

Attitude Formation under Endogenous Uncertainty: Risk Preferences, Cheap Talk, and Credibility

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November 1, 2017

Prepared for the Toronto 2017 Political Behaviour Workshop

Work in progress – Comments most welcome

Abstract

In elections, political parties compete for the grace of the median voter on platforms of hypothetical policies. In the classical Downsian setting, the median voter will opt for the party whose platform is located closest to her ideal policy. However, if voters attempt to maximize material welfare, they need to consider not only the hypothetical policies, but the outcomes of these policies once enacted. In this paper, I examine how the outcome uncertainty of a reform affects voter support for the reform, and if parties can exploit this voter response to shape public opinion. I theorize that risk aversion moderates voter demand for policy change, inducing a status quo bias when the outcome of reform is uncertain. Existing research claims that this provides parties with an incentive to dispute the outcomes of their opponents reforms through negative campaigning. But whether parties can use uncertainty as a strategy is theoretically ambiguous, since the effectiveness depends on the credibility of the signal. I present three survey experiment designs, testing if voters decrease their support for a reform as uncertainty increases, and whether parties can influence the perceived uncertainty of voters. This paper contributes to the relatively scarce literature on how uncertainty shapes voter and party behaviour.

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1 Introduction

Uncertainty pervades political campaigns and policy platforms. Would increasing capital tax rates effectively redistribute income and equalize the wealth and income distribution, or would it predominantly hurt the poor by driving investment out of the country? Would increasing the minimum wage benefit the poor, or hurt them by increasing unemployment? Would drastic cutbacks to refugee quotas prevent or lead to the demise of the welfare state? On these issues, in addition to profound ideological disagreement among political actors, expert opinions diverge significantly. They do not merely revolve around normative issues of how society should be organized, but about how the world actually works.

If parties campaign on platforms of hypothetical policies, but voters care about how these policies translate into material outcomes, parties must also provide voters with predictions about how the policies will map into outcomes. To vote in a meaningful and instrumental fashion, voters must consequently form beliefs about how policies map into outcomes. If a voter wants to vote for policies that increase income equality, she must form a belief about how the policies presented by parties will affect income equality. However, the mapping from policy to outcome is stochastic and never perfectly known (Austen-Smith, 1993, Gilligan and Krehbiel, 1989, Riker, 1990, Roemer, 1994). Importantly, different actors might provide conflicting predictions of the effects of policies, and uncertainty about the outcomes of a reform is often substantial.

In this paper, I ask two questions. First, how does uncertainty about the outcomes of a political reform shape public opinion on the reform? Second, can political actors shape support for the reform by influencing voters' perceived uncertainty of the reform? I present a theoretical model of how voters respond to increasing uncertainty, and outline a series of survey experiments aiming to test how voters react to uncertainty, and if parties can influence voters' perceived uncertainty. If policies do not map perfectly into outcomes, identical preferences about how society should be organized is compatible with diverging preferences over what policies should be pursued. Thus, influencing voter beliefs about the outcomes of a policy might allow parties to influence voter demand for a policy without fundamentally transforming the preferred outcomes of voters.

Thinking of vote choice as a decision under uncertainty provides important insights into electoral politics, the political economy of reforms and the politics of persuasion. It provides explanations for why parties engage in negative campaigning and why voters are biased toward the status quo, both rooted in the risk preferences of voters. If voters respond negatively to risk and uncertainty, this moderates their demand for reforms if the outcomes of the reforms are uncertain. And if parties are able to influence the perceived uncertainty of voters by contesting the predicted outcomes of a reform, this creates a state of endogenous uncertainty.

Existing research has produced inconsistent findings on whether risk preferences matter for voter behaviour and attitude formation (see, for instance, Berinsky, Lewis et al., 2007, Kam and Simas, 2015). Further, although some scholars (Jerit, Kuklinski and Quirk, 2009, Riker, 1996) claim that risk aversion or loss aversion in the electorate drives negative campaigning, we do not know if politically motivated actors are able to influence the beliefs of voters. This study fills this gap by addressing both these issues with a set of survey experiments where both the uncertainty of the outcomes of a reform,

and the credibility of the senders of the signals, are manipulated.

2 A brief literature review

The importance of treating the outcome space separately from the outcome space has mostly been pursued in the context of voting on committees, but some theoretical work has been done on voting in mass elections. In models of asymmetric information (Cukierman and Tommasi, 1998, Letterie and Swank, 1998, Roemer, 1994, Schultz, 1995, 1996, 2002), scholars assume that voter demand for a public good is partly determined by the cost of supplying this good, and that voters do not know the true cost of supplying the good. Policy motivated parties, therefore, have an incentive to influence the beliefs of voters about this cost to influence the level of public goods demanded by the median voter. Yet, rational voters know that parties have an incentive to misrepresent the true cost to benefit themselves. Therefore, voters cannot learn anything about the true cost of supplying the public good if the signals diverge. The signals are essentially cheap talk – void of information – and voters can neither be persuaded nor dissuaded by the messages (Minozzi, 2011). A gap in these models is that political reforms are not modelled as a shift from the status quo. By ignoring the possibility of voters to opt for an alternative which is purged, or at least perceived to be purged, from uncertainty, the importance of risk preferences as a determinant of vote choice is ignored. Thus, these models risk underestimating the effect of uncertainty on voting behaviour.

Existing empirical research analyzing vote choice and attitude formation as a decision under uncertainty suggests that voter risk preferences matter when evaluating candidates and policies (but see Berinsky, Lewis et al., 2007, for an exception). The majority of this research has been done using observational data (Berinsky, Lewis et al., 2007, Ehrlich and Maestas, 2010, Kam and Simas, 2012, Jerit, 2008), limiting our ability to make causal inferences based on the findings of these studies. Instead of explicitly manipulating uncertainty, scholars try to measure uncertainty from patterns of survey responses, or by assuming that voting for an incumbent is considered a more certain option compared to voting for a challenger. Other scholars have tried to circumvent these issues by using stylized experiments, relying on fictional states and policies (Kam and Simas, 2015, Quattrone and Tversky, 1988). Although they find that uncertainty shapes voter behaviour, the explicitly fictional character of these experiments make it difficult to extrapolate these findings to reform proposals in real political campaigns. A few scholars examine the voter response to real political reforms experimentally (Jerit, 2009, Morisi, 2016), and find that uncertainty does matter. However, they do not explicitly consider that the response of voters should be conditional on their risk preferences (Kam and Simas, 2015).

