powerful. This flips the first set of experiments around and asks whether individuals are willing to support their country taking advantage of new found power. Thus this paper looks both at whether individuals are wary of the rising power of other countries, but also what they would do in a situation where their own country has already risen in power. Additionally, I investigate the effect of commitments between the countries on respondent willingness to support conflict. Do public commitments have any bearing on the types of behavior individuals support, and the rationales they give for their policy preferences?

I find that individuals cite concerns about shifting power and the likely future behavior of a country, consistent with the mechanism highlighted in models of commitment problems. However, this only hold in situations without public commitments to the status quo. We also document some support for the idea that publics will want to take advantage of new found power shifts, but only under conditions whether there has not been a previous public commitment.

However, responses to primes about shifting power engender very different effects across individuals. To show this I document the distribution of rationales that respondents gave for their decisions. Many individuals, for example, did not adopt express a cognitive framework that underlies commitment problem explanations though some certainly did. We find substantial variation in reasoning across individuals, just as we find differences in how individuals respond to experimental manipulations. These findings parallel other work related to international relations that identifies substantial heterogeneity in individual responses to international conflict (McDermott et al., 2007; Kertzer and McGraw, 2012) or more abstract bargaining situations (McDermott et al., 2009a). While this paper does not endeavor to explain the exact sources of this heterogeneity (be they biological, cultural, mystical, etc.) the results presented in this paper open up ways to do this, all within the important conventional framework of understanding the influence
of shifts in power.

This paper also brings to bear the newly introduced Structural Topic Model (STM) (Roberts et al., 2013a, 2014b) as a way to analyze open ended survey responses. In the surveys, respondents were asked both for their preferred course of action, but also to explain why they chose that course of action. The STM is able to uncover a range of interesting quantities of interest that in this paper help provide evidence for the mechanism(s) linking the treatment and respondent policy preferences. In several of the experiments I push this capacity further, and integrate output from the STM into a formal mediation analysis (Imai et al., 2011) framework to provide explicit evidence of the operation of several interesting causal mechanisms relating to commitment problems.

The paper is structured as follows. Section 2 situates the paper within a broader program of understanding the behavioral foundations of responses to shifting power and also reviews some of the workhorse machinery used for analyzing the open ended survey data. Sections 3 and 5 introduce new survey experiments that engage with the topic of shifting power in different ways. Section 6 concludes.

2 Theoretical and Methodological Foundations

2.1 Theoretical Motivations

Most models of international bargaining posit either unitary actors or leaders whose domestic constraints vary by their nation’s institutional structure, historical circumstances, or other variables (e.g., Powell, 2006; Fearon, 1995; Putnam, 1988; Bueno de Mesquita and Smith, 2012). The focus of this paper is to unpack the behavioral foundations of citizen attitudes towards international bargaining. Previous work has connected citizen preferences to international decision-making in a variety of ways, including the dynamics surrounding rally around the flag phenomena (Groeling and Baum, 2008), elite-citizen signaling (Berinsky, 2007), the role of media (Baum and Potter, 2008), and broader accounts of the constraints public opinion puts on the types of foreign policy objectives that are pursued (Eichenberg, 2005). Of course there also exists a long literature unpacking public preferences for particular foreign policies. Relatively less attention has been placed
on the role of the public in international bargaining, though some work does try to bridge this gap (e.g., Evans et al., 1993; Trumbore, 1998), including rich efforts to unpack the desirability of public awareness about international bargaining (Stasavage, 2004).

This paper examines how individuals react to information about bargaining in the shadow of shifting power. Our models of bargaining focus on several key parameters: strategic context, benefits/costs, and power. Often the strategic context is heuristically dichotomized in terms of zero-sum and non-zero sum situations. But whether or not individuals perceive a situation as being zero-sum or not, and even given a strategic setting how this is perceived and interpreted, is an open question. Such perceptions are important, and can influence behavior (Jervis, 1976). While constructivists have pointed to similar considerations, “anarchy is what you make of it” (Wendt, 1992), we know less how individual citizens conceptualize the strategic context their country is in. Instead the constructivist literature tends to posit the existence of “actors” with less attention to behavioral micro-foundations, though this may be changing both within the constructivist literature (Hopf, 2010) but also in IR theory more generally (Rathbun, 2009). If individuals perceive a relationship in positive-sum terms, there is at least a possibility that, coupled with sustained interaction, cooperation can arise even in the face of prisoner’s dilemma type incentives (Jervis, 1976). For example, individuals might take a current conflict with another country and cast it in terms of the potential for longer term economic cooperation. Or they may instead see only a winner take all type view. Furthermore, some research such as that on negativity bias, might suggest that many individuals will more heavily weigh the negative implications of zero-sum bargaining (Rozin and Royzman, 2001).

Some work focuses on how individuals respond to information about the benefits and costs of war. Some like Gelpi et al. (2009) argue that the public does not necessarily fixate on the costs of war but instead focuses on the prospects for success. Others like Berinsky (2007) go a step further, and argue that citizen do not make cost-benefit calculations directly, and instead simply infer their positions from whether or not there is elite disagreement. While the present study is unable to engage with the nuances of these
more focused inquiries on how citizens evaluate the costs and benefits to conflict, it does let us consider whether it is common for citizens to justify their positions by focusing on different potential considerations, such as the costs of conflict. Of course, the costs of war are not the sole piece of information that citizens might focus on. Some, for example, might focus on the distribution of power or on the importance of public commitments, as discussed above.

