Policy Conflict Between Political Elites Shapes Mass Environmental Beliefs

Liam F. Beiser-McGrath*

Abstract

A substantial literature in political science suggests that individuals' policy preferences can be shaped by the actions of elite actors and the policies they emphasize and implement. Yet can these actions and interactions have second order effects and actually affect individuals' beliefs about the causes of the problems that policy seeks to address in the first place? This research note identifies the effect of policy conflict upon individuals' beliefs about the societal problems, using original survey data from New Delhi. This effect is estimated by comparing beliefs about the causes of air pollution just before and after an unexpected policy conflict between the government and a judicial body over policy to limit vehicle usage. The results find that the policy conflict caused mass beliefs about the causes of pollution to change. In line with the theory of inferred justification, belief updating led individuals who generally approve (disapprove) of the government to believe vehicle usage was more (less) responsible for air pollution respectively. This is in spite of the fact that the spike in air pollution was caused by agricultural burning. The results suggest that policy conflict between political elites can not only affect mass policy preferences, but also alter beliefs about the cause of such societal problems policy seeks to address.

*Assistant Professor, Department of Social Policy, London School of Economics and Political Science. Contact e-mail: liam@liambeisermcgrath.com

1 Introduction

A substantial literature in political science suggests that individuals' policy preferences can be shaped by the actions of elite actors and the policies they emphasize and implement. Dating back to Schattschneider (1935), policies have been considered to shape politics through the constituencies of winners and losers they generate (Pierson, 1993, 2000; Busemeyer et al., N.d.). Thermostatic models of politics also suggest that the public's policy preferences respond to policy output, to balance out over- or under-appropriation by the government (Wlezien, 1995).

In contexts with increasing elite level polarization, contested policy processes have also led to a polarization of the public's policy preferences. The positions taken by candidates and political parties can shape partisan's policy preferences (Abramowitz, 1978; Lenz, 2009, 2012; Bisgaard and Slothuus, 2018), resulting in conflictual policy processes being mirrored by the public. Even absent party political polarization, clashes over policy between branches of government are common and often an integral part of the policy process in a variety of contexts, such as between the European Parliament and Commission (Hayward, 2012; Hix, 2013), as well as the court and congress within the USA (Keck, 2007; Clark, 2009).

In this research note I argue that such policy conflict can have repercussions beyond shaping the public's policy preferences. Policy conflict can in fact affect the public's belief about the basic facts regarding the causes of societal problems. In addressing societal problems, policies implicitly identify the causes

of such problems. For example, limiting air pollution in urban areas through vehicle usage restrictions signals that vehicles are a significant cause of air pollution. If there is political polarization over a specific policy, then the public's beliefs about basic facts can be shifted. Individuals supporting the proposer of the policy will update their beliefs about the causes of the problem in line with what factors the policy seeks to address. The opposite occurs for individuals who oppose the policy proposer. Through this process of inferred justification (Prasad et al., 2009; Lauderdale, 2016), political polarization in the policy process can impact the public's beliefs about basic facts.

To identify how political conflict shapes mass beliefs, I take advantage of an unexpected real world event, that took place between survey waves. In November 2017, India's National Green Tribunal (NGT) unexpectedly ruled against the reintroduction of the odd-even road use policy in Delhi. Utilizing a pseudo-panel design with original surveys shortly before and after the policy announcement and ruling, I am able to identify how the effect of this policy conflict between political elites changed individuals' beliefs about the causes of air pollution. Specifically, individuals were asked about their beliefs regarding the importance of agriculture (the primary cause of increased air pollution) and vehicle usage (the cause targeted by the policy) as sources of air pollution.

The results find that beliefs about the causes of air pollution were affected by the policy conflict. In line with inferred justification, beliefs changed differentially between individuals who generally approve or disapprove of the government. Individuals who approve of the government increased their belief that vehicle usage causes air pollution, while individuals who disapprove of the govern-

ment decreased their belief that vehicle usage causes air pollution. This partisan disagreement, however, did not impact beliefs about the primary cause of increased air pollution, the burning of agricultural produce.

This research note thus contributes to our understanding of the effect of elite level polarization upon mass beliefs and preferences, combining original surveys with a real world event. A large literature has found that elite level policy polarization can affect individuals' policy preferences (e.g. Fiorina and Abrams, 2008; Prior, 2013). While much of this research has focused on the first-order effect of polarization in terms of its impact upon policy preferences, this research note finds that such conflict over policy also has second-order effects. Individuals may also change their beliefs about the underlying causes of societal problems, that policies seek to address.

The research note also contributes to understanding how factual beliefs and misinformation are shaped by political forces. A well informed public is often considered a key component of representative democracy. Yet across a variety of issues, from the economy (Bartels, 2002; Evans and Pickup, 2010) to the environment (McCright and Dunlap, 2011; Tesler, 2018; Jenkins-Smith et al., 2020), the basic body of facts appear to be polarized (Alesina, Miano and Stantcheva, Forthcoming). This research note suggests that such polarization can occur as a result of the policy process, when political actors conflict over the adoption and implementation of policies. Given the sensitivity of individuals' opinions to elite cues and attention cycles (Downs, 1972; Zaller, 1992) when forming preferences, this highlights potential challenges for dealing with societal problems in a polarized environment.

