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Institutions, interests, and policy support: Experimental evidence from China

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Abstract

Policy support matters for the success of public policies. It is still unclear how governments can garner support for policies with high costs. Using a conjoint experiment in China, we demonstrate that governments can encourage policy support by offering institutional services and material interests to policy targets. In particular, citizens become more willing to support policies when governments timely disclose policy information and respond to and incorporate their voices in the policy design. Government subsidies in both the short and long runs also increase citizens' policy support. In addition, government transparency and long-run subsidies are complementary to enhancing policy support; the role of institutions is strengthened when citizens are exposed to severe policy problems.

摘要

政策支持对公共政策的成功至关重要。目前尚不清楚政府如何能够在推行具有高昂成本的政策时获得更好的支持。通过在中国进行的联合实验，本研究证明了政府可通过为政策目标群体提供制度服务和物质利益两个方式来增强政策支持。研究发现，当政府及时公开政策信息，并将公众声音纳入政策设计予以回应时，公众会更愿意支持政策。当然，政府的短期和长期补贴也增加了公众政策支持。此外，政府透明度和长期补贴在加强政策支持方面呈现互补的关系，且当严重政策问题摆在公众的面前时，制度服务对政策支持的作用会得到进一步加强。研究启示了发展中国家在衡量财政成本与推行困难政策时如何选择恰当的执行策略。

Wenhui Yang and Jing Zhao contributed equally to this article.

1 | INTRODUCTION

Understanding policy support is vital in public administration. Public opinion is a direct source of policy change in democracies (Page & Shapiro, 1983). Policy makers respond to dynamic public preference over time (Soroka & Wlezien, 2005). Moreover, public support could reduce administrative costs and elevate regulatory efficiency. When governments implement policies, they need the cooperation and support of citizens. Whether or not policy objectives align with policies matters for the quality of policy implementation. Furthermore, knowledge about policy support constitutes a "policy stress test" that helps policymakers anticipate public responses and assess potential oppositions in a later policy cycle, which can improve policy design and implementation (Bernauer et al., 2020; Drews & Van den Bergh, 2016).

Scholars deliberate a series of motivations or barriers of policy support, finding that its sources can be multi-dimensional. For instance, public support of climate policy is sensitive to the distribution of economic benefits and costs across various groups in developed democracies (Bechtel et al., 2019; Dolšak et al., 2020); detailed policy information undermines policy understanding and policy support among US citizens (Porumbescu, Belle, et al., 2017); ancillary measures in a policy-package improve public support in Sweden (Wicki et al., 2020); emotions can predict support for climate change policy in Australia (Wang et al., 2018).

These studies provide valuable insights for us to understand the sources of policy support in developed countries. Motivations or barriers of policy support may vary across different institutional contexts and policy domains. In particular, developing countries have limited formal political resources and weak political accountability, where opinion-policy nexus is constrained and citizens even use noncompliance to resist inappropriate policies or illegitimate authorities (Scott, 1985; Tsai, 2015). Some costly policies also fail to obtain enough public support (Cherry et al., 2012; Pleger et al., 2018). However, only limited work has been done to examine multiple sources of policy support in a uniform framework. How various factors interact with each other to shape policy support is still unknown. It is still unclear how governments can garner support for policies with high costs.

To help fill this gap, this study examines how governments can induce policy support in developing countries. Scholars widely demonstrate that countries with weak institutions adopt quasi-democratic institutions to co-opt opposed forces and solicit cooperation from society (e.g., Gandhi, 2008; Svolik, 2012) and that liberal institutions enhance regime stability and maintain authoritarian rule (Magaloni, 2008; Wright, 2008). Building on these insights, we link liberal institutions with micro-level citizens' policy attitudes, and examine whether institutions are complementary to-or substitutes for-interests in garnering policy support. We argue that developing countries can combine quasi-democratic institutional services and material interests to elicit policy support in the policy design.

To test our arguments, we use a clean energy policy in China as a case. China suffers from serious air pollution, so the central government has adopted various policies to mitigate it. The clean heating renovation policy is a key environmental regulation aiming to replace coal with clean energies in rural households. But it imposes substantial costs on households—a highly appropriate and important setting in which to study above questions. We conducted a conjoint experiment in the field involving 1264 rural households in 193 villages in Northern China. This clean energy policy was to be implemented in these villages. We surveyed villagers' willingness to support the policy before it was implemented. This survey experiment in the field helps reduce concerns over realism that often pertain to survey experiments that pose purely hypothetical treatments.

Our results demonstrate that citizens become more likely to support policies when governments timely disclose policy information and respond to and incorporate their voices in the policy design. Government subsidies in both the short and long runs increase citizens' policy support despite high economic costs. In addition, we show that only government transparency and long-term subsidies are complementary to enhancing public support. The role of institutions is strengthened when citizens are exposed to severe policy problems. This study depicts a nuanced role of material interests. We show that government compensations directly improve policy support. Yet material interests have some limitations in garnering policy support. When policy problems are severe, citizens demand more information disclosure and political representation rather than economic interests in exchange for policy support.

2 | INSTITUTIONS, INTERESTS, AND POLICY SUPPORT

2.1 | Institutions and policy support

We capture liberal institutions with two key institutions: government transparency and political representation. Citizens in developing countries have inadequate policy information to evaluate policy programs and government performance. Government transparency may increase their policy support. In addition, citizens have limited institutional channels to voice their preferences. Political representation can enhance citizens' policy support through perceived procedural justice and better policy-making. The following sections illustrate these arguments in detail.