A related literature theoretically and empirically examines the implications of voting as a decision under uncertainty for what types of policies parties pursue or the rhetoric parties use in campaigns (Jerit, Kuklinski and Quirk, 2009, Jervis, 1992, Levy, 2003, Riker, 1990, 1996, Vis and van Kersbergen, 2007). Except for Jerit, Kuklinski and Quirk (2009) and Riker (1990, 1996) these scholars treat the uncertainty of the outcome of a policy as exogenously given, and do not consider whether parties are able to influence the uncertainty. Riker (1996) and Jerit, Kuklinski and Quirk (2009) argue that voters are risk averse, and that this induced parties to engage in negative campaigning, trying

to make the outcomes of a reform uncertain. By introducing risk, candidates can exploit risk aversion, especially when they are campaigning against a reform. Risk aversion in the electorate introduces a status quo bias, which makes negative campaigning an effective strategy when opposing an reform. However, Jerit nor Riker actually test if actors with an incentive to misrepresent reality for their own political gain are able to effectively manipulate the perceived uncertainty of voters.

Thus, we still are not certain if uncertainty matters for voter behaviour, and if the voter response to uncertainty depends on the risk preferences of the voter. Neither do we know if generating uncertainty, through, for instance, negative campaigning, is an effective way for parties to shape voter demand for a reform.

3 Theoretical framework

I assume that voters do not derive utility from party platforms, but from the real outcomes of the policies once implemented. To vote rationally and maximize material interest, they consequently need to look at parties' election platforms, and form beliefs about how these would move them closer to their ideal point in the outcome space once enacted. An individual voter's attitude toward a policy can be split into two components (Harrington, 1993). The first component, which I call *idealistic*, refers to the voter's principled opinion on a policy outcome. This corresponds to the voter's ideal point in the outcome space. The second component, which I call *pragmatic*, refers to the efficacy of the policy that aims to generate this outcome.¹ Consider the case of increasing the minimum wage. One purpose of this policy is to increase income equality. Suppose that a voter believes that the income distribution should be more equal than the current status quo. The voter will thus be supportive of the policy if she believes that the policy will succeed in shifting the status quo closer to her ideal point. The pragmatic component pertains to how likely it is that this particular policy will actually shift the equality of the income distribution closer to the voter's ideal point. Although a voter might sympathize with the purpose of a policy (the idealistic component), she might not support it because she believes that the policy risks failing its purpose (the pragmatic component).

In classical spatial models (Downs, 1957, Enelow and Hinich, 1982), we assume that the parties cannot shape the preferences of the median voter. Admittedly, it is difficult

¹Idealistic and pragmatic component of an opinion on a policy are similar to, but differ from, position issues and valence issues (Stokes, 1963). Valence issues are issues where candidates do not choose a position in the policy space, and where voters occupy the same ideal point (Enelow and Hinich, 1982). One such issue is prosperity, which all voters and candidates value. While there is no market for harder economic times, some parties are more strongly linked to prosperity relative to other parties. Position issues are instead the issues most interesting for the spatial models of vote choice, where both parties and voters diverge in the policy space. Both valence issues and position issues can be understood using the concepts of ideal and pragmatic attitudes. Valence issues, contrary to positional issues, are issues where voters do not diverge on the aim of a policy, that is, voters occupy the same position on the idealistic component. Consequently, positional issues are issues where voters diverge on the idealistic component. The ideal-pragmatic attitude framework is better suited for analyzing attitudes toward policies compared to the valence-position issue framework, because the ideal-pragmatic attitude framework allow for both ideological divergence and efficacy considerations for the same policy. While valence is intimately connected with the a candidate, party or the party leadership, the pragmatic component of an attitude only relates to the policy itself. This corresponds to Stokes (1992) remark that a valence-issue can be turned into a position issue if there is disagreement about the means of achieving goal.

for parties to shape voters fundamental beliefs about what outcomes are desirable. If, however, the voter's demand for a policy is not only a function of her ideal point in the outcome space, but also a function of the distance between the her ideal point, the current status quo and the state produced by the new policy, this opens up for new avenue for political persuasion. Instead of challenging and changing the fundamental beliefs of a voter, it suffices to influence the voter's beliefs about what outcome the policy will produce. To persuade a voter to be less supportive of minimum wage policies, actors do not have to persuade the voter that the purpose of the policy – such as increasing equality – is a bad thing. It suffices to convince the voter that the actual outcome of the policy will be, or risks being, the opposite of the intention. Instead of claiming that increasing the minimum wage is bad because equality is bad, it is likely more effective for parties to argue that increasing the minimum wage is bad because it can lead to more inequality.² For instance, increasing the minimum wage might increase unemployment, and effectively redistribute income from those now unemployed to those who keep their employment with higher minimum wages.

3.1 Risk aversion and uncertain outcomes

Because the effect of a reform is uncertain, the voter's expected utility, and thus her vote choice, will partly be determined by her risk preferences. Forming a belief about the mapping from policy to policy outcome is a complex task, and most voters need to rely on both non-partisan and politically motivated actors for guidance (Roemer, 1994, Schultz, 1996, Jerit, Kuklinski and Quirk, 2009). It is hard enough for experts to evaluate the effects of already implemented policies, let alone make predictions for novel reforms (Heckman, 2005).³

A risk averse voter's utility decreases with an increase in the volatility of the potential outcomes, keeping the expected value constant (Kahneman and Tversky, 1979). Such individuals are willing to forego a possibly higher income in order to receive a lower income with higher certainty. This distaste for risk has an important implication for party strategy. It provides parties with a tool for inducing voters to shy away from political reforms without fundamentally altering the idealistic component of their attitude or even shifting what the voters believes is the most likely outcome. In the terminology above, parties shape the pragmatic component of voter beliefs without altering the idealistic component. A risk averse voter can abstain from supporting a reform with a positive expected net benefit, because of the high uncertainty of its effect. Parties are, thus, incentivized to increase uncertainty about reforms which they dislike.⁴ This produces a situation of endogenous uncertainty (Ellman and Wantchekon, 2000).⁵

²Hirschman (1991) provides some very interesting historical illustrations of how this argument has been used in attempts to combat progressive reforms.