The research note proceeds as follows. The next section outlines the theoretical mechanism that explains how conflict over policy can shape the public's beliefs about the causes of societal problems. I then discuss and apply this logic to the problem of air pollution in New Delhi, and the unexpected policy conflict between the government and a judicial body which is the case studied in this research note The next section describes the research design that allows for estimating the effect of this policy conflict upon beliefs about the causes of air pollution. I then present the results of the empirical analysis, that show that mass beliefs about the causes of air pollution changed due to the policy conflict, conditional upon individuals' general evaluation of the government. The final section offers concluding thoughts.

2 Policy Conflict and Mass Beliefs

The enaction of policy to deal with societal problems is one of the foremost functions of government. Yet, the policy process ultimately has repercussions beyond dealing with specific issues. The policy process, and actors involved, can shape the public's attitudes. The first-order effect of the policy process upon public attitudes is its impact on policy preferences. Policy preference change arising from the policy process can occur in both non-politicized (e.g.policy feedback) and politicized (party cues) forms.

Policy feedback is the process whereby the generation of benefits and costs caused by enaction of a policy, creates the conditions for its continued support or opposition (Pierson, 1993, 2000). Such feedback can vary in its direction, scope, and time-frame (Busemeyer et al., N.d.). An emerging strand of

this literature also engages with this in the context of climate and environmental policy (e.g. Oehl, Schaffer and Bernauer, 2017; Schaffer, Oehl and Bernauer, 2022). Within such a framework the impact of policy upon the public's policy preferences need not be politicized, rather policy can generate both expected and unexpected benefits and costs to groups of the public, who subsequently update their preferences.

Party cues, however, exist in an explicitly political context. The public is considered to take cues as to what their policy preferences should be, based upon the policies advocated or implemented by political actors (Abramowitz, 1978; Lenz, 2009; Carsey and Layman, 2006; Lenz, 2012). The policy process thus shapes the public's policy preferences, by exposing the public to the positions of political actors. With this information, individuals can update their policy preferences to match that of their preferred political actor.

While party cues and policy feedback focus on the first-order effect of position taking and policy implementation, such actions also likely have second-order effects. By choosing a particular policy to implement or propose, political actors are also sending a signal about the cause(s) of the problem they seek to address. For example, proposing a policy to limit vehicle usage in response to a spike in air pollution suggests that vehicles are an important cause of air pollution. Therefore, party cues and policy feedback can impact not just the public's policy preferences, but also their beliefs about the state of the world.

Such a phenomena can been labelled as *inferred justification* (Prasad et al., 2009). (Prasad et al., 2009) take as a starting point the beliefs of many Americans that Saddam Hussein was connected to the 9/11 attacks. They argue that this belief

arose due to the invasion of Iraq by the US in 2003. Invading Iraq in response to 9/11 led individuals to infer that Saddam Hussein and the Iraqi involvement was somehow responsible for 9/11. Taking this logic further, (Lauderdale, 2016) explicitly links inferred justification to polarization within the US. Democrats and Republicans come to different beliefs about the impact of the Egyptian revolution and international trade when presented with President Obama's policy positions in these areas.

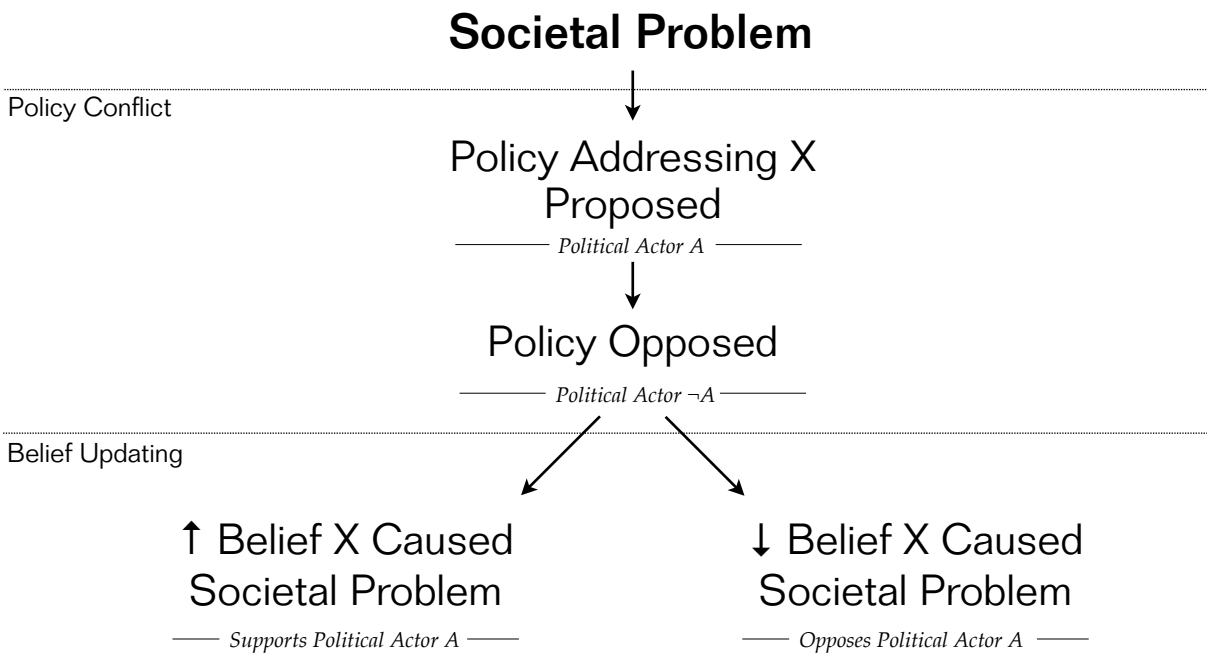

Figure 1: A diagram of how policy conflict is expected to shape individuals' beliefs about the causes societal problems.