2.1.1 | Government transparency

Government transparency is an important source of policy support. By definition, transparency is the availability and accessibility of information about an organization's functions, decision-making processes, policy contents, and performance (Gerring & Thacker, 2004; Grimmelikhuijsen & Welch, 2012).[1]

Empirical evidence of the link between government transparency and policy support remains mixed. On one hand, transparency is widely considered a valid institution to improve policy support. Government transparency allows citizens to obtain more policy information and gain a better understanding of government behaviors. Expansive transparency thus promotes policy understanding and bolsters policy support (Etzioni, 2010; Porumbescu, Lindeman, et al., 2017). In addition, transparency fosters political accountability and policy responsiveness (Porumbescu, 2015) and increases trust in government (Porumbescu, Belle, et al., 2017), making citizens perhaps more willing to cooperate with governments on policy implementation.

On the other hand, transparency may lead to information overload and reduce policy support. Transparency allows citizens to obtain more contents and details on public policy, yet it may fuel information overload and produce policy confusion (Fung et al., 2007). The rising complexity of policy contents increases the mental burdens of processing and understanding information (Pollock et al., 2002). In fact, exposure to detailed policy information can undermine policy understanding in citizens (O'neill, 2002; Porumbescu, Belle, et al., 2017), lowering their perceptions of government competence (Grimmelikhuijsen et al., 2013). They may distrust governments and become less likely to support government policies (e.g., Porumbescu, Belle, et al., 2017; Rudolph, 2009). As a result, transparency may undermine policy support through information overload.

These mixed results may be the result of distinct institutional contexts. The outcomes of transparency vary across administrative contexts (Cucciniello et al., 2017). The majority of studies have focused on developed democracies like the United States (Porumbescu, Belle, et al., 2017) and England (Worthy et al., 2016). Democracies have greater transparency, and governments are more likely to release policy-related data (Hollyer et al., 2011). Citizens then have adequate information to evaluate the performance of governments and to make informed decisions of their own (Harrison & Sayogo, 2014), but they may also be overloaded with policy information, leading to policy confusion (Fung et al., 2007).

In contrast, developing countries tend to have weak government transparency. Widespread secrecy is a typical characteristic of authoritarian rule, so citizens in nondemocracies have inadequate policy information. Free-flow information can expose flawed government policies and provoke the public critique of government performance, which may weaken political legitimacy and threaten social stability (Baekkeskov & Rubin, 2017). Governments strategically censor information to reduce social unrest (King et al., 2013) or fabricate information to distract public attention and reduce skepticism (King et al., 2017). Policy information may be neither reliable nor complete, and the paucity of transparency may motivate citizens to demand more policy information in exchange for policy support.

We argue that information disclosure in developing countries may have a facilitation effect on policy support. The results may be driven by several possible channels. First, information disclosure may allow citizens to avoid

negative impacts of policy problems. For instance, scholars demonstrate that the disclosure of pollution information can reduce the mortality impact of air pollution and increase citizens' happiness (Wang et al., 2021). Citizens may have lower level of anxiety and take actions to avoid negative consequences of policy problems when more policy information is available. As a result, they may be more willing to support policies with more information.

Second, information disclosure can reduce policy uncertainties perceived by citizens. Opaque decision-making and the lack of policy information may engender considerable policy uncertainties about whether government policies will change or what policy contents are. Adequate information is essential for individuals to make optimal policy choices (Jones & Baumgartner, 2005a). Information disclosure may allow citizens to have an institutional channel to obtain relevant policy information and help citizens form stable expectations about the implementation of policies. They may be more willing to support policies and cooperate with governments on policy implementation.

Third, information disclosure provides an institutional channel for citizens to monitor government performance. The availability of information can empower citizens to monitor local government behaviors (da Cruz & Marques, 2014) and increase accountability of governments (Pina et al., 2007). It allows citizens to timely monitor whether government officials meet their responsibilities and whether their demands have been met. Citizens may be more likely to support policies with timely information disclosure.

Taking together, we may expect that information disclosure increases citizens' willingness to support policies. Information disclosure may allow citizens to avoid negative consequences of policy problems, reduce perceived policy uncertainties, and monitor government performances. It signals the credibility of government policies and involves citizens in the policy process. As a result, citizens are more willing to support policies with information disclosure.

2.1.2 | Political representation

Political representation is another important institutional attribute to shape policy support. With broad meanings in various contexts, political representation in this study refers to institutional channels through which citizens can express their interests, and their demands can be respected or incorporated into policy contents.

Political representation is inherently weak in developing countries. Take rural China as an example, where electoral institutions have been in place in nearly all Chinese villages since 1998; nevertheless, rural residents still have limited formal institutional channels to express their policy attitudes and further their interests. They rely on collective resistances like petitions or informal institutions like linkage groups to keep local officials accountable (O'brien & Li, 2006; Tsai, 2007).

Political representation increasingly appears in developing countries. Despite formal representative institutions like elections, developing countries increasingly introduce vital components of political representation like constituency services to deal with problems raised by citizens or to respond to their demands (Chen et al., 2016; Distelhorst, 2017; Meng et al., 2017). More than merely "window dressing," these institutions enable authoritarian rulers to identify public discontent and mitigate social grievances before an explosion; yet whether and how components of political representation shape policy support in developing countries remain unknown.

In this study, we argue that citizens may be more willing to support policies when they can voice policy preferences and when governments respect and respond to their policy demands. The positive role of political representation in policy support may be driven by procedural fairness and better decision-making.

