

Public Attitudes Towards Environmental Taxation

The Interplay Between Values, Trust, and Quality of Government

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GOTHENBURG

DEPARTMENT OF POLITICAL SCIENCE

To my grandparents

Abstract

Environmental problems are commonly understood to be rooted in collective action dilemmas where the rational course of action for individuals is to engage in polluting activities to receive short-term benefits, while the long-term costs of those activities are borne by the collective. Voluntary cooperation to solve large-scale collective action problems such as climate change is unlikely. Thus, state intervention is needed to enforce cooperation through implementation of various climate policy instruments. These tools are more likely to be successfully and effectively implemented if they are supported by citizens. Policy experts argue that environmental taxation is the most effective way to mitigate climate change; however, public support is lacking. This thesis investigates whether the institutional context, specifically perceptions of low quality of government, moderates the link between individuals' pro-environmental and political-ideological value orientations and climate policy attitudes. Analyzing cross-sectional and original survey experimental data, the thesis examines if quality of government (QoG) shapes the climate policy attitudes of citizens, and via what mechanisms. The analyses show that perceptions of poor institutional quality lower trust in political actors and institutions, and generate negative policy attitudes even among those who otherwise hold pro-environmental values and concerns and favorable attitudes towards government regulation. The thesis contributes to a better understanding of the determinants of public policy attitudes and more informed recommendations for policymakers, and will hopefully inspire further research on how institutional factors affect the prospects for effective climate policy.

Sammanfattning på svenska

Miljöproblem uppfattas vanligtvis ha sina rötter i så kallade kollektiva handlingsdilemman där det rationella handlings sättet för individer är att engagera sig i förorenande aktiviteter för att åtnjuta kortsiktiga fördelar, medan de långsiktiga kostnaderna av dessa aktiviteter bärs av kollektivet. Frivilligt samarbete för att lösa storskaliga kollektivt handlande problem såsom klimatförändringar är osannolikt. Därmed behövs statlig reglering för att säkerställa samarbete genom implementeringen av olika klimatpolitiska styrmedel. Framgångsrik och effektiv implementering av dessa styrmedel är mer sannolik om de stöds av medborgarna. Experter menar att miljöbeskattning är det mest effektiva sättet att minska klimatförändringar, men saknar allmänhetens stöd. Denna avhandling undersöker huruvida den institutionella kontexten, specifikt uppfattningar om samhällsstyrningens kvalitet, modererar länken mellan individers miljövänliga och politisk-ideologiska värdeorienteringar och deras attityder till klimatpolitiska styrmedel. Genom analyser av tvärsnittsdata och unika data från enkätexperiment, undersöker avhandlingen om samhällsstyrningens kvalitet formar medborgares attityder till klimatpolitiska styrmedel och via vilka mekanismer. Analyserna visar att uppfattningar om låg kvalitet på samhällsstyrning minskar tilliten till politiska aktörer och institutioner, och genererar negativa attityder till klimatskatter även bland dem som annars har miljövänliga värderingar och attityder och är välvilligt inställda till statlig reglering. Avhandlingen bidrar till en bättre förståelse för förklaringsfaktorer till allmänhetens attityder till styrmedel och mer informerade rekommendationer till beslutsfattare, och kommer förhoppningsvis att inspirera till ytterligare forskning om hur institutionella faktorer påverkar utsikterna för en effektiv klimatpolitik.

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1

Introduction

In December 2015, the first universal legally binding international treaty on climate change – the Paris Agreement – was negotiated and adopted within the United Nations Framework Convention on Climate Change (UNFCCC). It is currently signed and ratified by 194 parties including the EU. In this agreement, governments across the world agreed to pursue efforts to limit global warming to well below 2°C, preferably to 1.5°C above pre-industrial levels (European Commission, 2022; UNFCCC, 2022). A global temperature rise above this level would significantly intensify the forecasted impacts of climate change, with greater risks of extreme weather events such as heavy rainfall, floods, droughts, heat waves, fires, and storms (IPCC, 2022). At present, it is unclear how the climate change mitigation targets set out in the Paris Agreement are going to be met. Without more ambitious climate targets and policies, the global temperature is predicted to increase with 2.4°C or more by the end of this century (Climate Action Tracker, 2021; UNEP, 2021). Policy action is still lagging, and a sizeable gap remains between countries’ pledges and the climate change mitigation efforts needed.

Economists and policy experts have long promoted carbon taxes as the most cost-efficient way to reduce greenhouse gas emissions (Tietenberg, 1990; Chalifour et al., 2008; OECD, 2010; Milne & Andersen, 2012; Sterner, 2012). Some scholars are now investigating the possibility of implementing a global carbon tax, or a global system of harmonized carbon taxes, to help speed up emission reductions (e.g., Carattini et al., 2019; Stiglitz et al., 2017; van den Bergh et al., 2020). However, states may have different possibilities to implement such policy instruments in the first place. Proposals of carbon taxes and other climate taxes aimed at decreasing greenhouse gas emissions have prompted negative responses and public resistance in many countries.

In Australia (in 2013), citizens voted a government that had introduced a carbon tax out of office, replacing it with politicians who had campaigned for abolishing the tax (Wente, 2014). In Switzerland (in 2015), 2 million people voted against energy taxes (Carattini et al., 2017), and in France (in 2018) the ‘Yellow Vests’ protests led the French government to refrain from implementing a proposed increase in fuel taxes (Willsher, 2018). Chile (in 2019), saw the onset of violent protests because of government policies driving up living costs, including the country’s high energy taxes (Gómez, 2019). More recently, the government in Colombia (in 2021) withdrew a revenue raising tax reform on coal and hydrocarbons use amid violent protests (Delgado, 2021), and in New Zealand (in 2022), and in other places around the world, fear of farmers’ protests is deterring governments from reducing methane emissions from

agriculture (Lo, 2022). A thorough investigation of why such large and widespread resistance towards climate taxes exists is needed before contemplating implementing them on a global scale (see the Carbon Pricing Dashboard by the World Bank, 2022a for an overview of current carbon pricing initiatives implemented across the world).

Around 64% of people in 50 of the world's countries believe that climate change is a global emergency (UNDP, 2021). Moreover, nine out of ten European citizens (93%) consider climate change to be a serious problem, and 78% consider it to be a very serious problem (Eurobarometer, 2021). However, only 16% are likely to be in favor of introducing or increasing taxation on environmentally harmful activities (Eurobarometer, 2019). Why are citizens, despite their high levels of climate change concern, unwilling to support a policy instrument that scholars and policy experts for decades have argued is key for enhancing climate change mitigation and environmental protection? Why do we not see more climate taxes in place already, given that they are said to be the most cost-efficient policy solution? This dissertation argues that perceived levels of quality of government (QoG)¹ and, consequently, levels of trust in political actors and institutions play a crucial role in explaining this outcome.

This dissertation builds a theoretical framework to enhance our understanding of public attitudes towards environmental taxes, and examines how the quality of government institutions can impact climate policy attitudes, and potentially break the link between pro-environmental and political value orientations and public support for climate taxes. Specifically, it argues that people who are pro-environmentally oriented, i.e. who hold green values and are environmentally concerned in general, and those who are inclined to be more supportive of state intervention in general given their leftist political-ideological value orientation, will be more supportive of climate taxes if they live in countries with high levels of institutional quality (QoG) and may be less or even not supportive of them at all if they live in countries with low levels of QoG.