When paired with conflict amongst governmental bodies over policy, inferred justification provides an explanation for how individuals' beliefs about the cause of societal problems can be affected. This logic is illustrated in Figure 1. Suppose political actor A (e.g. the government) proposes a policy that addresses X

to deal with the societal problem. By choosing to address X, actor A's action implies that X is a cause of the societal problem. A policy conflict occurs when another political actor (e.g. the judiciary or an opposition party) opposes the use of this policy to deal with the societal problem. This means there is disagreement between political actors as to whether a policy addressing X adequately deals with the societal problem. The public subsequently infers from this policy conflict that either X is or is not a relevant cause of the societal problem. Which inference is made is dependent on their support for the proposer of the policy. If they support the proposer, actor A, then they infer that X is in fact a cause of the societal problem. If they do not support the proposer, then they do not make this inference, and can in fact infer that X is *not* a cause of the societal problem.

The next section applies this logic to the societal problem of air pollution in New Delhi and the government's policy to limit vehicle usage which was blocked by a judicial body.

3 Policy Conflict over Environmental Policy in New Delhi

Air pollution is a significant societal problem, and is one of the leading causes of death globally (Fuller et al., 2022) and particularly severe within India. A recent study found that outdoor air pollution contributes to half a million premature deaths each year in India (Ghude et al., 2016). New Delhi, in particular, is notorious for poor air quality. In response to a public interest litigation that was filed in 1985 (MC Mehta v. Union of India), in 1998 the Supreme Court of India mandated that all city buses must be converted from diesel fuel to CNG

by March 2001. Auto-rickshaws, initially exempted, were later brought under the same rule. Yet, Delhi's air pollution has continued to worsen.

In response to this air pollution, the newly elected Aam Aadmi Party (AAP) government of the national capital territory (NCT) of Delhi announced that it would conduct a policy experiment, based on the odd even rule, during January 1-15, 2016, and again during April 1-15, 2016. The odd-even policy imposed very tangible private costs on car owners while creating a public benefit of reduced air pollution. Under the "odd-even" rule, private cars with odd registration numbers were allowed on the road on Mondays, Wednesdays and Fridays, while the ones with even numbers are allowed on Tuesday, Thursday, and Saturday. Thus, car owners were only able to use their car every other day, which means three out of six days of the working week. On those other three days individuals would need to find alternative ways to get to office, drive children to school, visit friends and relatives, and go to the market.

The odd-even policy was back in the news in October 2017 when New Delhi saw a large spike in air pollution. This even lead the city's Chief Minister Arvind Kejriwal to refer the city as a gas chamber (BBC, 2017). Such spikes in air pollution are common at this time of year due to increased agricultural burning in the region (Liu et al., 2018; Cusworth et al., 2018). Cusworth et al. (2018) find that more than half the total observed $PM_{2.5}$ in Delhi is caused by fires in this time period. Importantly, while vehicle emissions continue to contribute to the problem of air pollution, their relative importance declines in this particular time frame, as vehicle emissions do not significantly increase.

Responding to this spike in pollution, the Delhi government focused on restrict-

ing motor vehicle emissions. The Delhi government announced on Thursday 9th November that they would re-introduce the odd-even rule, at first for one week, starting on Monday 13th November. Similar to the previous implementation of the odd-even rule there would be a number of exemptions. Females, two-wheelers, and Very Very Important Persons (mostly government officials and diplomats) would be exempted from the rule, and allowed to drive as usual.

After this announcement, controversy rose again. However unlike the two previous uses of the odd-even policy, the National Green Tribunal (NGT) explicitly ruled against the use of the Odd-Even policy with its exemptions. The NGT is an independent judicial body created to expedite cases relating to environmental problems. Therefore, and unlike typical polarization around party lines, this highlights elite-level differences of a more technical/knowledge-based form in the causes of the problem policy aims to tackle and the efficacy of proposed policy solutions. Additionally, the NGT's ruling likely has additional credibility compared to statements made by opposition political parties, given its independent "expert" role in policy.

Specifically, the NGT ruling emphasised disagreement about how the use of exemptions reduced the effectiveness of the policy measure, and whether the odd-even rule was in fact the best way to deal with rising air pollution. Specifically, NGT Chairperson Justice Swatanter Kumar stated that *"You are getting the tag of the worst capital in the world. The Supreme Court and NGT have suggested (over) hundred measures to curb pollution, but you (AAP government) always opt only for odd-even. Nothing has been done by the Delhi government in the past one year."*

(NDTV, 2017*a*)

In response, the Delhi government withdrew the policy. Crucially, this was in a manner that did not signal acceptance of the NGT's ruling. While disagreeing with statements regarding the effectiveness of the odd-even rule as a policy instrument, the Delhi government also cited that it was infeasible to implement the policy without these exemptions and would endanger women's safety (WION, 2017) given the context of sexual violence and women's safety in Delhi.[1] In response, the opposition Bharatiya Janata Party (BJP) criticised the AAP government for failing to deal with the root causes of the problem (NDTV, 2017*b*).