First, political representation can enhance policy support through perceived procedural fairness. Citizens may evaluate governments on the basis of the perceived fairness of decision-making processes (Lind & Tyler, 1988; Tyler et al., 1985). They are more likely to support governments when they perceive them as conforming to fair decision-making procedures (Whiting, 2017). In particular, when citizens can express their demands in decision making, they are more likely to perceive procedural fairness, despite whether or not they agree with policy outcomes (Hibbing & Theiss-Morse, 2002). Procedural fairness and the effectiveness of governments improve the legitimacy of

governments (Levi & Sacks, 2009); consequently, citizens may be more willing to support policies when they can voice their policy preferences.

Moreover, political representation can induce policy support through better decision-making. Ayres and Braithwaite (1992) propose "responsive regulation," which involves attempts to induce cooperation between regulators and regulatees. Political representation may facilitate government responsiveness and enhance cooperation. It makes officials more accountable to citizens and less willing to conduct unpopular centrally mandated policies (Martinez-Bravo et al., Forthcoming). Officials may also become more receptive and willing to incorporate into decision-making processes the voices of citizens (Meng et al., 2017), whose discontent and policy feedback can be used for governments to adjust policy content and improve the quality of policy making.

Citizens may expect that their voices can be heard and that their interests will be respected in policy making. Political representation may reduce their perceived policy uncertainties and risks for controversial policies and may foster stable expectations that policy making will be congruent with their interests. Hence, citizens are more likely to support policies and cooperate with governments on policy implementation.

2.2 | Interests and policy support

Another avenue of policy support entails policy interests. Economic well-being is a mainstay of policy preference (Becker, 1978), central to understanding policy support. Scholars debating the role of material interests in policy support. On one hand, political actors make rational choices and maximize self-interested preferences (Tsebelis, 1990). Citizens are more willing to support policies when they perceive more private benefits. For instance, financial constraints shape the enforcement of environmental regulation (Sun et al., 2019), and interests improve the support of climate policies (Bechtel et al., 2019). Insurance and transfers from governments increase the public support for trade liberalization (Hays et al., 2005). Economic benefits and environmental costs shape the acceptance of clean energies (Guo et al., 2015).

Citizens are not, however, fully driven by their own self-interests. Individuals have cognitive limitations and biases (Rachlinski & Farina, 2001). Bounded rationality constrains the selection of optimal policy choices (Jones, 2001). Furthermore, individuals may be willing to sacrifice personal gains for the sake of fairness (Fehr & Schmidt, 1999). They may care about both their own interests and the welfare of others (Lü & Scheve, 2016). Negative historical violence may offset the positive effect of policy benefits (Yang & Shen, 2021). Thus, the consequence of interests in policy support may be inconclusive.

These mixed results can be explained by different institutional contexts. Citizens may be more sensitive to economic benefits in developing countries. Material interests tend to overshadow political institutions among ordinary citizens, especially for the poor in developing countries (Kao et al., 2021). Citizens have low income and are sensitive to policy costs. They may lack adequate resources to comply policies. So they may condition their support for a policy on the financial burden it entails and are less likely to comply with policies with high costs (Bechtel et al., 2019; Winter & May, 2001).

We argue that governments can provide subsidies to increase policy support in developing countries. Government subsidy is an important capacity-building policy tool to increase individuals' willingness to support policies (Schneider & Ingram, 1990). It can reduce policy costs, empower individuals, and alter their policy attitudes and behaviors. A burgeoning literature demonstrates the importance of government subsidies in various contexts. For instance, government subsidies can promote the development of charitable and nonprofit sectors (Ni & Zhan, 2017), alleviate the negative impacts of mortgage-related household eviction (Haber, 2015), guide social enterprises toward social outcomes rather than economic profits (Choi et al., 2020), and make health insurance more affordable (Kettl, 2015). However, few studies directly examine the causal effects of government subsidies on citizens' policy support.

To fill in this gap, this study estimates the causal effect of government subsidies in the implementation of the clean heating renovation policy. In particular, installing clean energy equipment and using clean energy entail high financial burdens for rural residents, whose incomes are below the national average. Policy costs account for a high proportion of their household incomes. The problem is exacerbated by the free-rider problem, in which clean heating energy policy reduces air pollution and benefits a wide range of citizens in both urban and rural regions. Yet rural residents disproportionately bear the most of policy costs.

Government subsidies can reduce the policy burden of individuals and increase citizens' willingness to support policies. Citizens may expect that the costs of policies outweigh benefits, and have weak motivations to cooperate with governments in policy implementation. Government subsidies can reduce policy costs and alter citizens' policy attitudes. They may bear lower policy burdens and have a higher likelihood to work with government. Thus, we expect that government subsidies may increase citizens' policy support.

3 | EMPIRICAL DESIGN

3.1 | Case selection

This study intends to examine multiple sources of policy support. In particular, despite imperfections in its economic and political system, China has been the most rapidly growing country for more than three decades (Acemoglu et al., 2012), has managed to achieve economic development under comparatively weak political institutions (Oi, 1999; Tsai, 2011), and becomes more institutionalized since 1978 (Gehlbach & Keefer, 2011). Local governments in China exhibit a high level of responsiveness to local demands (Distelhorst, 2017). China may provide a unique case for us to understand sources of policy support.