Scholars have investigated many individual- and contextual-level factors that may explain policy support (e.g., Drews & van den Bergh, 2016; Carattini et al., 2018; Bergquist et al., 2022; Umit & Schaffer, 2020). However, explanations of public aversion towards climate taxes, particularly those looking at larger structural or 'architectural constraints' and institutional settings, are lacking (Lamb & Minx, 2020). Using international survey data on value orientations and public attitudes towards climate policy instruments, and various perception-based measures of QoG, the dissertation investigates international patterns in climate policy attitudes and public support.² Specifically, it examines whether cross-country variation in public support for climate taxes can be explained by varying levels of QoG, and if QoG impacts the relationships between political-ideological and pro-environmental value orientations on the one hand, and public support for climate taxes on the other. These patterns are explored nationally and regionally using various alternative measures to assess the robustness

¹ Here defined as the capacity of a state to perform its activities in an efficient, fair and impartial manner, and without corruption (Rothstein & Teorell, 2008). QoG as a concept is discussed in more detail in section 2.7.

² While *support* is the main policy attitude of interest in this dissertation and is used as the point of departure in the individual papers, and is typically used as the overarching concept to describe policy attitudes in the climate policy literature, it acknowledges that it may be measuring policy *acceptability* and *acceptance* (see section 2.5).

of the findings. Moreover, by dissecting QoG and its three underlying dimensions,³ it also attempts to show which aspects of QoG specifically matter for climate tax support. Moreover, it explores whether the effects of QoG on policy attitudes can be attributed to levels of trust – the theorized central causal mechanism. In a final step, the theorized relationships are further investigated, and the more specific individual-level mechanisms explored in a survey experiment, to get closer to determining whether the observed cross-national patterns are causal (see Table 1 for an overview of the papers).

The theoretical framework and empirical analyses will broaden our understanding of factors that have been identified as crucial determinants of policy support in the climate policy literature, notably left-right political value orientations and pro-environmental value orientations, by showing that their effects are not universal but instead vary depending on one largely overlooked factor – the level and citizens’ perceptions of QoG. This is where the main contribution of this dissertation lies. In bringing QoG to the forefront of contextual-level constraints that may impact climate policy support, it aims to contribute to an increased understanding of the conditions under which citizens are willing to support state intervention to solve large-scale collective action problems such as climate change and facilitate public goods provision by undertaking costly efforts (i.e., paying higher taxes for climate change mitigation). It considers the political feasibility of a certain type of state intervention and policy instrument that requires public support to be effectively, successfully, or at all implemented. This has important policy implications, suggesting that a one-size fits all solution in the form of climate taxes may not be politically feasible in all contexts, particularly in contexts where institutional quality and trust in political actors and institutions is low.

The rest of this introductory chapter is organized as follows. Chapter 2 presents the theoretical framework and reviews relevant previous research, followed by a depiction of the derived theoretical model and accompanying three research questions. Chapter 3 outlines the research design, including the employed data, the operationalizations of the main variables of interest, and the methods applied to analyze the data. Chapter 4 presents the main findings from the four consecutive studies of the dissertation and evaluates the empirical support generated from them for the main theoretical model. Lastly, Chapter 5 summarizes the collective contribution of the four papers, discusses their policy implications and outlines avenues for future research.

³ In this dissertation, QoG is presumed to have three underlying dimensions that usually figure in the literature – bureaucratic effectiveness, rule of law, and corruption – although the definition of QoG as a concept and what it should entail in order not to conflate with the subjects under empirical investigations is contested (see Rothstein, 2021).

2

Theoretical Framework

2.1 Defining environmental taxes

This dissertation uses the terms ‘environmental taxes’ and ‘green taxes’ interchangeably to describe taxes with the explicit goal to protect the environment (in Paper 2), and the term ‘climate taxes’ to denote taxes with the specific purpose of mitigating climate change, including fossil fuel taxes and carbon taxes (in Papers 1, 3 and 4). That said, the terms encompass several more specific approaches to environmental taxation, including carbon taxes, and the terms are often used somewhat differently in different disciplines.⁴ Carbon taxes are a kind of environmental taxes levied directly on carbon emissions and are not the same as, for example, fossil fuel taxes (see Paper 1). Similar to other forms of carbon pricing tools, such as Emissions Trading Systems (ETS), they incentivize low-carbon action by internalizing the costs of GHG emissions (World Bank, 2022b). The thesis does not consider environmental tax incentives such as energy and environmental tax credits, deductions, and exemptions, which are not taxes per se but rather ‘tax expenditures,’ e.g., tax credits to invest in and produce electricity from solar and wind power, which are implicit subsidies considered more costly than taxes in reducing emissions (Williams, 2017).

2.2 Climate change: A large-scale collective action problem

Climate change mitigation can be characterized as a large-scale collective action problem, where there are clear benefits for individuals to *not* engage in behavioral change

⁴ To an environmental economist, an environmental tax is a tax on pollution emissions that makes polluters pay for the negative externalities or social costs they impose on others and society by engaging in polluting activities. The tax corrects for the externality by ensuring that emitters must pay the full social costs of their goods. It may allow the state to meet the costs associated with local pollution while limiting greenhouse gas (GHG) emissions. An environmental tax is not by definition one from which revenues are spent for attaining environmental goals according to economists (Williams, 2017). Non-economists, however, often use the terms ‘environmental taxes’ or ‘environmentally related taxes’ to describe any tax that may have environmental benefits even if not expressly designed for that purpose (OECD, 2010). ‘Green taxes’ typically refer to taxes that have been explicitly created to achieve environmental goals (Miller & Vela, 2013). However, the three terms are often used interchangeably.

by reducing personal consumption of goods and services that produce carbon dioxide emissions. The reason for this is that they can enjoy the benefits of climate-detrimental behaviors, such as international flights, car use, and meat consumption individually, while the costs of these behaviors are shared by everyone collectively in the form of increased climate change (Olson, 1965; Dawes, 1980; Ostrom, 1990; Kollock, 1998; Dietz et al., 2003). For an individual actor to consider changing one's behavior in this situation is risky since the actor likely will end up a 'sucker,' i.e., the one who changes behavior and cooperates while the others do not, which inhibits cooperation (Mengel, 2018). Taking social dilemma or collective action theory as a point of departure,⁵ we are not likely to see much voluntary collective action to protect this global collective good.

Consequently, an external third-party, typically the state (Olson, 1965; Mansbridge, 2014), is needed to coordinate and regulate collective action in order to change the behaviors of individuals and other actors alike and stop further global warming. By implementing various climate policy instruments, governments can directly target the behaviors that generate collective losses by increasing the costs for engaging in polluting activities (in a sense punishing behaviors), or they can reward behaviors that have desired effects (i.e., behaviors that reduce climate impacts).

However, as has been found in many sanctioning systems, from local to more large-scale contexts, difficulties to maintain sanctions may prevent collective action – referred to as a second-order dilemma or free rider problem (Yamagishi, 1988; Heckathorn, 1989; Ostrom, 1990; Okada, 2008; Ozono et al., 2016).⁶ According to the dilemma logic, there are always strong incentives for individuals to free ride and not comply with sanctioning systems. This is because if everyone else pays their taxes and fees, I can abstain from paying mine since the collective good will be provided anyhow. Thus, efforts to overcome the original collective action problem of voluntary cooperation can result in a free rider problem of a different kind where individuals refuse to comply with policy tools and sanctioning systems imposed by the state.⁷ In other words, the collective action dynamic and propensity of actors to free ride on others climate change mitigation efforts remains even in the presence of a third party.

This dissertation argues that low levels of institutional quality (QoG) may undermine the successful implementation of climate policy instruments, making them less efficient and potentially preventing their implementation. If there is low trust in others to comply with policy instruments, or distrust in the state actors and institutions in charge of them, enforcement costs and non-compliance will be higher and public support for the policy instruments will be lower.