Finally, relative power has an important role in our models though this is typically seen most clearly in standard non-zero sum type bargaining models. Rationalist models of shifting power focus on the commitment problems that shifting power creates. In the future a rising power will take advantage of other countries, and current commitments cannot change this fact. Several psychological mechanisms are important to highlight here. First, analogical reasoning can reinforce concerns about shifting power by drawing on past instances in which revisionist states violate past commitments as they continued to grow in power (Neustadt, 2011; Reiter, 1996). Second, a long literature examines individual perceptions of power (Jervis, 1976). One important part of this literature looks at how perceptions of power influence how individuals construct the intentions of others. For example, one argument is that individuals perceive power of other countries in terms of the threat it poses, but they do not see their own country in these terms (Jervis, 1968; Winter, 2003; Winter and Sweet, 2009). This dynamic can then lead to “threat accumulation”, as the other country’s power becomes more threatening, which in turn requires a re-calibration of how one’s own country see’s its power.

Given that shifting power can lead to commitment problems, it is helpful then to unpack what we understand about the role of commitments. Interestingly, the study of commitments comes up in a a parallel literature that also examines public responses to international bargaining. For example, in a well known article Michael Tomz (2007) tests whether publics punish leaders for backing down in crises. Previous theoretical work suggested that democracies might have advantages in international bargaining because their leaders would pay costs, so called “audience costs”, if they deviate from stated courses of action (Fearon, 1994; Slantchev, 2006). Subsequent work has theoretically and
empirically debated audience costs accounts more generally (Schultz, 2012; Mercer, 2012; Levendusky and Horowitz, 2012; Chaudoin, 2014).

Lacking additional information (Levendusky and Horowitz, 2012) or strong prior preferences for particular policy choices (Chaudoin, 2014), a preference for consistency—and hence a cost that is imposed on inconsistency—is well documented. For example, a preference for leaders “keeping their word” was a dominant driver of punishment in Tomz’s previous audience cost experiments. Subsequent research in a different arena—on voter views of candidates that change their positions, so called flip-flopping—also find an effect due to the valuation of leaders sticking to previous positions (Tomz and Van Houweling, 2008). Hence an important belief that citizens might have about international bargaining is that it is appropriate for leaders to be consistent and stick to previous agreements, even if those agreements are no longer preferable from the perspective of (complete information) bargaining models.

Consistency, however, is not part of the story when it comes to explanations of commitment problems. In particular, it is precisely the inability of a rising power to credibly commit to keeping a current arrangement in the future that leads to declining states having an incentive to launch a preventive war. Yet the belief that consistency and keeping to an agreement are important in principle (at least if commonly known) could mitigate commitment problems. A contribution of this paper is to explore this nexus—between commitments and commitment problems—in situations with shifting power.

The preceding discussion highlights how individuals may confront and process information about a particular international bargaining situation in a variety of ways. In this sense the present paper tries to expand the notion of behavioral work in international relations to incorporate more directly the role of ideas and beliefs (Goldstein and Keohane, 1993; Peffley and Hurwitz, 1992; Tingley et al., 2010) not just behavioral outcomes. In part this heterogeneity in ideas may reflect individual differences in perception and information processing (Witkin, 1949; Kane and Engle, 2002; Stanovich, 1999). This move towards understanding differences in how individuals respond to and think about a situation is important, just as it is important to try and understand more the role of affect...
and the intersection of both cognitive and affective processes (Hafner-Burton et al., 2013; McDermott, 2004; Tingley et al., 2013; Rathburn et al., 2014; Tingley, 2014; Renshon et al., 2014).

2.2 Research Designs

Given the preceding discussion there are important substantive and methodological considerations that guided the design of the survey experiments presented in this paper.

2.2.1 Substantive Decisions

Shifts in power over time between countries implies two important dimensions to first consider that relate to the types of theoretical models this paper focuses on. First, either a substantial power shift is predicted to happen in the near future or has already happened. Second, a country’s change in relative power is either positive or negative. This paper focuses on two of the cells in this resulting 2x2 matrix. Either the US is predicted to become a declining power in the future or the US has recently already become a more dominant power in a relationship. This gives us two experimental conditions that we can then modify with additional interventions.\(^3\)

There are two additional dimensions. First is whether the power shift is large or small. If it is small, then as discussed elsewhere there is little concern about commitment problems.\(^4\) We utilize experimental conditions that involve small and large shifts in power. An additional dimension that is relevant is satisfaction with the status quo division. In the present paper, this consideration is only made salient when the citizen is in the situation of being a recently “risen” power.\(^5\)

\(^3\)Of course, were we to expand this underlying set of conditions, any subsequent interventions like those discussed next would rapidly proliferate our experimental cells.

\(^4\)Bargaining would be incremental, so called salami-tactics. See Tingley et al. (2013) for additional discussion from an experimental perspective.