Given this elite polarization, and the logic of inferred justification, we would expect that individuals' support for the Delhi government would affect their beliefs about the cause of air pollution. Figure 2 recreates Figure 1 for the case of the odd-even policy and beliefs about the causes of air pollution in New Delhi. Individuals who are not supportive of the Delhi government will, upon seeing vehicle restrictions nullified by the NGT and subsequent statements by opposition political parties, believe that vehicle usage is not as important a cause of air pollution. In contrast, individuals who support the government, will maintain the importance of vehicle usage causing air pollution at this time period, even though it is relatively less important than previously due to the role of stubble burning. This leads to the following testable empirical implication:

Belief that vehicles' cause air pollution is higher (lower) after the policy conflict for

[1]For example, the prominent 2012 cases that received international media attention (New York Times, 2012)

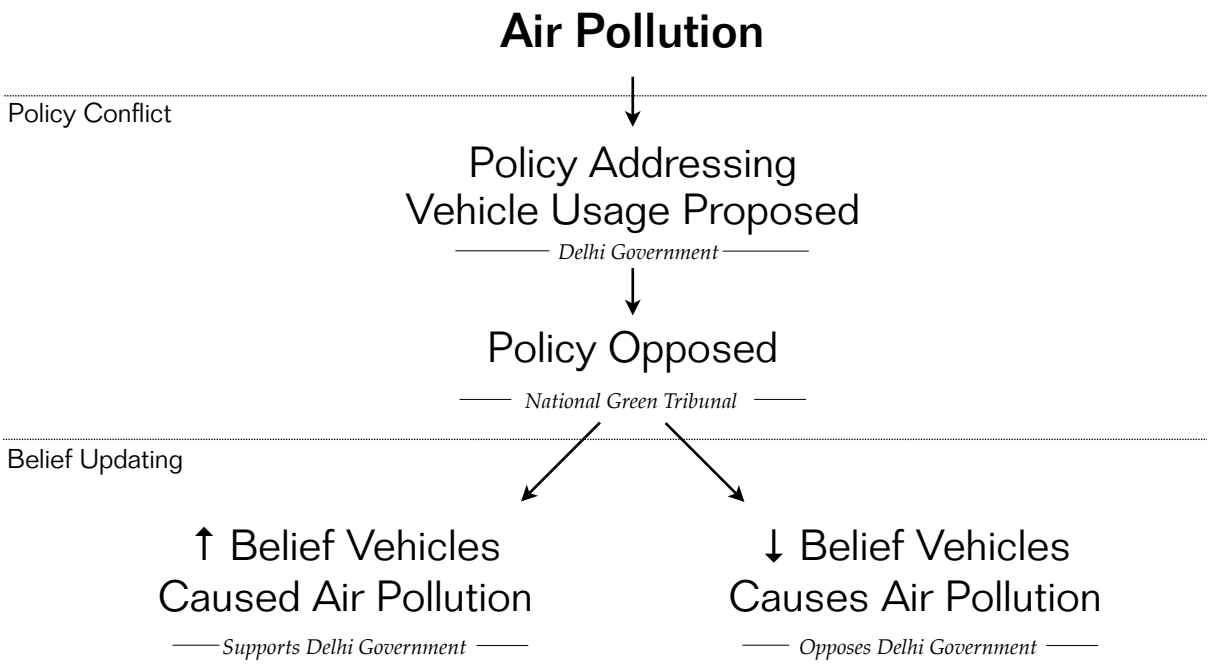

Figure 2: A diagram of how the odd-even policy conflict is expected shape individuals' beliefs about the causes of air pollution.

individuals' who approve (disapprove) of the New Delhi government.

4 Research Design

To identify the effect of elite-level policy disagreement upon beliefs about the cause of societal problems, in this case air pollution, I take advantage of this unexpected judicial ruling by India's National Green Tribunal (NGT) in November 2017. This conflict occurred between waves of original surveys about air pollution in New Delhi, allowing for a pseudo-panel design. Individuals were asked about their beliefs regarding the importance of agriculture (the primary cause of increased air pollution) and vehicle usage (the cause targeted by the policy)

as sources of air pollution.

4.1 Surveys

The baseline survey (pre-NGT ruling) with 500 respondents residing in Delhi was fielded in October 10-20, 2017. The 1st wave of the survey, with 750 respondents residing in Delhi, was fielded from the 16th to the 23rd of November 2017, shortly after the NGT ruling and the Delhi government's withdrawal of the odd-even rule plan. The final wave with 751 respondents in Delhi was fielded two weeks later, from the 4th to the 9th of December 2017. This leads to a total of 2001 respondents, with exact sample sizes for each of the analyses depending on missingness and sample size reduction through the use of matching.[2] Figure 3 displays the timeline of these surveys in reference to the policy conflict, and how this corresponds with online interest in the odd-even policy within India. These surveys were co-designed by the author and fielded online by IPSOS. The surveys used quota sampling in order for the sample to be broadly representative in terms of gender, occupation, age, and education. Given the sample sizes this approach reduces the potential for imbalance on these observables. Nevertheless, I also use covariate adjustment and matching to further reduce imbalance.

4.2 Dependent Variable

To assess individuals' beliefs about the causes of air pollution the following questions were asked.

[2]Descriptive statistics are presented in Table 3 in the appendix.