⁵ Although environmental problems are commonly understood to be rooted in collective action dilemmas (Hardin, 1968; Ostrom, 1990; Dietz et al., 2003), climate change cannot be considered a *social dilemma* per strict definition (Dawes, 1980), but it is typically considered to be a large-scale collective action problem (Jagers et al., 2020a).

⁶ Note that in this literature, a second-order free rider problem refers to the dilemma individuals face when trying to create and uphold sanctioning systems by themselves, and not sanctioning systems imposed by an external actor such as the state. However, I refer to non-compliance with state policies as a second-order free rider problem.

⁷ If the sanctions or costs of non-compliance are low, actors are likely to enjoy the collective benefits provided by others, while ignoring to pay their taxes and fees or claiming subsidies they are not entitled to (Harring, 2014a).

2.3 Public support and political feasibility of policy tools

When policymakers develop and decide on policy solutions, they may face a trade-off between implementing the most efficient policy tool, and the tool that is perceived as most legitimate (and is most supported) by citizens – and must try to strike the right balance between them. We know from previous research that what citizens consider the most effective solutions may differ from the opinions of policy experts (Steg et al., 2006; Carattini et al., 2018). Thus, implementing environmental taxes may not be politically feasible in all contexts, despite being considered the most cost-efficient solution to deal with climate change, if they do not enjoy necessary public support.⁸ A lack of public support may prevent policy tools from being implemented effectively or at all, given that politicians may refrain from implementing policies that are disliked by the public in fear of electoral punishment, and of undermining their political legitimacy in the long-term (Burststein, 2003; Soroka & Wlezien, 2010; Wallner, 2008).

Looking at the politics of climate change, politicians are often reluctant to introduce emission-reducing policies (Giddens, 2009). There are many real-world examples of carbon taxes being proposed by policymakers, but later rejected due to public opposition, including in Australia, France, Switzerland, Germany, Canada, and in the United States (Taylor, 2014; Deroubaix & Leveque, 2006; MacLucas, 2015; Carattini et al., 2017; Harrison, 2010, 2012; Gleason, 2018). Hence, it seems important that policymakers consider the opinions and preferences of the public regarding what policy instruments to implement, in addition to how economically cost-efficient or how effective different climate policy instruments may be in reducing GHG emissions.

Policies that reflect or at least do not entirely violate public preferences are more likely to become efficient when implemented and may ultimately be perceived as more legitimate and democratic (Brännlund & Persson, 2012). While public support may not be needed, we can assume that it significantly increases the probability of successful implementation of proposed policies. It is in policymakers' interest, at least in democratic countries, to understand and be responsive to public opinion. Implementing a policy without public support may result not only in damaging policy and political legitimacy, and undermining trust in political actors, but also the intended behavioral impacts of the policy (Matti, 2009). People may not change their behaviors towards more climate friendly activities and non-compliance can result in less efficient implementation. For these reasons, it is crucial to understand why and under what conditions citizens are willing to support and comply with climate policy instruments, and ultimately when such policy instruments are perceived as legitimate.

2.4 Legitimacy, compliance, and policy support

For citizens to comply with state regulations, some level of *political legitimacy* is needed. This means that the state must exercise its power in ways that are acceptable

⁸ As has been argued in the literature, unless there is sufficient public support for a policy instrument, it is not likely to be advocated within the political arena and will thus fail to be implemented (Page & Shapiro, 1993).

to citizens to minimize enforcement costs, increase the propensity of compliance with government policies, and build support for government authorities (Buchanan, 2002; Beetham, 1991; Birch, 2001; Parkinson, 2003). The lowest level of legitimacy required for the state to exercise its power and implement policies and regulations is public acceptance or consent with political decisions (Grimes, 2005). Citizens' confidence in political institutions, i.e., political trust, is an important indicator of political legitimacy. The more trustworthy a government is perceived to be, the more likely citizens are to obey its laws and consent to its policies (Levi, 2019).⁹

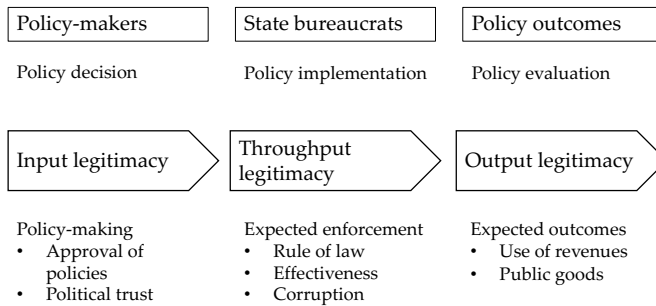
How people perceive the output of a policy and the political processes and procedures leading up to implementation of the policy affects public perceptions of *policy legitimacy* and determines whether the policy is supported or not. Policy legitimacy can be a function of several factors relating to the different stages of the policy process, and three dimensions of legitimacy will be discussed here: 1) input legitimacy, 2) throughput legitimacy, and 3) output legitimacy. The first type of legitimacy relates to the policy formation and decision-making process, the second to the policy implementation phase, and the third to the monitoring and evaluation phase of the policy process (Jagers et al., 2020b; see also Scharpf 1997, 1999).¹⁰ The procedures and decisions made throughout the policy process affects the public (and stakeholders) perceptions of policy legitimacy (Wallner, 2008). For example, whether the content of the decided policy aligns with the interests (and values) of the public and affected stakeholders, shapes both policy and political legitimacy. Failure to achieve policy legitimacy and attain sufficient policy support, may in turn erode citizen acceptance of the state's legitimate claims to govern (Wallner, 2008).

The first dimension of policy legitimacy, input legitimacy, which relates to the decision-making phase and is measured in terms of the level of approval of suggested policies and trust in policymakers' ability to decide on the best policy solutions, is believed to matter for policy support. However, the two other dimensions of policy legitimacy, but in a slightly altered form (Figure 1) (Jagers et al., 2020b), also matter. Throughput legitimacy, but people's *beliefs* about how a policy will be implemented rather than the actual procedures during implementation, e.g., if the policy will be applied equally to all citizens or if some actors will be able to escape it, are central to the argument. Likewise, output legitimacy, but expected rather than actual outcomes of the policy, is believed to matter for policy support. Specifically, whether the policy will have intended effects, fulfill its original purpose, or provide for something good, e.g., using revenues to promote further environmental protection and provide more or higher quality public services.

⁹ However, the link between perceived trustworthiness of government and beliefs about its legitimacy is less clear. Trustworthiness in political procedures and outcomes may contribute to perceptions of government as legitimate, and is argued to be a necessary condition at best but an insufficient condition for legitimacy (Levi, 2019). See section 2.7.2 for definitions of trust and trustworthiness and section 2.7.4 for definitions of political and institutional trust.

¹⁰ Input legitimacy in a democratic political system concerns perceptions of the justifiability and credibility of regulations, and how they were developed (i.e., the design of political processes), whereas output legitimacy refers to the effectiveness of them in solving problems that require collective solutions (i.e., how rules are applied and the outcomes of regulations) (Scharpf, 1997, 1999; Easton, 1957). Throughput legitimacy relates to the processes and procedures of decision-making and is often synonymous to procedural fairness (i.e., processes and procedures allowing citizens to express their views, which can enhance policy acceptance regardless of their content) (Papadopoulos, 2003).