\(^5\)In the experimental condition featuring a newly advantaged US, the situation is portrayed as the status quo division being undesirable to “many people.” A separate experiment, not reported in the current draft, shows that without this additional manipulation to prime revisionism, our US respondents are unwilling to support policies that are aggressive just because of a change in power. In vernacular terms, the experimental condition reported in this paper that had US power having recently risen required
This leaves us with four experimental conditions. Either the US has risen or fallen, or the shift is a large one or not. A final dimension relates to public commitments between countries. As discussed in the previous section public commitments might have an impact on behavior. In this paper we cross our four experimental conditions with whether there had been a previous public agreement. In this paper we intentionally abstract from a commitment by a particular actor such as ((e.g., a leader in Tomz, 2007)) and instead focus on commitments made by governments.\textsuperscript{6}

\section*{2.2.2 Methodological Decisions}

Studying responses to shifting power, commitment problems, and public commitments can take many different forms. One particular approach to studying shifting power is to take a very microscopic view of behavior by focusing on laboratory experiments in highly stylized situations. Some research has focused on bargaining frameworks that entail shifts in bargaining power and costly conflict (Tingley, 2011; Tingley \textit{et al.}, 2013; Quek, 2012; Rathburn \textit{et al.}, 2014), frameworks more familiar to international relations scholars. In these studies comparative static predictions from canonical models of bargaining that international relations scholars focus on are contrasted with decision making by human subjects in highly controlled laboratory conditions.\textsuperscript{7}

These controlled laboratory experiments, however, come with great benefit but also potential limitations. Two noteworthy potential limitations are that 1) they are often based on college students, and so a concern is that any results might not apply a more “representative” sample and 2) the depiction of the bargaining scenario is “abstract” and from a first person perspective (you are player A, B etc.). This paper is interested in public responses to shifting power, and so the experimental samples, while not nationally representative, none the less feature a broad cross-section of respondents and not just college

\textsuperscript{6}We recognize this could have consequences, though a priori it is not clear how these consequences cut against the results presented in this paper.

\textsuperscript{7}Other examples include Tingley (2011); Butler \textit{et al.} (2007); Tingley and Walter (2011b, a); Tingley and Wang (2010); McDermott \textit{et al.} (2007, 2009b).
students. This paper also moves away from recording decision-making in response to abstract situations, and instead embeds the experiments as part of hypothetical situations in international relations (e.g., Tomz, 2007), or real ones involving the rise of China’s power. Nonetheless, this paper still portrays a relatively clear bargaining protocol. Details about what has happened in the past, what might happen in the future, and what the set of current policy positions a respondent supports, are all a part of the core experiments in Section 3. What lacks, largely due to the survey experimental framework employed, is stronger constraints afforded in a laboratory setting. In the experiments covered in this paper there are no selective incentives and respondents may bring prior conceptions or narratives into the experiment given the substantive depictions (e.g., substituting in a real conflict for the hypothetical one) that we have less control over.

Finally, the research design in this paper tries to speak to an additional conceptual move. The basic premise is that individuals can respond to an external event with a broad variety of logics and considerations, or affective responses. This heterogeneity can come in a variety of forms. Some might frame differences along cognitive and affective lines, with cognitive responses often associated with rational, instrumental, logics. Another conceptual source of heterogeneity draws on insights from constructivist accounts.

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8Of course, the arguments and results in this paper might extend to elites. However, “elites” might respond differently from our “convenience” subjects to a particular experimental intervention. However, the consequences can go both ways. In some work, such as those that layer in substantial subject matter knowledge (e.g., the trade experiemnts in Hafner-Burton et al., 2014), students might not respond to information and incentives that elites would. Perhaps, this biases results towards the null. But it need not. For example, while some of the above laboratory game based experiments cited above are cast as being limited because they do not use elites, it might well be that those studies simply had results that were downwardly biased compared to what would have happened with “inconvenience” samples. Lacking a theoretical arguments and empirical evidence about specific directions of bias, it is by no means clear that convenience sample subjects are more limiting (Hafner-Burton et al., 2013). The limitations of a sample completely depend on the behavior/theories under investigation and the particular research designs employed.

9By which I mean that respondents are paid money based on decision-making in the experiment. This is in contrast to other experiments where payment to a participant in an experiment is a function of a subject’s own decisions and the decisions of other subjects.
of international relations. For example, logics of appropriateness might well govern some individuals, with habitualized processes underlying the observed data (Hopf, 2010). For example, expressions about the role of consistency and “keeping one’s word” is pertinent here. Existing research designs are ill equipped to unpack this heterogeneity. For example, asking many closed ended “why did you select this option” can be costly but also might prime individuals to think in ways that they did not otherwise (Iyengar, 1996). The methods described later in the paper enable the systematic analysis of open ended responses, innovate in ways that open up broad new classes of research for international relations scholars across the paradigms.

3 Bargaining as a Falling or Risen Power

3.1 Design 1: Falling Powers

Previous laboratory based research (Tingley, 2011; Tingley et al., 2013; Quek, 2012) suggests that individuals are more likely to reject proposals to divide a resource when they come from someone who is known to be growing in bargaining power in the future. These rejections are despite the fact that rejection is costly for both parties. This effect disappears when shifts in power are small, which is consistent with the game theoretic predictions these experiments are designed to explore. As discussed previously these laboratory experiments have a variety of virtues but also some limitations. The following experiments reduce the saliency of both limitations.