We employ the clean heating renovation policy in China as a policy case. China suffers from serious air pollution; in fact, emissions from the burning of coal for heating homes in Northern China have led to widespread air pollution. To mitigate it, China has instituted large-scale environmental regulations against air pollution, a key part of which is the clean heating renovation policy. This policy was initiated by the Chinese central government in 2017. In the policy design, coal would be replaced by clean energies like natural gas or electricity in winter heating systems for 70% of households (nearly all rural residents) in Northern China. In Section B.1 in Supporting Information, we explain obstacles of implementing the policy in detail.

3.2 | Experimental design

In this study, we explore how to overcome these obstacles and increase policy support. We employ a conjoint experimental design to examine the effects of institutions and interests on policy support. A conjoint experiment has several advantages. Respondents are asked to evaluate and choose paired hypothetical policy profiles with multiple attributes, enabling scholars to evaluate the causal effects of these attributes simultaneously (Hainmueller et al., 2014). It is proper to examine citizens' attitude toward hypothetical policy designs. A conjoint experiment resembles a real-world decision-making process, and all key decision-making components are fully randomized and independent of a series of observed and unobserved covariants (Jilke & Van Ryzin, 2017). Moreover, a conjoint experiment reduces the social desirability bias of respondents, who may misreport attitudes on socially sensitive topics (Horiuchi et al., 2021).

We use citizens' policy willingness to select certain clean energy policy profiles and their support level of policy profiles to capture policy support. Our respondents were potential policy targets. The policy was about to be implemented after our survey. Respondents' support level of policies reflects their willingness to cooperate with governments and comply with the policy. Citizens were widely informed on the incoming policy implementation. Their willingness to work with governments matters for the policy outcomes.

Citizens' policy support is rooted in multiple institutional and individual attributes. They may impose severe self-censorship when asked to reveal their authentic opinions on related political issues in China (Shen & Truex, 2021). A conjoint experiment can overcome these problems, allowing us to evaluate the causal effects of multiple attributes on policy support in a uniform framework.

In the experiment, respondents were presented with two clean energy policy profiles, each of which includes five attributes randomly and independently varied. Figure A1 shows an example profile and Figure A2 presents the original example profile in Chinese. Each respondent was asked to finish two rounds of conjoint experiments.

To reduce cognitive burden and minimize primary effect of respondents, the order of the five attributes was randomly assigned across different respondents and the order was fixed across two tasks for the same respondent.

Table 1 presents the five attributes and related options. We use two attributes to identify the role of institutions: transparency and political presentation. To measure interests, we employ hypothesized government subsidies for usage and for installing equipment. We use paces of enforcement to capture types of policy implementation.

The first attribute captures the institutional importance of transparency. The availability and accessibility of policy information constitute an important form of government transparency (Grimmelikhuijsen & Welch, 2012; Hollyer et al., 2015). We thus use policy information disclosure to proxy transparency. Local villages play a vital role in the implementation of clean energy policy. Leaders of village committees are agents of local governments to implement policies from above. To render the realness of information disclosure, we use the following text: *The village committee discloses in a timely manner information about the clean heating renovation policy*. To facilitate interpretation, we add a bracket below the text, explaining that policy information refers to information about government subsidies, virtues and drawbacks of various policy schemes, and equipment providers.

The second attribute identifies the institutional importance of political representation. Dealing with problems raised by citizens, responding to citizens' demands, and citizens' participating in decision making are important components of political representation (Chen et al., 2016; Distelhorst, 2017; Mosley & Grogan, 2013). In the context of China, nearly all villages have adopted electoral institutions, yet rural residents still have limited institutional channels to express their concerns and interests in policy decision-making. To capture institutional variation in policy presentation, we use the following text in the conjoint experiment: *During the policy-making involving clean heating*

TABLE 1 Attributes and values in conjoint experiment

Attributes	Values
Information disclosure	Yes
	No
Political representation	Yes
	No
Policy implementation	Rapid implementation
	Gradual implementation
Installing subsidy	2000
	3000
	5000
	7000
	10,000
Use subsidy	0
	1000
	2000
	3000

Note: The unit of installing subsidy and use subsidy is yuan. One yuan is equal to around 0.15 US dollar.

renovation policy, villagers' opinions are fully expressed and respected by local governments. To facilitate interpretation, we added a note below the text in the survey, explaining that villagers can express policy opinions to governments and village committees and that governments respect and discuss villagers' opinions.

To evaluate the importance of interests in policy support, we rely on government subsidies in two policy stages. The adoption of clean energy policy requires rural residents to install costly natural gas or electric heating equipment. It is a one-off cost, varying with types and suppliers of clean heating equipment. Second, when residents use clean energy, each winter they need to bear the cost of natural gas or electrify, which are more expensive than coal. In rural China, citizens earn comparatively low wages; thus high policy costs of clean energy may reduce their willingness to support this policy. Government subsidies can reduce of cost of adopting and using clean energy policy. Before the implementation of clean energy policy, local governments promised to provide certain amounts of subsidies.

In particular, we use two types of government subsidies to capture short- and long-term interests. Before the survey, we conducted several interviews and collected policy information on actual amounts of government subsidies in different regions. To render the realness of government subsidies, we selected several commonly adopted government subsidies in this experiment. Specifically, the government subsidy for installing equipment is used to proxy short-term interest, which varies from 2000 yuan to 10,000 yuan.[2] The annual government subsidy for usage captures the long-term interest, varying from zero to 3000 yuan.