Figure 1. Legitimacy in the policy-process (amended)



Note: The figure illustrates an amended version of the policy cycle as depicted in Jagers et al. (2020b). The three stages of the policy cycle and the main actors involved are illustrated at the top and the three types of policy legitimacy are outlined at the bottom.

While neither policy support nor legitimacy may be needed for the state to intervene in the behaviors of citizens, its policies and interventions are more likely to be successful and effective if they are supported and perceived as legitimate by the public. In fact, policy support and perceived legitimacy may be particularly important for the environment, being a complex and often disputed policy domain with many conflicting interests (Matti, 2009). Macro-level trust¹¹ has been argued to be a prerequisite for state legitimacy and thus critical to democratic governance (Gilley, 2009), and institutional trust the key link between citizens and the state in creating legitimacy (Rose-Ackerman & Kornai, 2004). Others argue that trustworthy government is a necessary but insufficient condition for creating legitimacy (Levi, 2019). Nevertheless, in all societies, politicians sometimes decide upon and implement policies that lack support among at least parts of the citizenry. While it is unclear through what mechanisms public opinion affects policy decisions, plenty of evidence suggest that public opinion constrains and steers the actions of policymakers (e.g., Dresner et al., 2006; Gaunt et al., 2007; Soroka & Wlezién, 2010; Willsher, 2018; Delgado, 2021; see also Jagers et al., 2020b). As such, it is important to study public attitudes towards policies.

2.5 Defining attitudes: support, acceptance, and acceptability

Support, acceptance, and acceptability are often used interchangeably in the literature on climate policy support (for an overview of how they have been measured and a critical discussion of how the terminology is used, see Kyselá et al., 2019). They can all be defined as policy *attitudes* as they are evaluations of either existing or proposed climate policies.¹² An attitude is commonly defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”

¹¹ Referring to trust at the societal level, in formal norms and institutions and in the ability to govern them (Pierre & Rothstein, 2011). The foundations of trust and the roots of micro-level trust (i.e., trust on the individual level) and macro-level trust (trust on the aggregate societal level) have been subject to debate (see, e.g., Uslander, 2008).

¹² Policy attitudes are used to denote both evaluations of policies and policy-specific beliefs (see section 2.8.1).

(Eagly & Chaiken, 1993, p. 1) – in this case a policy instrument. Conceptually, however, distinctions can be drawn between different types of policy attitudes.

Acceptability and *acceptance* are often conceptualized as passive forms of evaluations, with the former being an evaluation of a proposed or hypothetical policy and the latter being an evaluation of an implemented policy. *Support* on the other hand is described as an active form of evaluation of an existing or proposed policy that involves behavior and an intention to act, e.g., voting in favor of a proposed policy or taking action to voice a positive opinion about an existing policy. If the policy scenario is hypothetical, but still involves a behavioral cost in the form of requiring a specific behavioral intention, this, according to Kyselá et al. (2019), indicates a *readiness to support* a proposed policy rather than actual support for a policy. Similarly, they argue that acceptability indicates a *readiness to accept* a policy rather than acceptance.

While some scholars consider policy support as the broader umbrella term, including alternative manifestations of policy attitudes such as both acceptance and acceptability, other terminologies and scales have been employed by scholars to describe policy attitudes. PytlikZillig et al. (2018), e.g., use a continuum from utter *resistance*, through *nonacceptance*, *tolerance*, and *acceptance* to *policy preference* and *support*. This dissertation, while employing the broader umbrella term to speak to the broader literature on climate policy support, follows and adopts Kyselá et al.'s (2019) distinctions between acceptance, acceptability and support, acknowledging the crucial differences between them, and that ignoring them may raise issues of both internal and external validity, and limit the ability to identify useful policy implications.

2.6 Value orientations and environmental policy attitudes

2.6.1 Pro-environmental value orientation

One prominent explanatory individual-level factor of climate policy support is personal values. Specifically, people holding pro-environmental values and concerns are generally found to hold positive attitudes towards environmental and climate change policies aimed at reducing CO₂ emissions, and environmental protection in general (e.g., Hersch & Viscusi, 2006; McCright, 2008; Zahran et al., 2006; Brouwer et al., 2008; Harring et al., 2017; Larsson et al., 2020). Pro-environmental value orientation is here defined as encompassing both general pro-environmental attitudes and concerns, and more deeply held and stable values like care for nature. However, both have been subject to some conceptual debate. I consider values as distinct from attitudes.¹³

Environmental concern is often conceptualized as a multidimensional construct (Fransson & Gärling, 1999; Dunlap & Jones, 2002; Xiao & Dunlap, 2007; Smith &

¹³ Values differ from *attitudes* in that the latter are positive or negative evaluations of specific items (Dietz et al., 2005; see also Eagly & Chaiken, 1993). In this dissertation, attitudes refer to both environmental concern and attitudes towards policy instruments, but they are treated as distinct concepts. Conflating policy attitudes with general values and concerns risks missing important variation in policy attitudes that may be explained by pro-environmental value orientations. For example, individuals may oppose a policy instrument that promotes environmental protection, and still hold stable and persistent values or concerns in favor of the environment.

Mayer, 2018), including awareness of environmental problems, and willingness to support and/or personally contribute to efforts to solve them (Dunlap & Jones, 2002). While some scholars conceptualize environmental concern to include both (see, e.g., Franzen & Vogl, 2013), others distinguish between beliefs and concern for the environment and policy preferences regarding how to deal with environmental problems (Fairbrother, 2016). Environmental concern is an attitude that can be easily swayed over time,¹⁴ and is said to derive from and be influenced by values (Stern et al., 1999; Hogg & Vaughan, 2011; Schultz & Zelezny, 1999; Franzen & Meyer, 2010).

Values are portrayed as relatively stable guiding principles or deeper norms, parts of one's personality and behavior (Corner et al., 2014), that help us make decisions according to what we believe is good, particularly in situations where our preferences conflict with one another (Dietz et al., 2005). Schultz et al. (2005), emphasizing the difference between values and concern, describe concern as being based in values but conceptually distinct from them. A concern reflects both a sense of something being important to a person (what we would typically associate with values) and a belief that this may be endangered or at risk (Dunlap & Jones, 2002; Stern et al., 1999). Thus, mere awareness of environmental problems is not enough to generate environmental concern, it also involves perceptions of something being at risk.¹⁵

In the bulk of research on pro-environmental attitudes and behavior in sociology, social psychology, and political science, people holding pro-environmental values and concerns are found to be more accepting and supportive of climate policies and environmental protection in general. Recent research, however, suggests that the effects of pro-environmental values and concerns on climate policy support are not universal, and that concern does not automatically translate into policy support and pro-environmental behaviors¹⁶ (e.g., Kollmuss & Agyeman, 2002; Lorenzoni et al., 2007; Gifford, 2011). Some believe one explanation for this gap is trust.

Smith and Mayer (2018) find weak support for that the link between climate change risk perceptions and climate policy support is moderated by social and institutional trust at the country level. Tam and Chan (2018), however, find that the association between environmental concern and pro-environmental behavior is stronger among individuals in societies with higher levels of social trust. Bodor et al. (2020), similarly find that the relationship between climate change concern and policy support is stronger in countries with higher levels of social trust. Fairbrother et al. (2019) find that climate change awareness and concern do not necessarily translate into support for taxes on fossil fuels, rather this relationship depends on the level of political trust.

¹⁴ For example, concern has been found to vary with media content and economic cycles (Harring et al., 2011).