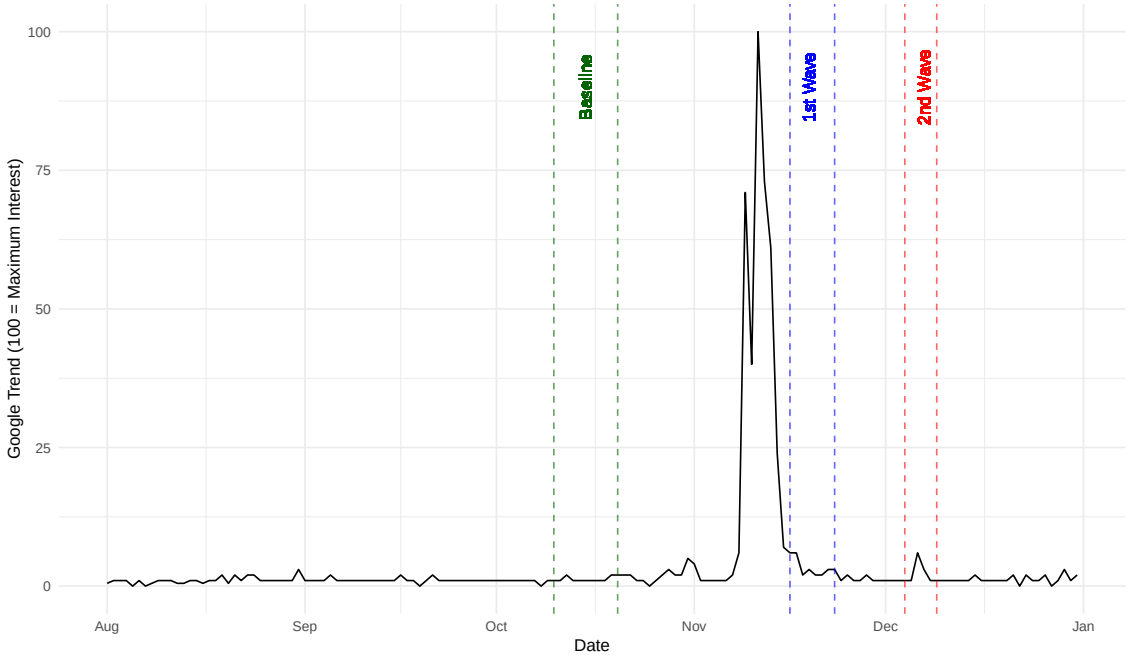

Figure 3: Timing of survey waves and online interest about the odd-even policy in India.

Pollution in Delhi may come from different sources. Below you will see a list of different sources. In your opinion, how important or not important is each of these sources?

Please use a scale from 0-10 where 0 means not at all important and 10 means extremely important

- Pollution from agriculture
- Pollution from motor vehicles

Pollution from agriculture is the main contributor to the rise of air pollution in this time frame. In contrast, while pollution from motor vehicles is a source of air pollution, it did not significantly increase in the time period studied (and as a result declined as a proportion of the overall cause of air pollution). However

pollution from motor vehicles was the cause addressed by the odd-even policy, which was ultimately struck down.

Absent the politicisation of sources of air pollution, we should expect the importance attached to agriculture to increase in the time period, given the documented effect of agricultural burning on air pollution spikes in Delhi (Liu et al., 2018; Cusworth et al., 2018). In contrast, the importance of motor vehicles should ultimately decline if considered in terms of relative importance when compared to that of stubble burning, or at the very least stay the same given that there is no significant increase in vehicle usage in this time period.

4.3 Estimation

I conduct a before-after analysis, estimating the effect of the policy conflict upon beliefs about air pollution in New Delhi. The baseline estimating equation takes the form of:

$$\begin{aligned} y_i = &\beta_0 + \beta_1 \text{Post-Conflict}_i + \beta_{2,j} \text{Government Evaluation}_i + \\ &\beta_3 \text{Post-Conflict}_i \times \text{Government Evaluation}_i + \epsilon_i \end{aligned}$$

where y is the belief that a particular source is a cause of air pollution, Post-Conflict is a binary indicator for the post-baseline survey waves. Government Evaluation takes on integer values from 1 to 5, reflecting an individual's evaluation of the government's performance. Specifically individuals are asked in their opinion, how well or not well has the Delhi Government performed in re-

cent years in dealing with the challenges the city is facing? with 5 indicating "very well" and 1 "not well at all".

The interaction term β_3 captures individuals' motivated reasoning through inferred justification. I expect this to be positive when vehicle air pollution is the outcome, as individuals who approve (disapprove) of the government should increase (decrease) their belief that vehicles are a key cause of air pollution after the policy conflict.

Two selection on observables strategies are used to increased the credibility of estimates: i) covariate adjustment and ii) matching. For covariate adjustment the following characteristics are included in the estimating equation: age, education, gender, income, whether they personally or their household owns a car, experiences with air pollution, and whether they have experienced a health problem due to air pollution.

For the matching estimates, I use nearest neighbor matching with replacement, based upon Mahalanobis distance. Respondents in the "treatment" group, those surveyed after the policy conflict, are matched with respondents who were surveyed before the conflict (the "control" group) based upon the individual characteristics outlined previously. Regressions are then estimated using the matching weights, by Weighted Least Squares.

5 Results

Before estimating the effect of the policy conflict, I examine the association between individuals' characteristics and beliefs about the sources of air pollution

Table 1: Determinants of Baseline Environmental Beliefs

	Agriculture	Vehicles
Government Performance	0.13	0.04
	(0.13)	(0.08)
Age	−0.00	0.01
	(0.01)	(0.01)
Air Pollution Experience	−0.14*	0.09*
	(0.08)	(0.05)
Education	−0.16**	−0.02
	(0.07)	(0.04)
Female	0.26	0.14
	(0.28)	(0.17)
Health Problems	0.55***	0.00
	(0.19)	(0.15)
Income	0.05	0.03
	(0.05)	(0.03)
Own Car	1.09***	0.37
	(0.33)	(0.23)
Car in Household	0.17	0.12
	(0.29)	(0.19)
Intercept	4.72***	7.08***
	(1.00)	(0.73)
Num.Obs.	484	484

Robust standard errors in parentheses
* p $<$ 0.1, ** p $<$ 0.05, *** p $<$ 0.005

in the baseline survey. Ideally, belief in the sources of air pollution should not vary by individuals' government evaluation in the baseline survey. Evidence otherwise would suggest that beliefs about the causes of air pollution were potentially politicized before the policy conflict.