Finally, we use the fifth attribute to capture types of policy implementation. Local officials' enforcement styles could shape policy support (May & Wood, 2003). In the context of China, governments increasingly use "blunt force" regulations to deal with environmental problems (Liu et al., 2015; Van der Kamp, 2021). Local governments reduce the number of policy procedures and aggressively implement policies in responding to severe political pressure from above (Xue & Zhao, 2020). The style of policy implementation may be vital for policy support. Thus, we use the pace of policy implementation to capture its types. Rapid implementation is close to campaign-style policy implementation, and gradual policy implementation may allow citizens to have more time to make decisions and express their interests.

After reading about the two proposed policy profiles, respondents were asked to choose one preferred policy profile and rate the support level of each. The "choice" variable is a dummy variable, capturing whether respondents are willing to select a specific policy profile. The "rating" variable is a five-scale discrete variable, capturing the support level of each policy profile and ranging from "strong unwillingness" to "strong willingness." The "forced choice" design enables us to evaluate the comparative importance of various attributes in the support of clean energy policy. Each respondent was asked to complete two rounds of conjoint experiments.

3.3 | Data collection

We conducted the conjoint experiment in 193 villages of 12 counties in a prefectural-level city in Northern China. Section B.2 in the Supporting Information explains our rationale for selecting this city. The conjoint experiment was conducted from February 15 to 21, 2019, when we successfully surveyed 1264 rural households. The clean heating renovation policy was to be implemented during the summer of 2019 in these villages. We surveyed their preferences on the policy before it was implemented. Section B.3 in the Supporting Information introduces detailed data collection procedures. Table A1 summarizes characteristics of respondents.

4 | EMPIRICAL RESULTS

4.1 | Effects of institutions and interests on policy support

A conjoint analysis nonparametrically captures the average marginal component effect (AMCE) for each attribute on the chance of a policy profile being chosen, and a linear regression can generate non-parametric estimation of AMCE

(Hainmueller et al., 2014). We thus use an ordinary least squares (OLS) regression to estimate AMCE, which represents the marginal effect of the attribute averaged on the probability that one profile will be selected. Section B.4 in the Supporting Information shows the model for analysis.

Figure 1 shows the baseline results including all the respondents. The left figure presents results using dichotomous outcome variable, the right figure indicates results using support level of policy profiles as the outcome variable. Both figures depict similar results.

We focus on interpreting the left figure. The dots are point estimates, indicating the AMCE of treatments, revealing that both information disclosure and political representation significantly increase citizens' willingness to support clean energy policy at 1% level. The estimated coefficient of information disclosure is 0.079, which indicates that information disclosure increases individuals' willingness to support the clean energy policy by 7.9%. Similarly, political representation elevates individuals' willingness to support the clean energy policy by 5.6%. Information disclosure has a larger facilitation effect than political representation on policy support.

Furthermore, Figure 1 demonstrates that government subsidies have a positive and significant impact on support of clean energy policy. Compared with the reference group (2000 yuan), the positive effects of installing subsidies on policy support increase as the size of subsidies expands. The largest point estimation is 32.8% when the installing subsidy reaches 10,000 yuan; moreover, respondents are more likely to select a policy profile with higher level of usage subsidies. Compared with no subsidy, offering a usage subsidy of 1000 yuan increases policy support by 13.9%; a use subsidy of 2000 yuan increases support by 21.3%; and a usage subsidy of 3000 yuan increases
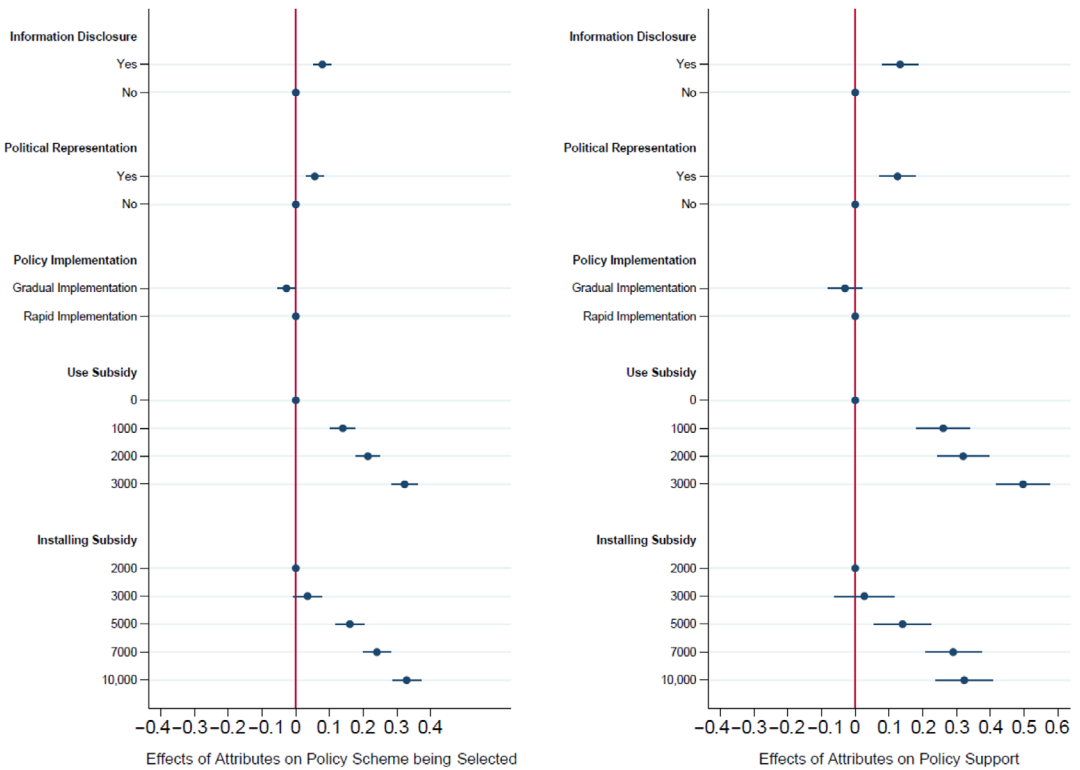