¹⁵ The value-belief-norm theory by Stern et al. (1999), prevalent in the literature on environmental values argues that values and concern shape attitudes. The model maintains that values affect general environmental concern, since perceiving a risk to the object that is valued (the environment, nature, oneself, or others) triggers personal feelings about responsibility and norms to do something about the perceived threat are activated, which in turn influences policy support. Several studies, mainly in environmental psychology, on the determinants of various pro-environmental behaviors and policy attitudes support the theory (e.g., Nordlund & Garvill, 2002; Poortinga et al., 2004; Steg et al., 2005; Hansla et al., 2013; Eriksson et al., 2006; Schuitema et al., 2011). Perceived personal threats from climate change have also been found to impact climate change concern (e.g., Arikan & Gunay, 2021).

¹⁶ Environmental policy support and pro-environmental behavior are both expressions of pro-environmental motivation (Sharpe et al., 2021), and thus individuals pro-environmental value orientations should predict both.

They find that in countries with low levels of political trust, climate change awareness and concern are only weakly associated with support for fossil fuel taxes.

All these studies suggest that pro-environmental value orientations do not uniformly translate into climate policy attitudes. In contrast, however, this dissertation will argue that political trust is a key underlying individual-level mechanism behind the moderating effect of another contextual-level factor on climate policy support. To date, very little is known about how perceptions of the quality of government (QoG) institutions may affect citizens' climate policy attitudes. The moderating relationship between QoG and pro-environmental and political-ideological value orientations will be discussed further below, but first a closer look at political value orientations.

2.6.2 Political-ideological value orientation

People's pro-environmental attitudes can also be derived from their political value orientations, in particular attitudes towards state involvement and government regulation, which typically correspond to people's self-placement on the left-right political scale (Karlsen & Aardal, 2016). Some scholars argue that attitudes towards state intervention are conceptually distinct from left-right self-identification, and that the latter reflects party preferences (Inglehart & Klingemann, 1976; Knutsen, 1988), which do not say much about policy-related values or attitudes. Others argue that ideological self-placement reflects 'real' values that shape the formation of policy attitudes (Sears et al., 1980; Kumlin, 2001, 2004), and serve as a guide for individuals when evaluating the ideological content of policy issues (see Huckfeldt et al., 1999; Rudolph & Evans, 2005).¹⁷ The literature on climate policy support has repeatedly shown that there is a significant link between ideological left-right self-placement and policy attitudes, but provides somewhat varying explanations as to what may explain this link.

People who consider themselves as more to the left ('leftists') on the left-right political dimension normally favor equal distribution of income and wealth and are more positive towards state intervention in general. People who consider themselves as more to the right ('rightists') typically stress the importance of a free-market economy and individual independence, and therefore favor reductions in state control and less government intervention (Karlsen & Aardal, 2016; Aasen, 2017). In extension, leftists are typically considered to be more supportive of climate policies since they are a form of state intervention in the market and the daily lives of citizens, whereas rightists tend to favor individual independence, economic development and reduced state control and are therefore typically considered to oppose such policies.¹⁸

¹⁷ Political values as such are described as the normative principles about government, citizenship, and society that individuals want to see implemented in the political system and can be interpreted as their perceptions of a desirable order (McCann, 1997; Inglehart & Klingemann, 1979). In this dissertation political value orientations are treated as distinct from pro-environmental value orientations and should not be conflated with 'green' political-ideological value orientations.

¹⁸ It has been argued that political orientation may impact policy support via values and worldviews, including egalitarian, individualistic, and hierarchical values (Dietz et al., 2007). Egalitarian worldviews strongly predict support for costly climate policies (such as taxes), whereas individualistic and hierarchical values are found to be associated with opposition towards climate policy tools (Leiserowitz, 2006; Smith & Leiserowitz, 2013).

Previous research finds that support for environmental policies and environmental protection is typically stronger among left-oriented than right-oriented individuals (e.g., Neumayer, 2004; Konisky et al., 2008; McCright et al., 2014; Harring & Jagers, 2013; Hammar & Jagers, 2006; Harring et al., 2017). However, the link is not monotonic across countries. Some recent evidence suggests that rightists in fact can be more supportive of environmental policies than leftists, and that the environment may be a political-ideological issue in some countries but not in others (Fairbrother, 2016). McCright et al. (2016), e.g., show that ideology does not cause a strong left-right divide on climate change everywhere and argue that this can potentially be explained by low political salience of climate change in some countries as well as differing meanings of the left-right identity cross-nationally. In general, however, the literature finds that rightists are less supportive of market-based policy tools, less likely to prioritize the environment, and less environmentally concerned than leftists (Dunlap & McCright, 2008; Hinich et al., 2013; Liu et al., 2014; Hamilton & Saito, 2015; Aasen, 2017).

However, some scholars have noted that there is nothing essential in left-right ideology saying that rightists should deprioritize environmental issues or be against market-based policy solutions. On the contrary, rightists may prefer market-based solutions, including market-based tools such as environmental taxes, over big government and perceive the economic resources generated by these taxes as needed to deal with environmental problems (Harring & Sohlberg, 2016). Building on studies questioning if the effect of ideology on environmental support is universal (e.g., McCright et al., 2016; Fairbrother, 2016), they find that the effect of ideology is stronger when environmental support is contrasted against economic growth, and that the divide between leftists and rightists is larger between those who strongly perceive the environment to be a left-right issue (Harring & Sohlberg, 2016). Thus, the effect of political value orientation on environmental policy support may depend on context, and on the understanding of whether the environment is a left-right political issue or not. In general, however, the link between political-ideological value orientation and climate policy attitudes needs further exploration.

2.6.3 Political-ideological vis-a-vi pro-environmental value orientation

Although not examined as extensively in the literature, pro-environmental values or concerns may overlap to some degree with political value orientations and share common influences. While some scholars have analyzed how political value orientations relate to concern about climate change and climate policy attitudes (Aasen, 2017; Aasen & Vatn, 2018; Kvaløj et al., 2012; Harring & Sohlberg, 2016), most have examined the effects of pro-environmental and political value orientations on climate policy support separately. A handful have studied them simultaneously and found that they have independent effects on policy support (Harring et al., 2017). While this dissertation will not engage in any investigations of the relation between pro-environmental values and left-right political orientations and potential interactions between them, they may both stem from the same basic values and be shaped by various individual and societal factors (Schwartz, 1992; Inglehart, 1995). Previous research has examined their impacts on support for environmental protection and climate policies

separately and shown that both exert separate influences. They can thus both on an empirical basis as well as on a theoretical basis be assumed to be conceptually distinct from one another. I therefore examine their impacts on climate policy support separately, keeping in mind their potential contingent effects and common influences.¹⁹

2.7 Quality of government, trust, and policy support

One of the central aims of this dissertation is to explore whether quality of government (QoG) can help to understand the divergent findings of the link between environmental and political ideological value orientations on the one hand, and public support for certain climate policy solutions on the other. This section reviews the literature on QoG and trust and theorizes the effect of QoG on policy attitudes and the presumed key underlying mechanism behind it – trust.

2.7.1 The moderating effect of quality of government

QoG is usually defined as the capacity of the state to exercise its political power and perform its activities in an efficient and impartial manner, and without corruption (Rothstein & Teorell, 2008; Holmberg et al., 2009). Although QoG as a concept and what it entails is contested and has been subject to conceptual debate (see Agnafors, 2013; Rothstein, 2021), the approach taken here is that QoG has three underlying dimensions: bureaucratic effectiveness, rule of law, and corruption.

While each dimension of QoG is assumed to affect policy support through somewhat distinct individual-level mechanisms, they are partly intertwined with one another, and they all relate to trust in politicians, bureaucrats, and people in general. What each dimension entails and how it may affect trust and climate policy support is discussed briefly here (see Paper 3 for a more detailed discussion).