³I define uncertainty as the perceived variance of the potential outcomes of the reform. This is a function both of the voter's prior beliefs and information provided by actors in a political campaign.

⁴In technical terms, parties have an incentive to transform an opponent's policy into a lottery over outcomes by contesting the mapping function.

⁵It is possible that voters have general distaste of ambiguity of outcomes, which is not strictly tied to their risk preferences. For instance, Keynes (2013) argues that the world we live in is permeated by unmeasurable uncertainty (also see Knight, 2012). This is so something quite different from quantifiable stochastic risk, on which expected utility theory relies. While risk preferences determine the functional form of the individual's utility function, *ambiguity of outcomes aversion* can be represented formally by adding an additional

3.2 An illustration

To illustrate why risk preferences matter for forming attitudes toward policies with uncertain outcomes, consider figure 1 and 2 below. The figures show a unidimensional policy space divided into the policy space (Ψ) and the outcome space (Ω). In both panels, the ideal point of the voter (V^*) is located to the left of the status quo (SQ_Ω). Note also that the voter has no ideal point in the policy space, but only in the outcome space. In the left panel, the voter does not have to consider any uncertainty. The mapping of the policy (P_Ψ) to the outcome (P_Ω) is deterministic. Since $\|g(V^* - P_\Omega)\| > g(\|V^* - SQ_\Omega\|)$ for some monotonic decreasing utility function $g(\cdot)$, the voter will opt for the policy instead of the status quo.

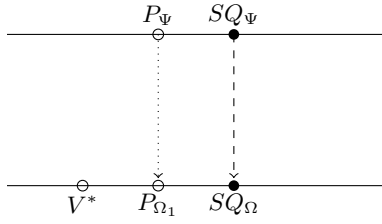


Figure 1: No Uncertainty

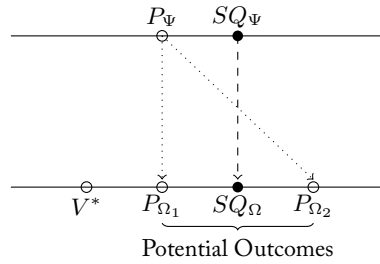


Figure 2: Uncertainty

In the right panel, the mapping of the policy to the outcome space is stochastic. I represent this by adding an additional potential outcome ($P_{\Omega 2}$) to the right of the status quo. Note that the status quo policy still maps deterministically into the outcome space. Will the voter still prefer the policy over the status quo? Since this is now a decision under uncertainty, this will depend on the expected utility of the policy, which depends both on the distribution of potential outcomes and the utility function of the voter. Formally, the voter will prefer the policy over the status quo if $\int g(\|V^* - P_\Psi\|) f(P_\Psi) dP_\Psi > g(\|V^* - SQ_\Omega\|)$ where $f(\cdot)$ is the distribution function. If the voter is risk averse, a decrease of one unit implies a greater utility loss than a one unit gain. If she is sufficiently risk averse, she will opt for the status quo, even if the expected outcome of the policy is to the right of the status quo.

Note that the effect of uncertainty on support for the reform should only apply to those who want to shift the status quo in the intended direction of the reform. For example, for case of the the minimum wage, individuals who oppose the minimum wage are not expected to be affected by uncertainty when they evaluate the outcome, since they would not support the reform even if the outcome was perfectly known.

parameter to the individual's utility function. If ambiguity of outcomes aversion exists, we would expect that individuals are more negative toward uncertain reforms, unconditional on their risk preferences. For real world politics, this unquantifiable uncertainty might be of more interest, since voters most likely do not engage in reasoning with actual probabilities. Although this discussion might seem overly theoretical and abstract, the distinction between these two mechanisms associating uncertainty with a certain change in preferences matter when testing the theory. While the prediction of the effect of uncertainty on preferences is conditional for the risk preference framework, it is not for a general distaste for ambiguity of outcomes.

Importantly, it can be shown that the utility of a risk averse individual decreases with volatility of the potential outcomes, keeping the expected outcome fixed. Further, the literature on political ambiguity (Zeckhauser, 1969, Shepsle, 1972, Page, 1976, Alesina and Cukierman, 1987, Tomz and Van Houweling, 2009) has shown that ambiguity of policy positions can be a winning strategy for candidates, if voters are either risk seeking or project their own preferences on the running candidates. One interesting implication of my theoretical argument is that it essentially inverts this insight. I theorize that it can be a winning strategy to contest the outcomes of a contender's reform. By contesting the outcomes, the new reform is transformed into a decision under uncertainty, inducing a status quo bias amongst risk averse voters. However, for the status quo bias to arise, voters must perceive that there is such a thing as an alternative purged from uncertainty.

3.3 Forming beliefs about outcomes

The question remains of what determines the voter's perceived uncertainty of a political reforms. Some scholars claim that this can be influenced by, for example, negative campaigning on behalf of political actors. If risk averse voters decrease their support for a political reform as uncertainty increases or as the expected outcome of the policy deteriorates, this could explain why parties so heavily engage in negative campaigning (Jerit, 2009, Jerit, Kuklinski and Quirk, 2009, Riker, 1996). However, since political actors have an incentive to misrepresent reality for their own political gain, it is far from clear that political actors can actually influence the beliefs of voters (Roemer, 1994, Schultz, 2002).