FIGURE 1 Conjoint experiment baseline results. This figure indicates baseline conjoint estimates. The bars are under 95% confidence intervals. Column (1) in Table A2 shows the full estimation results for the left figure. Column (2) in Table A2 shows the full estimation results for the right figure. All results are based on the ordinary least squares method with clustered standard errors at respondents level. Those points without bars indicate the reference group for each attribute. [Color figure can be viewed at wileyonlinelibrary.com]

policy support by 32.2%. These results reveal that rural residents are more willing to support the clean energy policy when governments provide higher subsidies.

Overall, we find strong evidence that both material compensation and institutional influence enhance support of the clean energy policy. Citizens increase their support of clean energy when governments timely disclose policy information and respect their opinions in policy decision-making. Rural residents need to bear the high cost of adopting clean energy, which constitutes a main obstacle for their willingness to use clean energy. Government subsidies can reduce their costs of using clean energy and improve policy support.

Furthermore, we use an alternative outcome variable as a robustness check. We use a 5-point discrete rating scale to capture individuals' policy support. Column (2) in Table A2 show estimated results. The results are consistent. In addition, Section D.2 in the Supporting Information shows that the results meet the two main assumptions of stability and no carryover effects.

4.2 | Interaction effects between institutions and interests

Are institutions complementary to-or substitutes for-interests in garnering policy support? We demonstrate that both institutions and interests improve citizens' support of clean heating energy policy, yet whether the role of institutions in policy support is strengthened or weakened under high policy interests remains unclear. To test the interaction effects of institutions and interests on policy support, we use the amount of government subsidies to interact with institutional attributes.

Figure 2 depicts estimated coefficients of interaction terms. Table A4 presents full estimation results, showing that the interaction of information disclosure and usage subsidy is positive and significant at 5% level. However, political representation has no salient impact on policy support when governments provide more installing or usage subsidies. Similarly, transparency has no significant effect on policy support when installing subsidies are higher.

As a robustness check, we furthermore present subgroup analysis under different institutional attributes in Figure A5. Table A5 shows full estimation results. The subgroup analysis shows non-differentiated estimates. The left figure demonstrates that the higher level of usage subsidies has a larger effect on policy support when governments disclose information, but this pattern does not exist for political representation in the right figure.

In sum, the interaction analysis reveals the heterogeneous interaction effects of institutions and interests. Only the interaction of transparency and usage subsidies has a positive and significant effect on policy support. Other interaction terms of institutions and interests have no significant effect. The results suggest that the effects of usage subsidies on policy support are strengthened when local governments timely disclose policy information. North and Weingast (1989) argue that one of the key functions of political institutions is, in fact, to reduce uncertainties by establishing a stable structure for interaction. More government transparency could reduce citizens' uncertainty and doubts about policy implementation, enabling them to form stable expectations about the adoption of policies. The usage subsidy captures long-term interests. Citizens care more about stable policy expectations and long-term interests in exchange for policy support.

4.3 | Moderator of institutions and interests

What are possible moderators of institutions and interests in policy support? We illustrate the direct facilitation effects of institutions and interests on policy support, yet in general and direct explanations the heterogeneous aspect of contexts may be neglected and result in oversimplified conclusions. We have little knowledge of conditions under which institutions and interests can promote policy support.

First, we treat exposure to policy problems as a key moderator because individuals have cognitive bias and make judgments based on well-established beliefs and informational shortcuts (Cairney et al., 2016), and because they
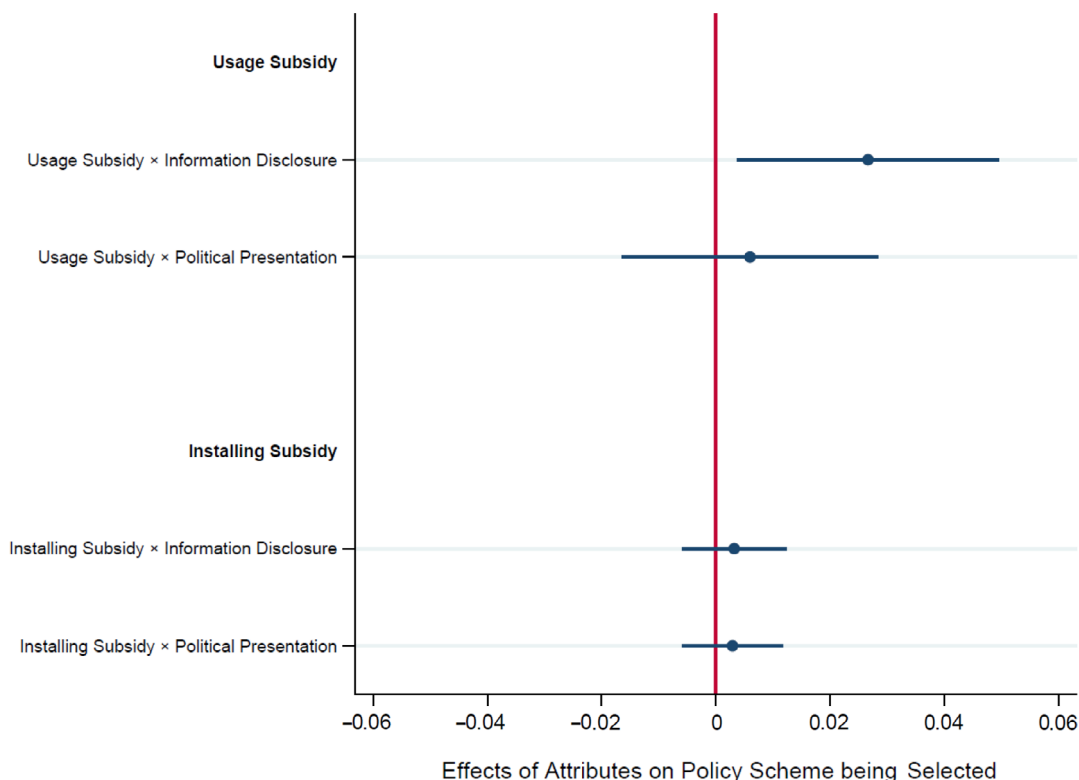
FIGURE 2 The interaction of institutions and interests. This figure indicates the interaction effects of institutions and interests. The bars are under 95% confidence intervals. Column (1) in Table A4 shows the full estimation results. All results are based on the ordinary least squares method with clustered standard errors at respondents level. [Color figure can be viewed at wileyonlinelibrary.com]