Table 1 displays the association between individuals' characteristics and beliefs about the sources of air pollution in the baseline survey. First, we can see that there is no statistically significant association between an individual's evalua-

Table 2: The Effect of the Policy Conflict Upon Beliefs

	Agriculture			Vehicles		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Post-Conflict	1.08**	1.27***	1.73***	−0.45*	−0.49*	−0.57*
	(0.40)	(0.40)	(0.60)	(0.25)	(0.26)	(0.31)
Government Performance	0.38***	0.14	0.59***	−0.02	0.07	−0.07
	(0.11)	(0.11)	(0.16)	(0.07)	(0.07)	(0.09)
Post * Gov. Performance	−0.02	−0.10	−0.23	0.17**	0.17**	0.22**
	(0.12)	(0.11)	(0.16)	(0.07)	(0.07)	(0.09)
Covariate Adjustment:	No	Yes	Matching	No	Yes	Matching
Num.Obs.	1997	1918	1800	1997	1918	1800

Robust standard errors in parentheses
* p $<$ 0.1, ** p $<$ 0.05, *** p $<$ 0.005

tion of the government and beliefs about the source of air pollution. Thus, it is unlikely mass beliefs about the environment were politicized before the policy conflict. Second, we do see an association with beliefs about the sources of air pollution and some individual characteristics. For example, more experience of air pollution is associated with a greater belief in vehicle usage being a cause, and a lower belief in agriculture. Individuals with lower education, health problems from pollution, and that own cars also have significantly higher belief that air pollution results from agriculture, but no such difference for vehicle usage.

5.1 Before-After Design

We now turn to estimating the effect of the policy conflict upon individuals' beliefs about the causes of air pollution. Table 2 displays how the effect of this conflict is conditional upon individuals' governmental evaluation. The results lend support to the theory of inferred justification. Even though vehicle usage did not lead to an increase in air pollution in this time period, individuals,

depending on their evaluation of the Delhi government, significantly changed their beliefs about the relevance of vehicle usage for air pollution after the policy conflict. Belief in the importance of vehicle usage as a cause of air pollution is significantly higher post-policy conflict for those individuals with a high evaluation of the government. In contrast, while belief in the importance of agriculture's contribution towards air pollution correctly increases, this is not significantly impacted by an individual's government evaluation.

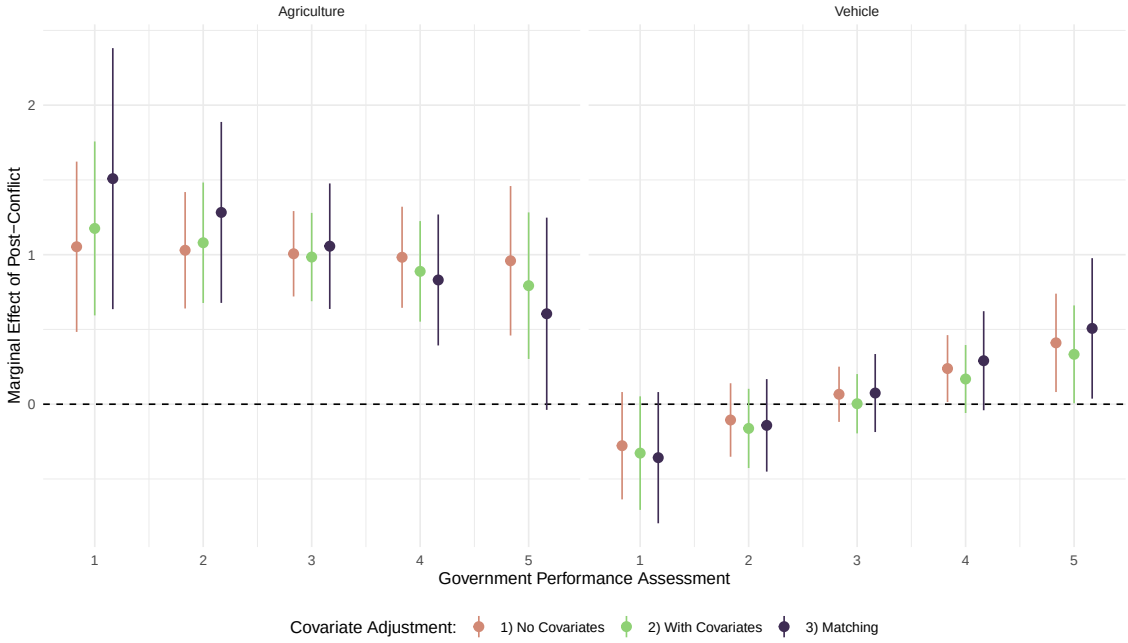

Figure 4: Post-conflict changes in belief about the causes of air pollution vary by individuals' government evaluation. Points indicate the marginal effect of the policy conflict, with lines indicating 95% confidence intervals.

Figure 4 displays how the effect of the policy conflict upon beliefs varies across the range of possible government evaluations. We can see amongst those who have a good evaluation of the Delhi government, belief that vehicle usage is an important cause of air pollution increased significantly. In contrast, belief that

vehicle usage is an important cause of air pollution decreases amongst those who hold a poor opinion of the Delhi government. In terms of magnitude, the average importance of vehicle usage was 8.5 out of a 10 point scale in the baseline wave, meaning that the approximate 1 point difference between the strongest and weakest government supporters has had an impact of around 11% of the scale.