In the late fall and early winter of 2013/2014 I fielded an experiment via Amazon’s Mechanical Turk (Berinsky et al., 2010) that recruited US subjects to take a short survey for payment. Respondents were given a scenario depicting a fictional island controlled by the US and another country. The scenario depicts the other country growing in power over time. Presently the other country is proposing to take over a small amount of US territory, and respondents were asked whether to reject or accept the offer. The main manipulation is whether the other country was predicted to grow “slightly” or “much

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10Papers in the international relations literature that leverage Mechanical Turk include Chaudoin (2014); Tingley and Tomz (2014).
more” powerful in the future, with the prediction being that when the country was growing much more powerful in the future, there should be more support for rejecting the proposal and starting a conflict. A second manipulation was a statement indicating that both countries would agree publicly to the proposal. Subjects either received this information or got no additional information. If public commitments are perceived to have a binding effect on future behavior, then support for rejecting the proposal will be weaker compared to the condition where there is a large shift in power but not public commitment.11

After reading the vignette respondents stated whether they would reject or accept the offer. Immediately after giving their response subjects were asked “Please write a couple sentences to explain your opinion. Your opinion is very important to us and we want to understand it.” We also collected several other covariates, including gender, political ideology, and generalized support for the use of military force.12

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11 The exact language was as follows, with line formatting omitted for presentational purposes: “We would like for you to consider the following scenario. Alta Island is strategically valuable to the US and another country. The US controls part of the island, and the other country controls the rest. The current division of the island arose more than a decade ago, when the country was militarily weaker than the US in this area. The other country is still militarily weaker today. In the next couple of years the other country is predicted to become militarily [slightly more/much more] powerful than the US. Right now, the other country is contemplating demanding a larger share of the territory, which would decrease US national security. If the US rejects the proposal, there will be a costly conflict. Whoever ends up owning the island will depend on each country’s military strength. A larger military advantage for a country means a greater chance they will remove the other country from the island. If the US accepts the other country’s demand there would be no conflict this year. [no text/Both sides would agree publicly to the division of the territory.] Neither country would be removed. If there is conflict, one country will be removed and unable to return. As long as the other country remains on the island, in the future, when the other country is [slightly more/much more] powerful than the US, the country could demand additional US territory. What should the US response be to a proposal that takes over a small portion of the US territory?” Accept Proposal/Reject Proposal.

12 These questions were asked after a number of questions about an unrelated topic to prevent contamination.
3.2 Design 2: Risen Power

In design 1 respondents confronted a situation where another country was the rising power and had to decide how the US should respond. The second design shifts the focus, and tests an additional component of commitment problem explanations. At the core of bargaining models with shifting power is an assumption that the rising power, when they become more powerful in the future, will take advantage of this new found power. Previous experiments do not focus on this aspect of the model. For this experiment I designed vignettes that depicted the US as the rising power. The setting was largely similar to ones described previously. At some point in the past a strategic territory was divided between the US and another country. In this experiment, the US was weaker when the division was made in the past. However, respondents are asked to consider what the US should do given a recent increase in US military strength. US military strength was now slightly greater than the other country (“Small Shift”) or much more powerful (“Large Shift”), depending on treatment condition. As in design 1, respondents were randomly assigned to a condition mentioning that in the past the two countries had publicly agreed to the division (“Commit”) or no mention of an agreement (“No Commit”).

In the late fall and early winter of 2013/2014 a separate set of subjects took a similar survey as design 1 but read a vignette depicting the the US as now a stronger power. We recorded whether or not a the respondent supported changing the status quo and acquiring additional territory.\textsuperscript{13} As before subjects explained their decision in an open

\textsuperscript{13}We would like for you to consider the following scenario. An area of land is strategically valuable to your country and another country. Your country controls part of the land, and the other country controls the rest. The current division of the island arose more than a decade ago, when your country was militarily weaker than the other country in this area. [At that time, the two countries agreed to the division of the territory/no text.] Many people in your country were not happy with how the territory was divided. Recently, your country has become militarily [slightly/much more] powerful than the other country. Your country could demand a larger share of the territory, which would substantially improve your country’s security. But if the other country rejects the proposal, there will be a costly conflict and the division of the island will depend on each countrys military strength. In light of the fact that the your
ended follow up question.

3.3 Results

What is the effect of the experimental manipulations on the decision to accept or reject the other country’s proposal (in design 1) or the decision to acquire more territory or retain the status quo (in design 2). Figure 1 plots the proportion of respondents adopting the aggressive (reject proposal or acquire more territory) position along with 95% confidence intervals for each experimental condition for each design.

Consider first design 1, where the respondent’s country had declined in power. When the other country was predicted to have a large shift in power, but there was no public commitment to the new proposal, respondents were significantly more likely to oppose the proposal compared to all of the other experimental conditions. Consider first the contrast between the “Large Shift and No Commit” condition and the “Small Shift and No Commit” condition. In the former respondents are significantly more likely to reject the offer, a finding that is consistent with previous laboratory based research. Second, the public commitment treatment eliminated the effect of shifting power. In this case average opposition to the other country’s proposal was statistically indistinguishable compared to the conditions with a small shift in power. However, it is not the case that the public commitment reduced hostility in the condition with a small shift. Public commitments only had an impact in the large shift condition. Unsurprisingly a test of the difference in differences reveals a significantly different effect of commitments in the large shift condition compared to the small shift condition.

Next consider design 2, where the US was depicted as a rising power. The bottom half of Figure 1 plots the results. We see that the greatest support for revising the status quo is in the condition where the US has had a large shift in power but had not publically committed to the earlier division of territory. This level of support was significantly greater than all of the other conditions at a p value of less than .1. Furthermore, irrespective of
public commitments, there is more support for revising the status quo when the US has become much more powerful. Unlike in design 1, we do not see a significant differential effect of the public commitment in the large shift versus small shift conditions. While the direction of this difference is in the same direction as before, with a greater effect in the large shift condition than the small shift condition, this difference was not significantly different from zero.