may not realize the severity and negative externalities of policy problems. Some prior process through which problems are detected and prioritized is essential (Jones & Baumgartner, 2005b).

Exposure to policy problems can make issues salient to citizens and increase their recognition of policy problems. When citizens directly perceive welfare loss because of policy problems, they are more willing to accept policy solutions. For example, the negative externalities of inequality motivate the rich to support redistribution policy (Rueda & Stegmueller, 2016), and sudden influxes of immigrants draw opposition to immigration policy (Hopkins, 2010). The facilitation effects of institutions and interests may be enhanced when citizens perceive the severity of policy problems.

Empirically, we employ exposure to air pollution to capture exposure to policy problems. The clean energy policy is designed to reduce air pollution. Exposure to air pollution can raise awareness in local residents of environmental challenges (Egan & Mullin, 2012) and change their policy preferences on environmental policies (e.g., Gerber & Neeley, 2005). Exposure to severe air pollution may increase the recognition of policy problems in citizens, who may then be more willing to cooperate with governments in dealing with air pollution.

We use a quasi-natural experiment to capture exposure to air pollution. During our survey (February 18, 2019), local government issued an orange air pollution alert, the second highest level, via radio, television, phone, and the Internet. Local residents were widely informed about the severity of the air pollution. The level of air pollution during the first 2 days (February 15 and 16) was evidently different from the level of air pollution in the last 2 days (February 19 and 20), the substantial difference constituting a quasi-natural experiment that allows us to isolate the perception of air pollution and investigate the conditional effects of exposure to it. Figure 3 depicts daily air quality
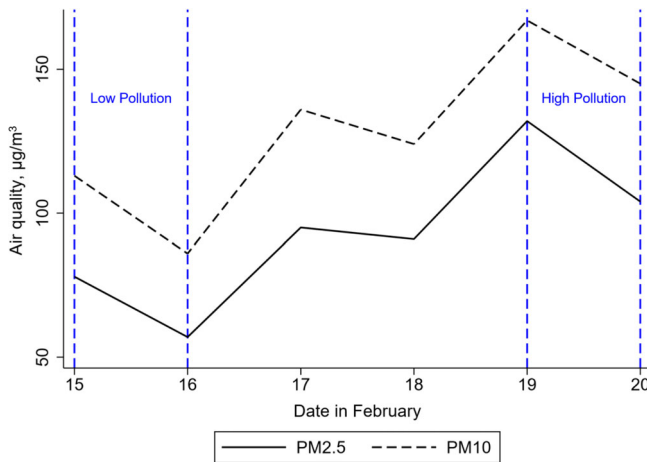
FIGURE 3 Air quality in local areas during the survey [Color figure can be viewed at wileyonlinelibrary.com]
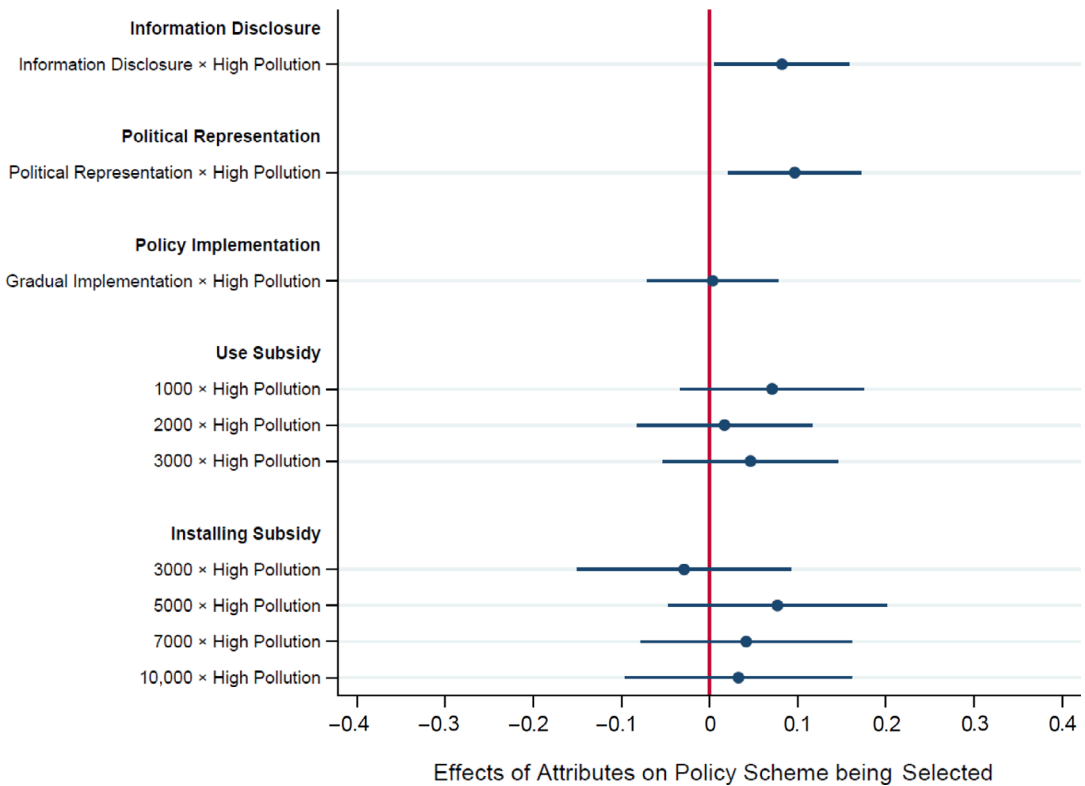