To summarize, the results find that a policy conflict over limiting vehicle usage to reduce air pollution affected individuals' beliefs about the sources of air pollution. In line with the theory of inferred justification, beliefs about the relevance of vehicle usage for air pollution changed dependent on individuals' support for the government. Government supporters put greater importance on vehicles being an important cause of air pollution after the road usage policy was introduced by the government and forbidden by the judicial body. In contrast, those opposing the government decreased their belief in vehicle usage as a cause of air pollution after this event. The public's beliefs about the very causes of problems that policy seeks to address was thus impacted by the policies political actors propose, and individuals' attachments to these actors.

5.2 Disaggregating the Effect of Post-Conflict Waves

As the preceding analysis pools the two post-conflict waves, I now conduct additional analyses disaggregating these waves, to provide some insight on the dynamic impact of the conflict on policy beliefs.

Figure 5 displays the results of doing so.[3] While the results are similar to when

[3]Tables 4 and 5 in the appendix displays the relevant regression tables.

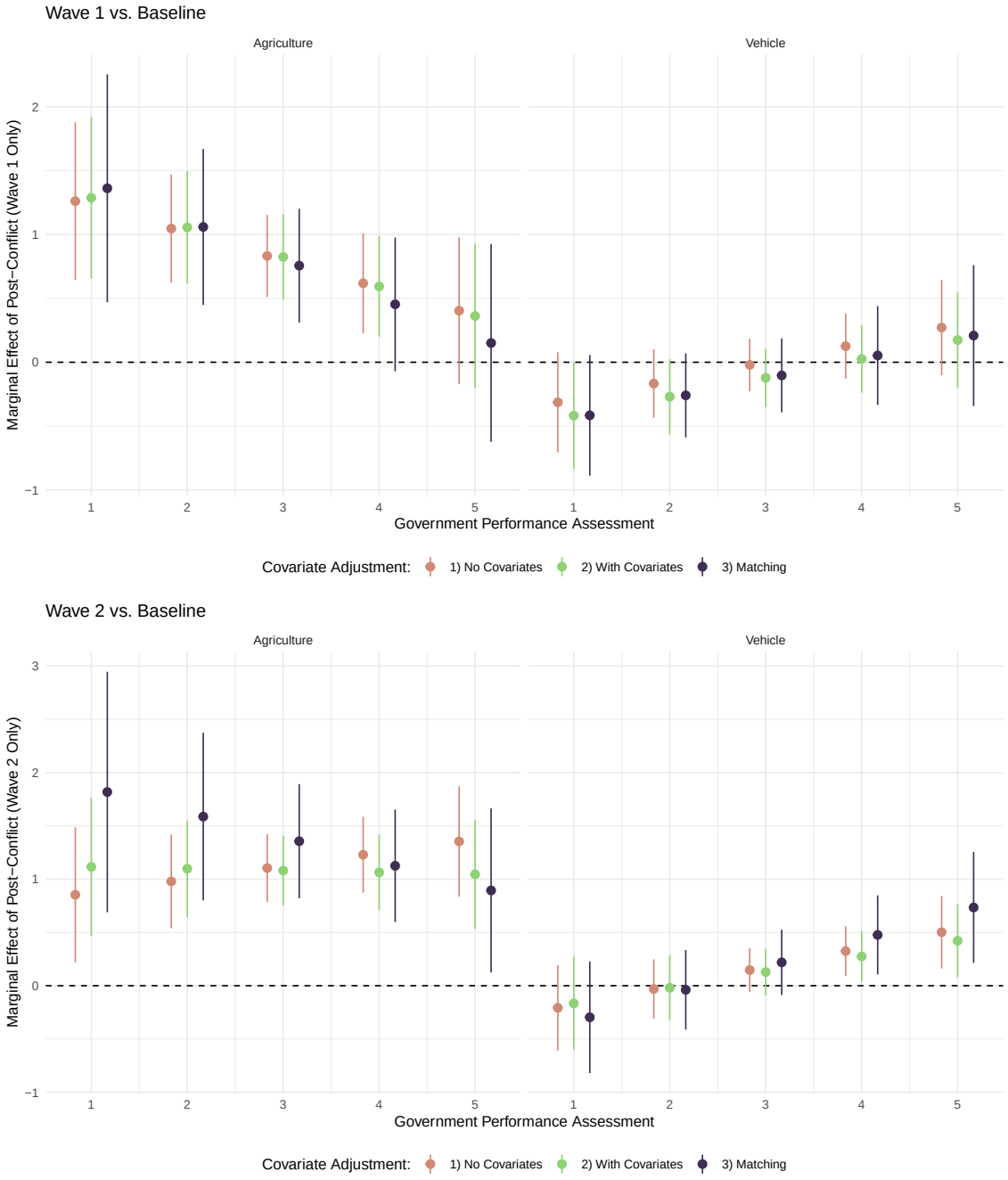

Figure 5: Post-conflict changes in belief about the causes of air pollution vary by individuals' government evaluation. Points indicate the marginal effect of the policy conflict, with lines indicating 95% confidence intervals.

pooling post-conflict waves (Figure 4) some important differences emerge. First, examining only the immediate post-conflict wave (wave 1), we see that there was polarization, in line with inferred justification, for beliefs both about the role of agricultural burning and vehicle usage.[4]. Supporters of the government did not significantly increase their beliefs that agricultural burning led to increased air pollution in the time period (in spite of its actual impact), while opponents did significantly increase their belief. This 1 point difference between groups, given the average importance of argiculture was 6.1 out of 10 point scale in the baseline wave, corresponds to an impact of around 16% of the scale. In contrast, for vehicle usage opponents of the government decreased their belief in its importance in contrast to government supporters. Second, examining the later post-conflict wave (wave2), we see a pattern that is more similar to the main results, whereby there was less of a polarization in terms of the role of agricultural burning while there was a stronger polarization in terms of vehicle usage. This suggests that while the conflict caused an initial polarization by government support regarding the role of agriculture in the first waves, this eventually weakens over time. In contrast, the results suggest that the process of inferring the role of vehicles took longer to crystallize amongst government supporters.