Bureaucratic quality means that state bureaucrats have the necessary competence, skills, incentives, and discretion to effectively implement policies, including taxes (Dahlström et al., 2013).²⁰ Where low, perceptions of bureaucrats as ineffective or incompetent may negatively impact climate tax support by lowering trust in the institutions managing tax revenues with regards to both the collection and administration of taxes, and affect the perceived potential effectiveness of the policy itself (Matti, 2015).

Rule of law denotes impartiality in the application of the law. If people think that the tax will not be equally applied and enforced by the state to all citizens and business actors under rule of law (Raz, 1979; Møller & Skaaning, 2012; Fukuyama, 2014), they may suspect uneven compliance, i.e., that others may try to escape paying their taxes in exchange for a bribe (Wilson & Damania, 2005). Both trust in other people and trust in the state may suffer. People may distrust the state to enforce the tax properly, which

¹⁹ Post-materialist values, e.g., have been said to shape left-right political values (albeit less than materialist values, at least in the Swedish context) (Knutsen, 1995), and increased post-materialism in society has been described as one explanation to individuals' levels of environmental concern (Inglehart, 1995).

²⁰ This is typically the case with bureaucrats who have been meritocratically recruited, i.e., hired based on their skills rather than their connections, and as impartial public employees are protected from political influence.

can allow for tax evasion that in turn can decrease trust in others to comply with the tax and pay their designated share (see, e.g., Scholz & Lubell, 1998).

Finally, corruption can similarly impact policy support by lowering trust in the state and trust in other people (Rothstein & Uslaner, 2005; Uslaner, 2018; You, 2018; see also Rafaty, 2018) through compliance and efficiency concerns (Damania et al., 2003). While closely related to rule of law, corruption typically defined as ‘the abuse of entrusted power for private gain’ (see Pozsgai-Alvarez, 2020; Rothstein & Teorell, 2008) more specifically denotes leakages of resources intended for public ends. It may lower demand for certain policy solutions from the state in the first place,²¹ since the policy itself would be deemed futile if not properly and effectively enforced. Corruption undermines equal enforcement and allows some to escape compliance with the policy, but it also affords the state to divert tax revenues for private gains (Povitkina, 2018),²² instead of e.g. giving them back to citizens or allocating them to serve climate-friendly purposes (see Kallbekken & Aasen, 2010; Kallbekken & Sælen, 2011; Carattini et al., 2017; Klenert et al., 2018; Carattini et al., 2019), and public goods provision.

That QoG might matter for policy attitudes and moderate the effect of value orientations has been demonstrated in research on public support for welfare redistribution policies. Svallfors (2013), e.g., finds that the perceived effectiveness and fairness of government officials strongly predicts attitudes towards government spending and redistribution policies (see also Hetherington, 2004; Scholz & Lubell, 1998; Rudolph & Evans, 2005; Rothstein et al., 2012). Public support for welfare policies is greater among citizens in high QoG countries. Moreover, individuals holding egalitarian values are found to be generally more supportive of higher taxes where state officials are perceived as effective, fair, and uncorrupt. Egalitarians in some settings even express a preference for *lower* taxes than people with less egalitarian values, suggesting that the impact of leftist values on support depends on context (Svallfors, 2013).²³

If the same holds true within the environmental domain, we should expect the positive effects of pro-environmental and leftist political value orientations on climate tax support to be stronger in countries with higher levels of QoG.²⁴ Despite having strong green values or concerns for the environment and climate change, people may be reluctant to accept or support the implementation of environmental taxes if they live in low QoG institutional settings. Similarly, leftists who are generally and typically expected to be in favor of state regulation and intervention can be expected to be less supportive of the taxes if they perceive state officials as ineffective, unfair, and corrupt (see Paper 2 for a more elaborated discussion on these two respective moderating relationships).

²¹ Specifically, it may decrease support for taxes and increase demand for more punishing tools (Harring, 2016).

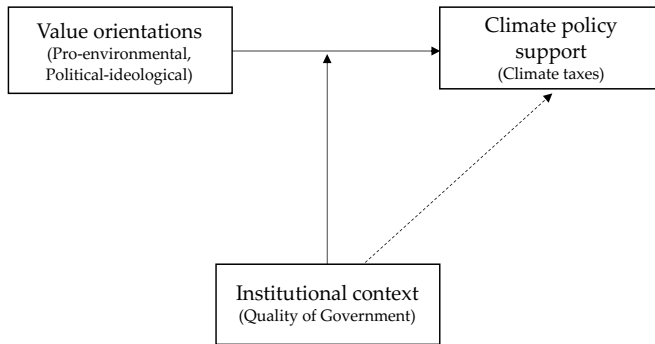
²² Weak rule of law allows the state to abuse its power. Rule of law prevents abuses of power through constraint (Shklar, 1998; Raz, 1979; see also Krygier, 2012), preventing the law from becoming a mere tool of domination, serving political interests or being instrumental in reaching private goals (Palombella, 2010; see also McIlwain, 1947).

²³ Other studies find that the effect of trust on policy preferences is conditional on the quality of government institutions, showing that high-trusting individuals are more supportive of government redistribution in high QoG context (Charron et al., 2020). In this dissertation, however, trust takes on the role as a mediator.

²⁴ One study, with a similar argument, finds that environmentally concerned individuals are more likely to adopt pro-environmental behaviors in countries with fair, effective, and impartial institutions (Kulin & Sevã, 2021a). Similarly, Chan and Tam (2021) observe that the association between climate change concern and behavior for climate change mitigation is stronger in countries with higher levels of governance quality among other factors.

Thus, the current dissertation argues that the level of QoG in a country will moderate the relationship between climate tax support and pro-environmental and political value orientations, and that trust explains it. ‘Greens’ and leftists are likely to be more supportive of environmental taxes in high QoG settings. In other words, even those who are environmentally concerned or in favor of state intervention will not be inclined to support climate taxes in low QoG settings. Low QoG undermines trust in state authorities to implement such taxes effectively, impartially, and without corruption. If trust in state institutions is low, trust in other people in general to comply with policies and pay their taxes may in turn be low, which additionally reinforces the belief that the taxes will not be effective in reaching environmental goals or providing the promised good. Thus, supporting their implementation may be futile despite holding pro-environmental values or concerns or otherwise positive attitudes towards state regulation.

Figure 2. Moderating effect of QoG



Note: The figure shows the moderating effect of QoG on the relationship between support for climate taxes and pro-environmental and political value orientations. The dashed line on the right-hand side of the model shows the direct effect of QoG on climate tax support.

2.7.2 Defining trust: trust and trustworthiness

Trust is typically defined as the perception that others are trustworthy (Hardin, 1993; Levi & Stoker, 2000). Trust is said to be a belief based on prior actions and expectations about how others will act in the future (Good, 1988; Bauer & Freitag, 2018), and reflects beliefs about the trustworthiness of people, groups, or institutions.²⁵ Trust enables committing to a course of action before knowing with certainty how others will act (Dasgupta, 1988). Trust has thus been deemed particularly crucial under conditions of uncertainty (Gambetta, 1988), as is the case in many large-scale collective action problems like climate change. Given the uncertainty and the need for large-scale cooperation, institutional trust has also been deemed necessary to solve many types of

²⁵ Trustworthiness entails a belief that others will not betray one’s trust based on moral values, and that others have the competence in the domain where trust is given (Levi & Stoker, 2000). E.g., citizens may trust the government with economic or health policies during times of crisis, but not trust state policies in the environmental domain.

collective action problems (Hardin, 2002). In fact, institutional trust is by some considered necessary for third-party intervention and is argued to affect social trust.²⁶

Three types of trust will surface in the investigations of this dissertation: social trust, political trust, and institutional trust. We now turn to discussing each of them in turn before we take a closer look at the literature that elaborates on their interdependence and relation to QoG.