4 Text Analysis

In the previous experiments subjects were asked to explain their decisions using their own words. In this section I analyze that data in detail. Some previous work that explores the behavioral foundation of international relations leverages open ended data. For example, several papers present illustrative examples (Tingley and Walter, 2011b; Tomz, 2007). Of these examples, Tomz (2007) is the most systematic in the use of open ended responses in a follow up experiment. In the experiment a fictional President had escalated a conflict but then subsequently backed down, allowing Tomz to examine the role of “audience costs.” He hand coded 105 observations that disapproved of the President stepping down
into four researcher defined categories: not knowing/unclassifiable, it was the “right”
thing to do (which itself was comprised of a variety of considerations, from moral to
pragmatic economic ones), dislike of escalation in the first place, and displeasure over the
President saying one thing but doing another (the most popular category). Information
on observations that approved of the President stepping down were not presented. Indeed,
the prospects of coding many open ended responses by hand can grow onerous. In this
paper which uses thousands of open ended responses, the prospects for non-computer
assisted analysis become dimmer.

Unlike most experimental studies throughout the social sciences, this paper exten-
sively leverages computerized methods for examining textual data. This textual data is
created when we ask our survey respondents to “use their own words” to describe their
opinions and beliefs. This in contrast to more familiar methods where respondents solely
provide a response along some scale or set of scale.

This paper draws uses an unsupervised machine learning technique that incorporates
important information about a text, such as characteristics of the author (e.g, political
ideology) and their treatment condition in an experiment. In particular this paper makes
extensive use of the Structural Topic Model (STM). This method helps to uncover com-
mon “topics”, which can be thought of colloquially as sets of words that often co-occur
across multiple documents. The applicability and usefulness of the STM for survey, and
survey experimental, contexts like the current paper are established elsewhere (Roberts
et al., 2014b), though the model extends to many social science applications (e.g, Lucas
et al., 2013; Reich et al., 2014). The STM provides a number of interesting quantities
of interest. The core quantities that I focus on deal with the prevalence of topics. For
example, is it common for people to focus on the costs of conflict when forming their de-
cisions? Furthermore, are individuals across different treatment conditions likely to talk
about different topics, in that treatment conditions can be statistically related to topic
prevalence? This means, for example, that we allow subjects in the “Large Shift and No
Commitment” condition to potentially justify their position in different ways compared
to subjects in other conditions. The STM model provides a unified way for estimating
these quantities of interest.\textsuperscript{14}

Next I analyze the open ended data using the open source R package STM (Roberts \textit{et al.}, 2014a). This data lets us try to understand the reasoning people have for their position. It would be naive to think that everyone has the same motivation for taking any particular position. Furthermore, the reasons people have might vary by experimental condition. In each of the analyses I use the same basic setup. Topic prevalence is modelled as a function of the respondent’s treatment condition, their gender, left/right political ideology, and willingness to use force.\textsuperscript{15}

4.1 Result for Design 1: Falling Power

When the US is a falling power, what reasons do individuals give for their positions? To answer this question I estimate a seven topic model. Figure 2 presents several outputs from the model. The top left presents the words which are most exclusive to each topic.\textsuperscript{16} Using these words and individual responses highly associated with each topic we can develop semantic labels for each. We present six topics, as the seventh had little interpretable semantic meaning. However, the rest were quite clear. The “Security Benefits” topic focused on how it is important to keep the island because of the security benefits it was said to have, “Costs of Conflict” focused on how war destroys resources and lives, “Use Alternatives to Force” argued that we should avoid using force and instead find other means, such as diplomacy or selling the island, “Take Advantage Now” argued that the US should immediately use its current position of power to expel the other country before they get more powerful, “Future Exploitation” focused on how the other country will be

\textsuperscript{14}The appendix provides a brief pre-fresher to the method. Beyond the specification of covariates, users also need to set the number of topics. With this method there is no pre-canned way to do this. However, the results reported below are robust to using somewhat different numbers of topics.

\textsuperscript{15}Alternatively modeling topic prevalence as a function of only the treatment assignment produces similar results.

\textsuperscript{16}This is calculated from the combined weighting of geometric mean of the probability of appearance under a topic and the exclusivity to that topic. Bischof and Airoldi (2012) show how the exclusivity of summary words can be helpful for understanding topics. Here we use simplified Frequency-Exclusivity (FREX) scoring (Roberts \textit{et al.}, 2013a,b).
likely to take advantage of the US in the future, and “Signals Weakness” argued that if the US does not take advantage of its power now, it will be seen as weak by other countries.\textsuperscript{17}

Several things stand out. First, some individuals tended to focus on either the benefits or the costs. Either the benefits of owning the island were emphasized or the costs of conflict. When individuals focused on costs, this took the form of both the financial costs and the costs in terms of lives. Not surprisingly, individuals explaining their decisions in terms of costs not surprising were unlikely to support conflict. Hence some individuals in the sample focused more on the cost-benefit dimensions of the situation, rather than focusing on the dynamics implied by shifting power. Still others focused on alternative strategies that might be available, rather than taking the current bargaining situation as given, and perhaps transforming it into a non-zero sum situation.

The importance of shifting power arises in several topics. The “Take Advantage Now” and “Future Exploitation” topics both enter into the dynamics of commitment problems. Their contrast, though, is that the former focused much more on the current time period whereas the latter more focused on what might happen in the future.\textsuperscript{18} Obviously they are very related and the topic model separates them because of their slightly different semantic focus. Also related is the topic “Signals Weakness”, which differed from these other topics in that it invoked reputational consequences vis a vis additional countries, like those studied in related international relations literatures (Walter, 2009; Tingley and Walter, 2011b).