[4]All interactions are statistically significant, apart from the matching analysis for vehicle usage

6 *Conclusion*

A substantial literature in political science suggests that individuals' policy preferences can be shaped by the actions of elite actors and the policies they emphasize and implement. Yet can these actions and interactions have second order effects and actually affect individuals' beliefs about the causes of the problems that policy seeks to address in the first place?

Utilizing an unexpected policy dismissal by a judicial body of the New Delhi government's policy to reduce air pollution by limiting vehicle usage, I am able to identify the effect of policy conflict upon individuals' beliefs about the causes of air pollution. As the government's policy response targeted vehicle usage individuals who approve of the government had a stronger belief that vehicle usage causes air pollution. This in spite of agricultural burning being the primary cause of the spike in air pollution. In contrast, individuals who disapprove of the government decreased their belief that vehicle usage causes air pollution. The results suggest that elite conflict can not only shape individuals' policy preferences, but also their beliefs about the very cause of problems that policy seeks to address.

The results suggest that elite-level polarization over policy can have consequences beyond those typically studied. Future research could thus examine the extent to which this phenomenon occurs in other policy areas and contexts. For example, when responding to financial crises governments can choose between demand versus supply side policies. Conflict between political elites over the use of demand side policies may therefore lead to individuals changing their

beliefs about the cause of the financial crisis at hand. Future research could also examine the extent to which the specific political actors involved, be it political parties, judicial bodies, or independent agencies, may amplify or dampen the effect upon individuals' causal beliefs.

More broadly these findings have consequences for a variety of problems faced globally, where polarization over policy can spillover to fundamental beliefs about the nature of problems. Disagreements around policy responses to Covid-19, climate change, and the Ukraine war, have subsequently led to polarization in the very causes of these problems in the first place. Understanding the ramifications of this polarization both societally and politically, across a variety of societal issues, would help our understanding of the challenges of policy making in polarized times.

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7 Appendix

7.1 Descriptive Statistics

Table 3: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
post	2001	0.75	0.43	0	1	1	1
survey	2001						
... Baseline	500	25%					
... Wave 1	751	38%					
... Wave 2	750	37%					
city	2001						
... New Delhi	2001	100%					
cause_agriculture	2001	6.8	2.8	0	5	9	10
cause_vehicle	2001	8.6	1.8	0	8	10	10
gov_perf	1997	3.1	1.4	1	2	4	5
educ	1995	7.5	1.3	1	8	8	8
female	2001	0.49	0.5	0	0	1	1
income	1925	8.6	2.9	1	7	11	12
age	2001	34	9.7	18	26	40	69
airpoll	2001	4.3	2.2	1	2	6	7
owncar	2001	0.81	0.39	0	1	1	1
housecar	2001	0.67	0.47	0	0	1	1
healthproblem	2001	2.3	0.69	1	2	3	3

7.2 Additional Statistical Analysis

Table 4: The Effect of the Policy Conflict Upon Beliefs (Wave 1 vs. Baseline)

	Agriculture			Vehicles		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Wave 1	1.48***	1.52***	1.66**	−0.46*	−0.57**	−0.57*
	(0.43)	(0.44)	(0.62)	(0.27)	(0.29)	(0.33)
Government Performance	0.38***	0.21*	0.47***	−0.02	0.11	−0.05
	(0.11)	(0.11)	(0.16)	(0.07)	(0.07)	(0.10)
Wave 1 * Gov. Performance	−0.21*	−0.23*	−0.30*	0.15*	0.15*	0.16
	(0.13)	(0.13)	(0.18)	(0.08)	(0.08)	(0.11)
Covariate Adjustment:	No	Yes	Matching	No	Yes	Matching
Num.Obs.	1248	1188	994	1248	1188	994

Robust standard errors in parentheses
* p $<$ 0.1, ** p $<$ 0.05, *** p $<$ 0.005

Table 5: The Effect of the Policy Conflict Upon Beliefs (Wave 2 vs. Baseline)

	Agriculture			Vehicles		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Wave 2	0.73*	1.13**	2.05**	−0.38	−0.31	−0.55
	(0.43)	(0.44)	(0.77)	(0.28)	(0.30)	(0.36)
Government Performance	0.38***	0.09	0.75***	−0.02	0.02	−0.10
	(0.11)	(0.11)	(0.19)	(0.07)	(0.07)	(0.10)
Wave 2 * Gov. Performance	0.13	−0.02	−0.23	0.18**	0.15*	0.26**
	(0.12)	(0.12)	(0.21)	(0.08)	(0.08)	(0.11)
Covariate Adjustment:	No	Yes	Matching	No	Yes	Matching
Num.Obs.	1248	1214	1000	1248	1214	1000

Robust standard errors in parentheses
* p $<$ 0.1, ** p $<$ 0.05, *** p $<$ 0.005