The perceived credible and trustworthy of a source is crucial for how effective the sender is in persuading the receiver (Mondak, 1994). Several studies show that there is an effect of costly signals (Spence, 1974), such as politically unexpected newspaper endorsements (Chiang and Knight, 2011, Ladd and Lenz, 2009) or admitting strong performance by a political competitor (Alt, Lassen and Marshall, 2014). The formal literature on signalling models also show that cheap talk messages, that is, messages whose contents align with the self-interest of the sender, cannot convey any information about the true state of the world. This questions the efficiency of endogenous uncertainty as an effective party strategy for shaping public opinion, since such statements will be positively correlated with the self-interest of the sender. However, if voters are to identify cheap talk, they must be able to identify the political interest of the sender.

If source credibility and trustworthiness influences the persuasiveness of a message, we would expect that non-partisan experts are the most persuasive. The credibility of political actors is slightly more complex. For instance, partisans might find their own party to be highly credible and trustworthy because of ideological alignment, and therefore be highly receptive of signals from their own party. Conversely, I expect that partisans heavily discount cheap talk messages from the opposing party. Lastly, I expect the persuasion effect, when politically motivated actors are senders, on independent and non-partisan voters to be in between the positive and negative persuasion effects on the partisans.

3.4 Expectations

The theoretical framework provides me with several interesting observable implications to test how voters respond to increasing uncertainty and if parties can shape public opinion by manipulating uncertainty. Consider first the consequences of increasing in the outcome uncertainty of a reform, holding the expected value constant. First, it will reduce support for the reform amongst risk averse individuals by influencing the *pragmatic* component of this attitude. Second, it will not affect the *idealistic* component. Because the treatment effect is conditional on risk preferences, this enables me to discern and identify the effect of uncertainty compared to a general dissuasion effect of the outcome being contested. I further formulate two expectations pertaining to if parties can shape voter uncertainty. Third, the impact of the forecasts on the beliefs of the voters will be most effective when the sender is credible. That is, I expect the forecast to have the biggest effect on the beliefs of voters when it is an non-partisan expert. Fourth, if the sender is a partisan actor, the forecast will be persuasive if the individual is ideologically aligned with the sender. If she is not ideologically aligned with the sender, the message will be less persuasive.

4 Testing the theory: three experimental designs

This paper addresses two questions. First, how does increasing outcome uncertainty of a reform shape public support for the reform? Second, are partisan actors able to manipulate the perceived uncertainty of a reform? In this section, I outline three survey experiments examining this. The first and second experiment address the first question, and the third experiment addresses the second question.

In all experiments, I use an increase of the US federal minimum wage to \$10.10 as the reform which respondents are exposed to. I focus on the uncertain effects of the minimum wage reform on the unemployment rate. In the experimental manipulations, I either vary the uncertainty of the forecasted effect on the unemployment rate or vary the sender of the forecast. The uncertainty is conveyed as numerical estimates, in form of a vignette and a graph. An advantage of using numerical estimates instead of qualitative description, is that it allows me to infer if risk averse and risk seeking voters differ in their support of a reform because they differ in their perception of the expected outcome of the reform, or if they, as they theory suggest, their utility of the potential outcomes differ (see [Ansolabehere, Meredith and Snowberg, 2012](#), for a discussion of the benefits of including actual quantities in survey experiments). Discerning why risk averse and risk seeking respondents differ in their support of a risky policies is something that previous studies have not been able to do.

In the first and second experiment, the senders of the forecast of unemployment are non-partisan experts. In the third experiment, the senders are instead representatives of the Republican and Democratic party. The first experiment, examines if voters respond to forecasts made by a politically disinterested actor, and if risk averse voters decrease their support of the reform as the uncertainty of the outcome increases. This is also the objective of the second experiment, but here the experts are described to be in disagreement about the effects of a minimum wage increase on the unemployment rate. The third experiment examines if voters respond to such information when it is sent by a

politically motivated actors, with an incentive to distort reality for their own benefit.

For risk preferences to make a difference, there must be an escape to certainty. In these experiments, I provide the respondents with this by emphasizing that choosing not to reform, i.e., keeping the status quo, will have no effect on the unemployment rate.

For all experiments, I include a control group which is not subjected to any treatments at all. Before respondents are exposed to any treatments, I collect information on some standard demographics, and the key moderator, risk preferences. I proceed by randomly assigning the experimental participants to one of three vignettes describing a reform to increase the federal minimum wage in the US to \$10.10. To ensure that I have enough risk averse and risk seeking respondents in all treatment groups, I block randomize on risk preferences.

4.1 The case: increasing the minimum wage

The current minimum wage in the US is \$7.25, and the state population weighted average minimum wage is \$8.49. This means that an increase of the minimum wage to \$10.10 is an increase of approximately 20%. Both the public and the scholarly debate on the minimum wage is characterized by a very strong focus on the outcomes of the reform.⁶ Will an increase of the minimum wage increase the standard of living of low income Americans, or will it actually hurt low income Americans by increasing unemployment? The estimated elasticities of employment from the economics literature varies widely, although more and more evidence from credible studies indicate that the actual effect of minimum wage on employment is close to null. However, both marginally positive estimates and substantial negative estimates (-.5) for the rate of employment have been found using more credible research designs. It is precisely this tradeoff between increasing the wages of those employed while possible increasing the unemployment rate which makes the minimum wage policy risky, and a good case for studying the effects of uncertainty on public opinion.

The current unemployment rate for individuals with low education in the US is currently at about 7%. Young individuals and individuals with low levels of education are overrepresented in minimum wage employment, and I therefore focus on this unemployment rate instead of the overall unemployment rate in the US. Depending on what elasticities are used, it is possible to predict that the unemployment rate will increase by as much as 8 percentage units, or that there will be no effect on the unemployment rate. It is this uncertainty that I leverage in the experimental treatments.