The top right plot presents the estimated proportion of all responses that were generated by each topic. We see some variation. The most prevalent topic dealt with taking advantage of current power, which was more prevalent than the related focus on being

\textsuperscript{17}Estimating the model with larger numbers of topics produced similar topics, but as expected some of these such as “Use Alternatives to Force.”

\textsuperscript{18}An example of “Take Advantage Now” is “The other country is not currently stronger than the US so to cede control at this point would be pointless. The US should take control of the island while we are stronger, before the opposing military becomes too strong.” and “Future Exploitation” is “As long as the possibility exists that the other country could demand additional U.S. territory then the U.S. should reject the offer.”
taken advantage of in the future. Interestingly the next highest was the “Costs of Conflict” topic. When justifying their decisions individuals do not completely ignore these costs.

The bottom left plots the estimated mean difference in proportions of a document dedicated to a particular topic between the “Large Shift and No Commit” and “Small Shift and No Commit” conditions. We see that when faced with an opponent who is growing in power considerably, versus only a small shift, there is less attention on the costs of war and desire to negotiate, and more focus on taking advantage of the current power advantage before the shift, with the largest effect being for the “Take Advantage Now Topic.” The effect on the “Future Exploitation Topic” was positive but smaller and the confidence intervals overlap with zero. These results are largely consistent with implications of commitment problem explanations. When faced with a steep decline, negotiation will only forestall the inevitable and current costs are less relevant compared to subsequent losses in the future. The optimal choice is to fight a preventative war currently. Hence we see a parallel between these results that used a more substantive depiction related to international conflict, and those in other studies that used more abstract depictions of bargaining situations in a laboratory setting.

The bottom left plots the estimated mean difference in proportions of a document dedicated to a particular topic between the “Large Shift and Commit” and “Large Shift and No Commit” conditions. This lets us inspect whether prior commitments change how individuals perceive a large shift in power that creates future commitment problems. The largest, and only statistically significant, difference is a decline in concerns about future exploitation. This suggests that behaviorally individuals create expectations about future behavior that are tied to prior commitments. There is a greater expectation of consistency, and perhaps a lower commitment problem.19

19These topics can be thought of beliefs that transmit the effect of the treatment on the outcome policy choice. In most experiments this is done via asking subjects a set of closed ended questions (e.g., Tomz and Weeks, 2010). An alternative approach is to calculate the estimated proportion of a response within particular topics of interest which then become our mediating variable. The mediation effect for the “Take Advantage Now” generated by the “Large Shift and No Commit” versus “Small Shift and No Commit” contrast was positive and significant. Similar results were obtained in looking at the role of the
Figure 2: Exclusive words, corpus/topic proportions and effects of experimental contrasts on topic proportions for design 1.
4.2 Results for Design 2: Risen Power

Next we turn to our second design, which depicted the US as having recently grown in power compared to a previous level. Figure 3 plots the result from 7 topic STM using the same topical prevalence parameters as before. We present the same types of data as was presented in Figure 2. We observe similar and dissimilar topics compared to the first design. “Avoid Use of Force” contained somewhat generic comments arguing against the use of force in general, “Keep Commitments” focused on how its wrong to break previous agreements even if you have an advantage, “Costs of Conflict” focused on how conflict destroys resources and lives, “Peace Brings Security” focused on how keeping the peace in a present dispute can generate broader peace dividends, “Reference to Past Unhappiness” focused on how the status quo division was something the US was not especially happy with, “Consequences of Control” focused on mostly the security advantages of having control over the island, and “Balance of Power too Close” focused on whether there was a sufficiently large power difference to justify taking a gamble that could lead to war.

In this example we see a more even distribution of topics in the corpus. None of them played a decidedly more prominent role in the rationales given by the respondents. The relationship between the treatment contrasts are consistent with what we would expect. Having gone through a large, versus small, shift in power with no commitments we see little concern with whether or not the probability of victory is now sufficiently large. Furthermore, there is more of a focus on the benefits of action and being able to take control. More interesting is the contrast between the “Large Shift and Commit” and the “Large Shift and No Commit” conditions. We see that a number of respondents saw our past commitments as binding. Public commitments can decrease the attractiveness of a shift in power. Indeed, a mediation analysis estimates that there is a −.05 change in probability of demanding territory that is due to the effect of the past commitment framing via our “Keep Commitments” estimate.

“Future Exploitation” variable in the “Large Shift and Commit” versus “Large Shift and No Commit” contrast. Estimates were calculated using the R package mediation (Tingley et al., 2014), using bias corrected and accelerated confidence intervals.
Figure 3: Exclusive words, corpus/topic proportions and effects of experimental contrasts on topic proportions for design 2.
While we know the commitment treatment had an impact on the propensity to emphasize the importance of being consistent and keeping commitments, do any pre-treatment covariates have an influence in our sample? This type of question deserves its own research design, and paper. And we did not ask extensive batteries of psychological scales in our survey that might explain some of this variation. We briefly speak to this issue using data in this sample. We take two approaches. Later on in our survey we asked respondents “In general, should your country always honor its past commitments to other countries, or should your country always take advantage of its current situation and capabilities.” Responses ranged along a 1 to 7 scale, with 7 indicating that one’s country should “Always honor past commitments” and 1 indicating “Always take advantage of current situation and capabilities.” We did not ask this question beforehand so as not to prime respondents. Instead we asked this question afterwards, which is not ideal but we did have other questions between our main experiment and this one on other issues.