2.7.3 Social trust

Social trust or *generalized* trust, defined as trust in people one may not generally know or be alike, is considered important for actors to engage in cooperative behavior and solve collective action problems (Ostrom, 1998). Generalized trust refers to an expectation of other people's benevolence (Nannestad, 2008), which facilitates expectations about others' cooperation, and makes actors more likely to cooperate themselves (Balliet & Van Lange, 2013). In other words, trusting individuals tend to perceive others as trustworthy, which in turn results in more pro-social behavior and enables cooperation for the common good (Stolle, 2001; Yamagishi, 1986).

Social trust is considered crucial for overcoming collective action problems and actors' compliance with regulations (Dinesen & Sønderskov, 2021). This is because actors' propensity to cooperate largely depends on whether they trust most other actors involved to cooperate as well (i.e., conditional cooperation). Research shows that individuals are reluctant to cooperate because they fear that others will free ride on, exploit or waste their contributions (Bohr, 2014). When information on how others will behave is lacking, individuals thus base their actions and expectations of others on generalized trust instead (Sønderskov, 2009; see also Uslaner, 2018).

Studies find that social trust predicts support for climate policy instruments (Harring & Jagers, 2013; Hao et al., 2020). If people do not trust others to cooperate and contribute to the provision of a public good, they may want to support some kind of intervention to ensure cooperation. However, if people do not trust others to comply with a proposed policy instrument, they are less likely to be supportive of it (Harring & Jagers, 2013). There is also some recent evidence suggesting that generalized trust may translate environmental concern into action (Tam & Chan, 2018), and interact with risk perceptions in explaining policy support (Smith & Mayer, 2018).

In addition to social trust, political and institutional trust may play and equal or perhaps even more important role in explaining climate policy support. Social trust may be of secondary importance since trust in political actors and institutions signifies greater confidence in proper enforcement of policy instruments. At the same time, social trust may be more relied upon in solving collective action problems, particularly in corrupt institutional settings where political and institutional trust may be lacking. Generalized trust has been found to be weakly correlated with climate change mitigation behavior compared to trust in institutions, however (Cologna & Siegrist, 2020). The next section discusses political and institutional trust in more detail.

²⁶ See, for example, Dinesen et al. (2022) and Dinesen and Sønderskov (2021). For more literature on the origins of trust and how it changes or is reinforced over time, consult Sztompka (1999); Putnam (2000); Uslaner (2002); Glanville and Paxton (2007); Dohmen et al. (2012); and Sønderskov and Dinesen (2016).

2.7.4 Political and institutional trust

Political trust can be defined as trust in political institutions or actors such as government, parliament, political parties, and politicians, while institutional trust typically refers to trust in administrative or judicial institutions, such as the police force, legal courts, and the civil service (Rothstein & Stolle, 2008; Zmerli & Newton, 2018). Research shows that trust in government is positively associated with environmental policy support and willingness to make sacrifices for the environment (Fairbrother, 2016; Konisky et al., 2008; Zannakis et al., 2015; Harring, 2013; Huber & Wicki, 2021). Political trust is also found to foster compliance with state policies (Scholz & Lubell, 1998). In this dissertation, political and institutional trust are treated as distinct concepts, which allows distinguishing between trust in those who propose and decide on climate policy tools, and those who help ensure that they are properly implemented.

Political trust can be considered a type of political support that, similar to social trust, depends on the object or groups of objects in the political system (Norris, 1999; Easton, 1975). In this dissertation, support for political regimes (one of three types of objects in the political system) is of main relevance.²⁷ Endorsement of political regime constitutes support for enduring principles, processes and formal institutions of the state, and not support for incumbents at a particular point in time (Klingemann, 1999). Thus, the main interest is not support for policies that arises from confidence in and affinity for the ideological color or political agendas of the incumbents, but rather how trust in political actors and government in general impacts policy support.²⁸

Numerous studies substantiate the importance of political trust for environmental policy attitudes (e.g. Hammar & Jagers, 2006; Hammar et al., 2009; Matti, 2009; Kallbekken & Aasen, 2010; Kallbekken & Sælen, 2011; Harring & Jagers, 2013; Kollmann & Reichl, 2013). While generalized trust and left-right political orientations are found to have somewhat varying effects on support for fossil fuel taxes across Europe, political trust is found to be a consistent predictor with a universal effect on policy attitudes (Sivonen, 2020). People with higher levels of political trust are generally more supportive of climate taxes. Beliefs in lack of competence of politicians to select the right solutions for climate change mitigation, and to ensure that tax revenues will be spent in an effective and appropriate manner, undermines acceptance of environmental taxes (Hammar & Jagers, 2006). Low trust may trigger beliefs that revenues will be wasted or stolen by corrupt officials, or that tax-systems have been designed with loopholes allowing for tax evasion or unfair tax-loadings (Fairbrother, 2016). Closing them is crucial to sustain carbon taxation (Green, 2021). The next section outlines the relationship between QoG and trust and how they relate to policy support.

²⁷ Easton (1975) distinguishes between political support for three types of objects in the political system, including endorsement of one's political community, political regime, and political authorities.

²⁸ That is, one out of three sub-types of regime support, developed by Norris (1999), entailing attitudes towards 'regime institutions' such as the parliament, executive, and civil service.

2.7.5 Trust and quality of government

While trust and quality of government are treated as distinct concepts; institutional quality being a macro-level contextual factor, and trust considered an individual-level mechanism, they are intrinsically linked. Having a common influencing factor (QoG), the different types of trust can to some extent also be argued to be largely interdependent. The relationships between QoG and trust, and social, political, and institutional trust have been extensively debated and researched.²⁹

Social trust is intrinsically linked to QoG, since the higher the institutional quality the lower the risk of being cheated by others and the greater the belief in the competence of public authorities to punish free riders, which increases trust. In other words, citizens trust each other because they perceive the state as a credible enforcer (Offe, 1999; see Levi & Stoker, 2000). Others argue that citizens who perceive public employees and state institutions (such as courts, the police, and the civil service) as trustworthy also think that most people are trustworthy (Rothstein & Stolle, 2008).³⁰ Macro-level QoG is said to create positive experiences with state institutions and employees, which builds institutional trust and in turn influences social trust (Sønderskov & Dinesen, 2016).³¹ Others argue that good institutions do not necessarily generate social trust, but weak institutions likely depress both social and political trust (Uslaner, 2018).

High QoG has been found to encourage large-scale environmental collective action (Duit, 2011), and perceptions of institutional quality and trust in government to predict public acceptance of environmental policies (Konisky et al., 2008; Fairbrother, 2016; Harring, 2013; Zannakis et al., 2015; Kitt et al., 2021). Most research to date examines the association between political trust and climate policy support, however. Kulin and Sevä (2021b), distinguishing between trust in democratic and impartial institutions, find no association between country-level trust and climate policy attitudes. However, they find that environmentally concerned individuals are more likely to hold positive attitudes towards climate policy tools in countries where trust in, e.g., the police and the legal system is high. They conclude that public support for climate policies relies on trustworthy political systems producing sound policies, and well-functioning trustworthy state institutions enforcing policies (Kulin & Sevä, 2021b).