There are several potential issues with using minimum wage reform as the case for the experiments. The first relates to the multidimensionality of the reform. Although it will likely lead to material gains for those who keep their employment, the net effect on the standard of living is uncertain if unemployment rises. I try to circumvent this issue by holding the benefits of the reform constant in the vignettes, while varying the unemployment rate.⁷ A second issue is that only those who are positive to the govern-

⁶See, for instance, "Will the Minimum Wage Debate Ever Be Settled?", The Atlantic, 2016-12-17, <https://www.theatlantic.com/business/archive/2016/12/minimum-wage-debate/510383/>.

⁷We can think of this as a movement in two outcome spaces simultaneously. For the sake of the argument, assume that increasing the minimum wage will increase the standard of living for those who have minimum wage jobs. The risk can be thought of as the uncertainty about the location of the unemployment

ment intervening the economy in order to increase the living standard of low income individuals should be affected by uncertainty manipulations. I therefore plan to include two additional reforms in the experiment; one reforms which would be supported by right leaning individuals in a state of no uncertainty, and one reform which is bipartisan in nature. I'm currently considering several reforms: decreasing the corporate tax rate to boost growth, tax breaks for hiring veterans, effect of alternative fuel subsidies on reducing carbon emission rates or decreasing class sizes to improve learning amongst students. Lastly, the heavily polarized debate might lead respondents to infer a political leaning among experts based on their predictions, even when there is none. This underlines the importance of including a nonpartisan reform in the experiment.

4.2 Sampling strategy

I plan to field the experiment in the US, and to use mTurk to recruit respondents. Using mTurk to recruit respondents is simple, relatively cheap, and, importantly, new research has replicated findings from several well known studies in experimental studies using respondents recruited with mTurk (Berinsky, Huber and Lenz, 2012), and analyses of liberals and conservatives on mTurk appear not to differ psychology from their peers in the mass public (Clifford, Jewell and Waggoner, 2015). The most obvious drawback with mTurk is that it is not a nationally representative sample of the US population. However, since the purpose of the experiment is not to generalize the treatment effect to the US population, but to examine a potential causal effect, I believe that using a convenience sample is a valid approach at this stage of the project. Further, the low cost of MTurk allows for efficient oversampling of respondents on certain characteristics. For this study, I am especially interested in having substantial variation on risk preferences.

The experiment is structured as a between-subjects design. That is, all respondents will only be presented with at most one treatment for the effect of the minimum wage on unemployment. However, if more reforms are included in the experiment, the respondent would be presented with at most one treatment per reform of interest in sequential order.

4.3 Experiment 1: expert agreement

The purpose of the first experiment is to assess whether (i) it is possible to manipulate the perceived uncertainty of respondents and (ii) if risk averse respondents respond decrease their support for a reform as uncertainty increases.

In this experiment, the respondent is presented with a vignette and a graph describing the effect of a minimum wage increase on the unemployment rate. There are three possible forecasts, symmetrically distributed around an increase of the unemployment rate by 4 percentage units: the intervals of [1,7], [3,5] and the point estimate of [4]. This information is provided to the respondents both in a vignette and in a graph. I add the graphical information because it facilitates interpretation of the size and variation of the effects (see Healy and Lenz, 2014, for a similar experimental design using graphical information.).

rate after the reform. Holding the movement in the first outcome space constant enables me to examine the effect of uncertainty without considering how respondents weight the gain in the living standard of those with jobs against the same set of individuals possibly losing their jobs.

In the vignette, I emphasize that the senders of the forecasts are politically independent experts, not aligned with any party. To further avoid issues of confirmation bias and that respondents ascribe political leanings to experts based on forecasts, I present the information as a consensus among experts. If instead the forecasts of experts was presented as conflicting predictions, it might enable respondents to pick and choose among the predictions, discounting the predictions contradicting their prior beliefs.

In figure 3 below I present an example of one of the treatments. This is a rough sketch of the graphical design, and for the actual experiment I plan to use pilot studies to identify the most effective way to communicate the treatment information to the respondents.

The error bar in the graph shows the bounds of the predictions of the experts, while the bar graph shows the current unemployment level. The bounds of the bar will vary with the forecast in the vignette, while the scale of the y-axis will be held constant across treatments.

Note that in this experiment, I do not provide the respondents with information about expected outcome for the uncertainty treatments. The reason is twofold. First, providing the respondents with an expected outcome risks overriding the effect of uncertainty. Respondents might simply rely on the expected outcome and ignore the variation around the expected outcome. Second, to identify whether a difference in response between risk seeking and risk averse individuals is caused by a difference in the weighting of outcome or the probability weights they assign to the different outcomes, I examine what outcome the respondents believe to be the most likely, and how likely this outcome is. Providing an explicit expected value would turn the question of what outcome the respondents perceive as the most likely from an outcome of substantive interest to a manipulation check.

To increase the living standard of Americans with low income, some people think that the minimum wage should be increased to \$10.10. The state average minimum wage today is \$8.49. This will improve the economic situation for those who hold minimum wage jobs. Some people fear that increasing the minimum wage will also increase the unemployment rate, especially among those with low education.

Non-partisan experts, not aligned with any political party, estimate that the unemployment rate among individuals with low education will increase between 1 and 7 percentage units if the minimum wage is increased. The current unemployment rate among individuals with low education is 7%.