Hence we have two potential dependent variables. The first is the estimated topic proportion for the “Keep Commitment” topic and the second is their response to the below scale. We regress these variables on the treatment condition, gender, general willingness to use force, and liberal-conservative ideology. As discussed above, the effect of the “Large Shift and Commit” treatment on this topic was strong, significant, and positive. Individuals generally supporting the use of force were less likely to rationalize by referencing the importance of commitments. An identical pattern emerges for responses to the post-experiment survey. Gender had no impact and conservatives were slightly more likely to reference commitments in the their explanations but this relationship was insignificant in the post-experiment survey question.

Some people think that military force should never be used under any circumstances. They are at “1” on the scale below. Other people think there are many situations in which military force should be used to deal with problems. They are at “7” on the scale below. And, of course, other people have opinions in between.
4.3 Discussion

The preceding results are highly interesting. First, in both experiments we see a heterogeneous picture in how individuals respond to shifting power. Some focus on the costs and benefits of the situation, others want to transform the situation perhaps into more of a non-zero sum type game, and others focus on mechanisms consistent with commitment problem explanations. As such we find a variety of approaches that represent distinct evaluative psychological models that can deviate from the standard credible commitment model.

Second, we see that public commitments have an effect, in part because they reduce expectations that the rising or risen power will, or should, take advantage of power shifts. This result is consistent with previous work on the role of public commitments. However, we are unable to differentiate several different mechanisms related to this effect. For example, do some individuals have strong inherent preferences for consistency, or is the mantra of keeping one’s commitments for more instrumental reasons, as not doing so could lead to other countries in the future breaking their own commitments.

Third, there is an interesting contrast between the experiment with the US as a declining power and the US as a recently risen power. Consistent with previous work (Jervis, 1968; Winter, 2003; Winter and Sweet, 2009) individuals see the implications of power held by a different country differently from they way they see their own country’s power. Consistent with this earlier work, this paper provides evidence on how individuals will view the rise of their own power very differently than the rise in power of another actor. For some, changes in power of other countries should be feared. But changes in one’s own power should be restrained and not used in a revisionist way.\textsuperscript{21} Furthermore, prospect theory suggests that individuals might want to protect against future losses but are less concerned about prospective gains. If individuals care less about extracting gains, then commitment problems might be more likely to arise.

\textsuperscript{21}Future research could, for example, investigate this distinction at the within subject level.
5 Experiment 2: Rising China

In recent years China has adopted a set of policies aimed at expanding its control over areas of the East China and South China seas. Many accounts see these moves as increasingly assertive and linked with China’s rising power project abilities. In October 2011, the Chinese paper Global Daily wrote “If these countries don’t want to change their ways with China, they will need to prepare for the sounds of cannons. We need to be ready for that, as it may be the only way for the disputes in the sea to be resolved.” Responses by the US of course have not been mute. For example, we collected every “tweet” made by the Federal government containing the term “China” in 2012 and 2013 and used this data to estimate a STM where the topic prevalence covariate is a smooth function of time. Results for two topics, one covering the general dispute in the South China Sea and the second the November 2013 Chinese announcement of an enlarged “air defense zone” covering the East China Sea. This move was seen by many to be overtly connected to ongoing territorial disputes in the South China sea. Both issues are clearly on the mind of the US federal government, and the issue has been well covered by the US press. Results are presented in Figure 4. The next experiment looks at public responses to a rising China.

5.1 Design

In this experiment, again fielded on Mechanical Turk with 1,346 respondents and fielded following China’s announcement, I asked respondents about how the US should deal with the rise of China’s power. In particular, using a question from previous surveys on the topic, I asked “In dealing with the rise of Chinas power, do you think the U.S. should: 1) undertake friendly cooperation and engagement or 2) actively work to limit growth of China’s power.” However, I also asked a subset of respondents the same question, but prefaced it with the phrase “As you may have heard in the news, China recently announced a new claim to a large portion of airspace over the East China Sea. Many see this as a major move to expand China’s power in Asia.” The experimental manipulation then primed some respondents to think about China’s expansionary moves, whereas other
Figure 4: STM results for two topics from every Tweet sent by federal government in 2012 and 2013 that mentioned “China.” Top plots are the top exclusive words for each topic and bottom plots are spline regression estimates of topic proportions.

respondents received no such prime.

5.2 Results

Figure 5 plots the proportion of respondents supporting the limitation of China’s power as a function of whether or not respondents had been primed. The effect of the treatment was approximately a 5% increase in support for limiting China’s growth. A test of the difference in proportions between the two groups yields a significant test statistic (abs(z)=1.96, p < .05). The effect size is clearly modest, which of course could be due to some heightened level of antagonism amongst those in the control group aware of China’s recent moves. Nevertheless, we once again observe, this time using a real world example, rather than a vignette or laboratory experiment, increases in aggressive policy stances when subjects are primed with information about the rising power of an opponent.

Just like in the previous section we can analyze open ended responses that asked respondents to explain the beliefs and rationales underlying their decisions. In this example, the topical space is larger than in the previous experiments which is not surprising given
its more substantive foundation. Figure 6 plots the results from 10 topic model where we focus on four topics. The left plots the highest exclusive words for each of these topics. The “Power Grab Consequences” topic focused on the consequences, and to a less extent motivations, of China’s assertiveness. Most of the responses associated with this topic were concerned about a rising China,\textsuperscript{22}. The “Avoid Action/Aggression” topic focused on the negative consequences of starting a conflict with China, including the costs that would come with this and the alternatives of political negotiation. The “Globalization Good” topic focused on the positive consequences of a global relationship with China, both economically but also culturally and in areas like science. Finally the “Economic Partner” topic focused on the bilateral economic relationships with China, including our dependence on Chinese imports but also Chinese export markets.