FIGURE 4 The conditional effect of severe air pollution. This figure indicates the differences in estimates between high pollution and low pollution groups. The bars are under 95% confidence intervals. Column (1) in Table A6 shows the full estimation results. All results are based on the ordinary least squares method with clustered standard errors at respondents level. [Color figure can be viewed at wileyonlinelibrary.com]

in the city during our survey. During the first 2 days of the survey (February 15 and 16), the average PM 2.5 was 67.5 μg/m³, but it increased by 74.81% during the last 2 days of the survey (February 19 and 20). Similarly, the average PM 10 in the final 2 days was 56.78% higher than that in the first 2 days.

Thus, we divide our respondents into two groups. High pollution group refers to respondents surveyed on February 19 and 20. low pollution group refers to respondents surveyed on February 15 and 16. Respondents in the two groups were exposed to different levels of air pollution. Figure 4 shows the estimated coefficients of interaction terms of exposure to high air pollution and all attributes in the conjoint experiment. Table A6 presents full regression results. The results demonstrate that the interaction term of information disclosure and high air pollution is positive and significant. Similarly, the interaction term of political representation and high pollution has a positive and significant effect on policy support. However, the interaction terms of interest attributes and high air pollution are not significant across different levels and types of government subsidies. As a robustness check, we present subgroup analysis for high pollution and low pollution groups in Figure A6. When respondents perceive a higher level of air pollution, the estimated effects of transparency and political representation are significantly larger.

Overall, these results suggest that institutional attributes have a larger facilitation effect on policy support when citizens are exposed to severe policy problems, yet the effect does not exist for interests attributes. Citizens may be more willing to cooperate with governments to deal with air pollution when they perceive higher levels of it. After exposure to severe policy problems, more information disclosure and representation rather than government subsidies increase the support of clean energy policy.

Furthermore, the consequences of public subsidy on policy support may be conditional on individuals' income. Low-income families may be more likely to benefit from government subsidies and elevate their support level. Section D.5 in the Supporting Information shows that government subsidies for installing clean energy equipment have larger facilitation effect for households with high-income uncertainties. Rural residents may care more about government subsidies when their income is unstable.

5 | CONCLUSION

We demonstrate that both formal institutions and interests have salient consequences on policy support in China. Government information disclosure and political representation are important institutional sources of policy support. Both short- and long-run government subsidies can mitigate the costs of clean energies and increase policy support. We demonstrate that only government transparency and long-term interests are complementary to policy support and that other interactions of institutions and interests have no evident impact. The role of institutions is also conditional on citizens' exposure to policy problems.

Our results highlight the importance of formal institutions in eliciting policy support. First, it is well documented that informal institutions could enhance citizen compliance and promote political accountability in nondemocracies (Tsai, 2007). Yet informal institutions may lead to elite capture and cannot replace formal institutions (Mattingly, 2016). This study shows that formal institutions play a critical role in eliciting policy support in policy implementation. Second, although we demonstrate that government compensations can facilitate policy support, government is always constrained by a limited budget and may be reluctant to provide adequate subsidies to mitigate policy costs. Government compensation may incur corruption and appropriation. It is unsure whether governments can fairly allocate compensations to citizens. Instead, establishing formal institutional services like transparency and responsiveness in the policy design evidently promotes policy support. In particular, government transparency is complementary to government subsidies. Developing countries may combine government subsidies and institutions of transparency in the implementation of policies, which can relieve fiscal pressures and prevent potential corruption.

This article, however, has some limitations. We adopted a survey experiment conducted in one prefecture to estimate the causal effects of institutions and interests on policy support. Our results provide evidence of the role of institutions and interests in China. More studies are essential to verify the results in different countries. The survey experiment has an advantage in estimating causal effect, yet it has limited external validity, constraining the generalization of conclusions. We should be cautious in applying the results in a wide range of contexts.

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ENDNOTES

[1] In this study, we use "transparency" and "information disclosure" interchangeably.

[2] One yuan is about US$0.15.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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