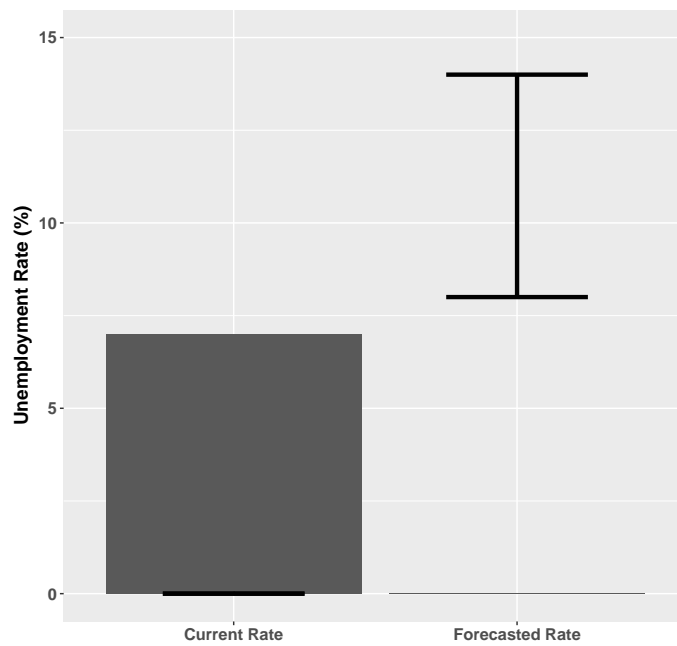


Figure 3: Example of treatment in experiment 1

4.4 Experiment 2: expert disagreement

In a political debate, a voter will likely not be presented with forecasts of the effect of a policy as a consensus. Rather, political opponents will draw on different experts and researchers, and present the predictions that are most beneficial for their own political interests. The second experiment emulates this more closely, by presenting the respondent with conflicting expert forecasts. Compared to the first experiment, this makes it easier for respondents to pick and choose between forecasts. On the other hand, the second experiment can also be thought to resemble a situation where the voter cannot identify the credibility of the senders.

Presenting the forecasts as a disagreement instead of a consensus requires me to make changes to both the vignette and the graph, as shown below. I emphasize that the forecasts are conflicting by not representing the potential outcomes as an interval, but instead as two point estimates. In this experiment, I manipulate uncertainty by varying the distance between the two predictions. However, I only use two of the set of predictions from the first experiment, $[1,7]$ and $[3,5]$, since it does not make sense to include identical conflicting predictions.

Compared to the first experiment, the second experiment is not designed to maximize the probability to influence the beliefs of the respondents. However, it forms a necessary intermediate step between the first and the third experiment. In the third experiment, the respondents also face a set of conflicting predictions, albeit from politically motivated senders. However, to examine if parties are able to produce uncertainty about a reform, it does not suffice to compare the first and the third experiment. A difference between the first and the third experiment might be caused by that voters are presented with a forecast in form of a consensus in one case and as conflicting predictions the other. To get a credible effect of sender credibility, I must hold both the vignettes and graphic constant, while just changing the sender of the messages.

To increase the living standard of Americans with low income, some people think that the minimum wage should be increased to \$10.10. The state average minimum wage today is \$8.49. This will improve the economic situation for those who hold minimum wage jobs. Some people fear that increasing the minimum wage will also increase the unemployment rate, especially among those with low education.

Non-partisan experts, not aligned with any political party, disagree on the effect a minimum wage increase will have on unemployment among individuals with low education. One group of experts estimate that the unemployment rate will increase by as much as 7 percentage units. One group of experts estimate that the unemployment rate will will increase by as little as 1 percentage unit. The current unemployment rate among individuals with low education is 7%.

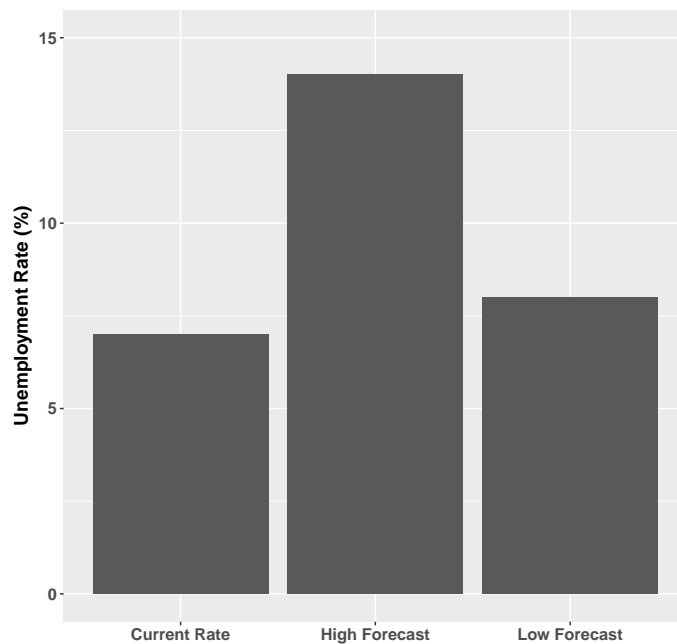


Figure 4: Example of treatment in experiment 2

4.5 Experiment 3: politically motivated senders

In the third experiment, I let party representatives from the Democrats and Republicans be the senders of the forecasts. This addresses the question of whether politically motivated actors are able to influence the beliefs of voters, and thus use uncertainty as a way to moderate support for a reform. In other words, do voters discount information from actors who have an incentive to misrepresent reality for their own gain? Standard signaling models inform us that rational voters should be able to learn anything from cheap talk signals, but the question remains whether voters are sophisticated enough to discern this incentive, and to discount the cheap talk signals. If parties indeed can influence voter perceptions of uncertainty, this incentivizes parties to attempt to obscure the effects of their opponents reform through negative campaigning.

The structure of the third experiment is very similar to the second experiment. Once again, the respondent is faced with competing forecasts, albeit from from both Democratic and Republican representatives and not non-partisan experts. The set of forecasts are used in the different treatments are the intervals $[1,7]$, $[3,5]$, and the point estimate $[4]$. For the certainty treatment, with the single point estimate, the messages is an undisputed signal from one of the parties. An example of the treatment vignette and graph is presented in figure 5 below.

To increase the living standard of Americans with low income, some people think that the minimum wage should be increased to \$10.10. The state average minimum wage today is \$8.49. This will improve the economic situation for those who hold minimum wage jobs. Some people fear that increasing the minimum wage will also increase the unemployment rate, especially among those with low education.

Representatives from the Republican Party estimate that the unemployment rate will increase by as much as 7 percentage units. Representatives from the Democratic Party estimate that the unemployment rate will increase by as little as 1 percentage unit. The current unemployment rate among individuals with low education is 7%.