The right side of Figure 6 plots the influence of the experimental prime on each of the topics. We see that the prime increases the prevalence of the “Power Grab Consequences” and “Avoid Action/Aggression” topics, and decreases the prevalence of the “Globalization Good” topic.

\textsuperscript{22}For example, “I feel this is the correct move. China is a big country with a lot of money and power. If they are allowed to just claim land, and that claim is recognized as valid, then they may try to claim other land that is not a valid claim yet the people who live there are unable to defend themselves and are overtaken. The US has a reputation for defending the underdog in the right, but we may not be able to defend the next nation in trouble or have less clout to do so if we close our eyes to a claim of land just because it is not heavily populated. If China claims someone elses island now, what is to prevent them from claiming US property next or the land of an ally?”
Figure 6: Effects on topic prevalence between “Prime” condition and “No Prime” condition. Positive values indicate a greater relationship with “Prime” condition.

Good” topic. While the increase in the “Power Grab Consequences” and decrease in “Globalization Good” topics helps to explain the treatment effect in Figure 5, the relatively weak treatment effect is partially explained by the “Avoid Action/Agression” response. While a rising China might raise concerns about future expansion, and dampen expectations about the positive aspects of globalization, concern over the political and military costs of intervention, and a broader preference for dis-engagement, dampened this effect.

6 Conclusion

A prevailing puzzle for scholars of international relations is why costly conflict occurs between countries. One common explanation in the literature is that preventive strikes are a rational response to the shifting power of another country. The rising power faces a commitment problem, and cannot guarantee to not take advantage of others once they
become more powerful. These explanations are well known.

Less understood are the micro-foundations of these explanations. Recent experimental work in the laboratory has tested some of the comparative static predictions that fall out of these models, finding in general that even in abstract decision-making contexts, humans respond to incentives in ways consistent with the theoretical models (Tingley, 2011; Tingley et al., 2013; Quek, 2012). This paper takes a further step by investigating implications of these models in a public opinion context. This move helps to unpack what domestic political pressures might look like for a framework that otherwise adopts a unitary actor assumption.

We unpack the heterogeneous ways that individuals respond to shifting power. Many individuals dismiss the threat posed by another country increasing in power, emphasizing cooperative strategies or isolationism. Others articulate logics close to those spelt out in standard game-theoretic models. Some individuals emphasized a constraining role for commitments between countries, even though some accounts of international affairs consider those commitments non-credible. Future research could, and should, try to understand this heterogeneity more directly. We also present some evidence that mass political behavior responds to situations where there might be commitment problems in ways where the presence of public commitments/agreements has an effect. This is consistent with previous work on audience costs (Tomz, 2007), and a general tendency to favor consistency and “keeping one’s word” uncovered in other work in American politics (Tomz and Van Houweling, 2008).

This paper does not build up a rich conceptualization of the domestic politics surrounding how states deal with shifts in power internationally. For example, there is no institutional context in this paper. The empirical strategies used in this paper are ill-suited for such purposes at present, but the results certainly suggest interesting avenues of future research. For example, if we were to focus on questions about heterogeneous responses, we might study the evolution of discourse surrounding historical instances of shifting power to see how decision makers respond differently to the same information.
7 Online Appendix

7.1 Extended Description of the Structural Topic Model

The STM is in the family of unsupervised topic models. A more commonly known example of this type of model is the Latent Dirchelet Allocation (LDA) model. Topic models leverage the co-occurrence of words across many documents so as to group together sets of words that co-occur together. An output of these models is a set of “topics” which can be inspected by looking at words that relate to the topics and particular texts that are highly related to a specific topic.

The STM breaks off from LDA model (Blei et al., 2003; Blei, 2012)–and the related correlated topic model (Blei and Lafferty, 2007) in an important way. The STM relaxes the highly restrictive assumption in most previous models that the documents are exchangeable, meaning that all “authors” are equally likely to have written every document. Instead, the STM allows for the incorporation of different types of document metadata, and hence information known by the analyst. The STM uses a generative model of text (like previous approaches such as LDA) but incorporates document level metadata through the use of regularized priors.23 As a result, not only is the estimated topical content improved by the extra information provided by the metadata, but a range of interesting quantities of interest are available.

For example, as shown in Roberts et al. (2014b), the STM allows the prevalence of topics within a specific document (i.e., open ended survey response) to vary by experimental condition or other covariates. In the experiments reported in this paper, respondents reported a variety of beliefs about why a particular policy choice should be chosen. These beliefs can be directly related to covariates like treatment assignments. Because these quantities of interest come in the form of posterior distributions, uncertainty calculations are available.24

23The use of regularized priors ensures that my allowing topics to be estimated as a function of covariates, the covariates themselves to not force, or “bake in”, particular relationships. The extensive Monte Carlo simulations and permutation tests in Roberts et al. (2014b) demonstrate this point.

24Though as discussed in Roberts et al. (2014b), it is necessary to use the method of composition (e.g.,
Treier and Jackman, 2008) to fully propagate uncertainty through the model estimates.
References