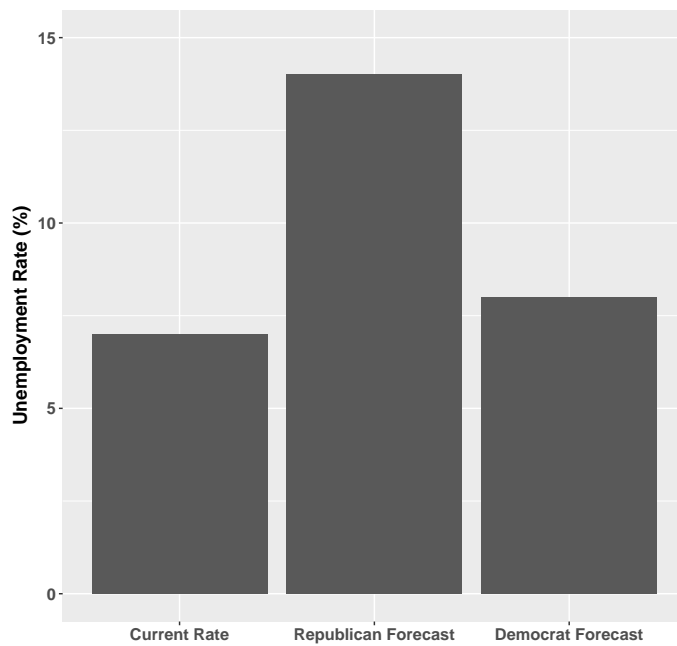


Figure 5: Example of treatment in experiment 3

5 Measurement

In this section I include details about the most important measurements in the study. The precise question wording are available in the appendix.

5.1 Moderators and manipulation checks

To estimate the conditional treatment effects crucial for identifying the effect of risk preferences, I need a reliable measurement. Risk preferences are usually measured using incentive compatible measures with real stakes, such as choosing between different lotteries. Unfortunately, the typical lottery-type measures eliciting risk preferences are both costly and impractical to administer in survey experiments with thousands of respondents (Donkers, Melenberg and Van Soest, 2001). Fortunately, Dohmen et al. (2011) provide a measurement of risk attitudes suitable for surveys. The measurement is a simple survey question, presented in table 1, and asks how willing the respondent is to take risks. The measurement has been validated both using lottery-type measurements of risk preferences and by predicting the propensity to engage in risky behavior.

I expect that the persuasiveness of the forecast will depend on the credibility of the sender, and that partisan respondents will perceive forecasts from their own parties as credible, especially compared to the opposing party. To measure this conditional response I need a measurement for partisanship, for which I rely on the traditional ANES measurement.

I include one manipulation check in each experiment. The manipulation check asks the respondent to indicate the bounds of the predictions (if the respondent faces several faces an interval of predictions or two competing predictions), or to simply indicate the point estimate prediction. I include the manipulation checks for two reasons. First, it allows me to detect respondents who have not paid attention to the treatment, or have not understood the treatment. Second, the manipulation check also gently primes the respondent to the treatment, by making her consider the information in the treatment once more before she answers the outcome questions. For this reason, I use a manipulation check which draws the respondents focus to the effect of a minimum wage increase on the unemployment rate.

5.2 Outcome variables

The main outcome of interest in the experiment is the voter's attitude toward the reform proposal to increase the minimum wage. This is measured by a simple question about whether the respondent favors or opposes the reform. This measurement, together with the other measurement of outcome variables, is presented in table 2.

In the theoretical framework, I decompose the aggregate attitude measure into two components: the pragmatic attitude component and the idealistic attitude component. The idealistic component corresponded to the ideal point in the outcome space. One of the predominant aims of the minimum wage policy is to increase the standard of living of low income Americans. I thus measure the idealistic component by a question from the ANES, asking the respondent if she believes that it is upon the government to make sure that every American has good standard of living, or if each person should get ahead on their own.

The pragmatic component corresponded to beliefs about the efficacy of a specific policy in realizing the purpose of the policy. For minimum wage legislation, this will likely concern to what extent such a reform risks to inadvertently hurt the poor by increasing the unemployment rate. I measure this with two questions. The first question asks the respondents about her predicted effects of the reform on the unemployment rate of individuals with low education.⁸ The second measure asks the respondent about how certain she is about the effect. Note that I do not have different expectations for the response of risk averse and risk seeking respondents for these variables. However, I do expect that risk seeking and risk averse respondents will update their attitudes toward the reform differently, when the perceived uncertainty changes.

Although the idealistic and pragmatic attitude component are interesting outcomes in themselves they can also be interpreted as mediators, and can be used to show how the treatments will affect the outcome variables. Further, the pragmatic component measures can be interpreted as a check on whether the treatments have indeed had the intended effect on the perceived uncertainty and expected outcome of the minimum wage reform.

6 Identification strategy

6.1 Causal inference with conditional treatment effects

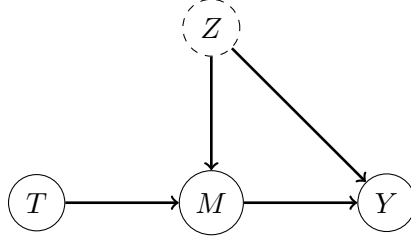
From my theoretical model, I derive the prediction that an increase in uncertainty should decrease the support for the policy only for risk averse individuals. To test the hypothesis, I will need to estimate a conditional average treatment effect (CATE). While the unbiased estimate of the ATE is guaranteed by random assignment to treatment, this is not enough to ensure causal identification of the effect of the moderator (Angrist and Pischke, 2008). Conditioning the effect of uncertainty on the observed moderator risk preferences effectively removes us from the experimental setting to the observationalist environment (Kam and Trussler, 2017). I illustrate this in figure 6.

If the moderator (M), which in this specific case is the risk preferences of the individual, is observed and not experimentally manipulated, this risks leading to a biased estimate of the conditional average treatment effect. The moderator might be correlated to other observable and unobservable respondent characteristics (Z). Conditioning the treatment on the moderator will only produce an unbiased estimate of the CATE if either (i) the moderator is unassociated with all other variables (Z) or (ii) the variables that the moderator is associated with do not themselves moderate the effect of the treatment on the outcome. If we are unwilling to assume either (i) or (ii) or both, this can be dealt with in two ways. First, we could theoretically identify what the possible confounders are, and control for them in a regression framework. Second, we could manipulate the moderator as well, ensuring that the moderator is orthogonal to the disturbance term. Unfortunately, the psychology literature on risk preferences suggest that experimentally manipulating these will be difficult, as risk preferences appears to be a personal trait.

What does this imply for how to estimate how risk preferences moderate the effect of outcome uncertainty on policy support? Assume that we want to estimate the CATE

⁸An alternative is to ask the respondent about if she thinks that low skill Americans on average will be worse or better off.

Figure 6: DAG of Moderator Confounding in an Experiment



In the figure above, T represent the randomly assigned treatment, M is the moderator, here assumed not to be experimentally manipulated, Z is a set of unobservables that are correlated with the moderator and the outcome variables, and will confound the estimate of the conditional average treatment effect. Note that not conditioning on the moderator will produce an unbiased estimate of the average treatment effect.

with the simple regression model $y_i = \beta_0 + \beta_1 T_i + \beta_2 M_i + \beta_3 T_i \cdot M_i + \epsilon_i$. Indeed, $y'_T = \beta_1 + \beta_3 M_i$ will capture the unbiased average treatment effect for individuals with different risk preferences, however, we cannot say that this treatment effect is caused by differences in risk preferences between individuals. For instance, we know that risk preferences are correlated with gender and income (Dohmen et al., 2011). To credibly identify the causal moderating effect of risk preferences, it is therefore necessary that we control for any possible confounders or that we make risk preferences orthogonal to any possible confounders by experimental manipulation.

6.2 Testing the main hypotheses

I focus this discussion on testing the hypotheses pertaining to the two main questions of this paper. First, do risk averse voters decrease their support for the reform as uncertainty increases? I test this by estimating an interaction between the risk aversion of the voter and the uncertainty treatment. The theory predicts that the divergence between risk seeking and risk averse voters in their support for the reform should increase as uncertainty increases. I further expect that any possible difference between risk averse and risk seeking individuals does not increase with uncertainty for the idealistic component. That is, the uncertainty treatments should not have an effect on the location of the ideal point in the policy space for either risk averse or risk seeking individuals.

Second, can parties use uncertainty as a strategy for reducing support for a reform? I test this by comparing the effect of the uncertainty treatments against the control group in the third experiment, and by comparing the uncertainty treatments across the second and third experiment, conditional on the risk preferences of the voter. If parties are able to do this, I expect risk averse voters to respond negatively to uncertainty even when it is conveyed by cheap talk signals. If risk averse voters decrease their support for the reform when the senders are experts but not partisan actors, this indicates that parties cannot use outcome uncertainty as a strategy for convincing voters.

7 Summary

In this paper, I have presented a sketch for three survey experiments on the effect of a minimum wage increase on unemployment. The paper addresses two questions. First, how do voters react when the uncertainty of a political reform increases? Second, are parties able to influence the perceived uncertainty of voters? I also presented a theoretical framework, predicting that risk averse voters should decrease their support for a reform as the outcome uncertainty of the reform increases.

Many issues remain to be resolved, especially regarding the experimental design. For instance, are there other policies which are more suitable to use in the experimental design, compared to the minimum wage reform? And is it better to use policies that have clearly unidimensional costs and benefits?

The paper contributes in several ways to the political science literature and our understanding of real world politics. It examines if creating uncertainty about a political reform is an effective strategy for parties to shape public opinion on an issue. The mechanism is especially interesting, since it allows for parties to shape public opinion without fundamentally altering the preferences of voters. It thus provides an answer of how public opinion can be influenced, while holding fast to the assumption that voters have fixed preferences regarding outcomes.

The answers to the questions in this paper might also deepen our understanding of perennial issues in political science, such as why the poor do not soak the rich. If voters, all or a certain important subset of the electorate, are risk averse, this will generate a form of political inertia. Radical political change, which might have a very high payoffs if successful, are likely also associated with high levels of uncertainty. This will make the electorate much less inclined to pursue radical political alternatives, in the face of a reasonably well functioning status quo.

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Appendix

Measurement details

Table 1: Moderators

Risk preferences

How do you see yourself: are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

(Not willing at all to take risks) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (Very willing to take risks)

Partisanship Do you think of yourself as a Democrat, Republican or Independent?

Democrat, Republican, Independent

If Republican or Democrat:

Would you call yourself a strong [Republican/Democrat] or a not very strong [Republican/Democrat]?

Strong, Not very strong

If Independent:

Do you think of yourself as closer to the Republican or Democratic party?

Republican Party, Democratic Party, Neither

Table 2: Outcome variables

Composite attitude measure

Consider the proposal to increase the federal minimum wage to \$10.10. Do you favor or oppose the proposal?

Strongly favor, favor, Neither favor nor oppose, Oppose, Strongly oppose

If you had to choose between keeping the federal minimum wage at the current level, or increasing it to \$10.10, what would you choose?

Keep the current level, Increase the minimum wage

Idealistic component

Some people feel the government in Washington should see to it that every person has a good standard of living. Others think the government should just let each person get ahead on their own. Which is closer to the way you feel?

[Government should see to standard of living] 1, 2, 3, 4, 5, 6, 7 [Let each person get ahead on their own]

Pragmatic Component

If the federal minimum wage was increased to \$10.10, do you believe that the unemployment rate among individuals with low education would increase, decrease, stay the same, or do you not know?

Increase, Stay the same, Decrease, Do not know

If increase or decrease:

How many percentage units do you think it will [increase/decrease]?

[slider from -20 to +20]

How certain do you feel about this effect?

Very certain, certain, Neither certain nor uncertain, uncertain, highly uncertain