However, many citizens have greater exposure to and experience with authorities at the local level, and local or regional institutions may thus play a larger role in shaping political behavior and trust in the state more generally (Levi & Stoker, 2000). The empirical analyses in this dissertation explore whether institutional quality at the national and regional level may explain variation in climate policy attitudes, and whether trust is an individual-level mechanism that can be traced back to institutions. They examine if trust in others more generally or trust in political actors and institutions is

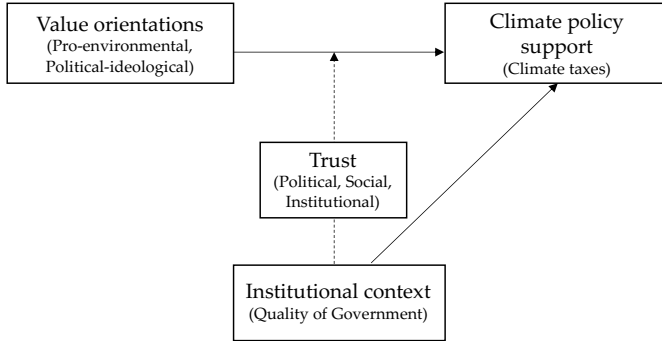
²⁹ Investigating how political and social trust are linked and the dynamics between them is not the focus of this dissertation, nor is it possible to investigate with the data at hand. However, there is plenty of literature on the topic (see, e.g., Rothstein & Uslaner, 2005; Putnam, 1993; Newton et al., 2018; You, 2012; Dinesen et al., 2022; Martinangeli et al., 2023).

³⁰ The underlying rationale is that rules and norms governing citizens' behavior in society (i.e., the fairness and effectiveness of state institutions) informs people's perceptions of the trustworthiness of others, which norms they should follow and what sanctioning they may face for acting dishonestly (Rothstein & Stolle, 2008).

³¹ A review of the literature suggests that there is a positive relationship between institutional quality and generalized social trust at both the societal and individual level (Dinesen & Sønderskov, 2021).

a more important determinant of climate tax support (see Smith & Mayer, 2018; Tam & Chan, 2018; Levi, 2021). Figure 3 illustrates the mediating role of trust in the moderating relationship between QoG, value orientations, and climate policy support.

Figure 3. Mediating effect of trust



Note: The figure shows trust as a mediator (dashed line in the middle) of the moderating effect of QoG on the link between support for climate taxes and pro-environmental and political value orientations (full line on the top), and the direct effect of QoG on climate tax support (full line on the right). Trust presumably also mediates the direct effect, but this is not illustrated in the model.

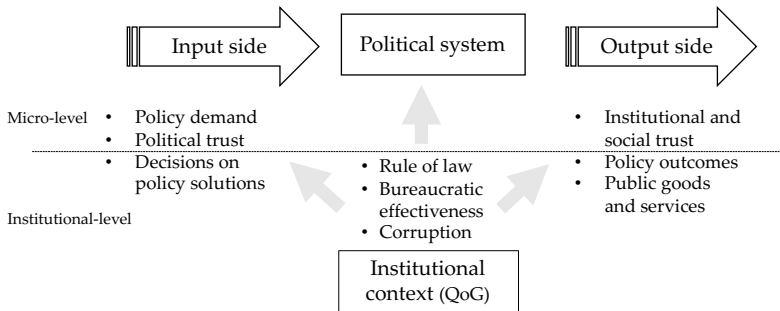
2.7.6 QoG, trust, and the input and output side of the political system

The theoretical reasoning and explanations for why QoG impacts climate policy support suggest that QoG is related to various forms of trust. That said, institutional trust or perceptions of fairness and effectiveness of state institutions (Sønderskov & Dinesen, 2016), leave open the question of the influence of actual QoG and perceived quality of government institutions. Governments may be efficient, fairly uncorrupt, and impartial but nevertheless enjoy low levels of trust (Braithwaite & Levi, 1998; Pierre & Rothstein, 2011). As noted above, QoG and trust are treated as distinct concepts, where trust is seen as the individual-level mechanism behind the impact of QoG on climate tax support. This dissertation takes the line of inquiry a step further and examines QoG perceptions and trust levels as they relate to distinct stages of the political process, both on the ‘input’ and the ‘output’ side of the political system (Figure 4).

Figure 4 illustrates the workings of a democratic political system and shows how QoG impacts the workings and the input and output side of the political system. A similar depiction of the functioning of states and the workings of political systems can be found in Easton (1953). According to Easton, political decisions (NB: originally depicted on the output side of the political system)³² depend on the demands of society (e.g., for environmental protection or climate change mitigation), and support for the political system favors the legitimacy of climate change laws and regulations, which are outputs of the political system shaping the behavior of citizens (Povitkina, 2018).

³² In Figure 4, decisions on policy solutions, referring to the decision-making and policy formulation stage in the policy process (Jagers et al., 2020b), are depicted on the input rather than the output side of the political system (see Figure 1).

Figure 4. Input and output side of the political system



Note: The figure illustrates the input and output side of the democratic political system (see Easton, 1953), with the wide arrows representing a continuous flow. At the bottom, institutional quality is depicted, which affects both the inputs, outputs, and workings of the political system as illustrated by the grey-shaded arrows pointing at each.

In the literature, social trust is found to be linked to the ‘output’ side of the political system and activities of the public administration, including the police, courts, and civil servants (Rothstein, 2013). Governments who exercise their power in an impartial and effective way, with low levels of corruption (Rothstein & Teorell, 2008), implement policies fairly (Rothstein, 2013), and deliver essential public goods (Charron et al., 2017), subsequently create social trust (Pierre & Rothstein, 2011; Rothstein, 2013).³³ The ability of the state to deliver public goods and services is an indicator of well-functioning and effective government institutions, which in turn influences support for the political system (Huseby, 2000). Citizens’ evaluations of policy outcomes (i.e., what they get and what the state does), explain political trust (Holmberg, 1999; Hetherington, 1998). Simultaneously, the level of corruption, effectiveness, and impartiality in public goods provision and service delivery is argued to affect expectations of trustworthiness of others (Rothstein, 2013). In other words, QoG is found to impact both institutional and social trust (Dinesen & Sønderskov, 2021).

Moreover, while trust in political actors and decision-making on policy solutions at the ‘input’ side of the political system may matter for policy support, QoG may reflect both trust in formal institutions and informal ones (i.e., how or through what norms and practices public services are delivered). If public services are plagued by inefficiency, partiality, and corruption, meaning that only some people can access public goods in the first place, this may generate low trust in formal institutions, but may also signal the overall cooperative or trusting culture present in society. In high QoG countries, where public goods are expected to be provided efficiently, impartially and without corruption, and there is little room for noncompliance with regulations, we can expect to find a generally trusting and cooperative culture where individuals comply with social norms of cooperation and compliance with state regulation. In low QoG countries, on the other hand, where government power is exercised in an unfair, inefficient and corrupt manner, and corruption is highly rooted and systematic, we

³³ Specifically, experiences with public officials such as bureaucrats and police officers are argued to impact social trust, and that this effect is mediated by perceptions of fairness and effectiveness of public institutions, or institutional trust (Rothstein & Stolle, 2008; You, 2012; Wang & Gordon, 2011; Sønderskov & Dinesen, 2016).

can expect that the general norm in society is to cheat. Here, corrupt and untrustworthy behavior may not only be acceptable behavior but the expected behavior of citizens, as signaled by corrupt activities of state officials, including politicians and bureaucrats (Nelson, 2017; see also Caiden, 1981; Rothstein & Stolle, 2008).

2.8 Synthesizing the arguments: theoretical models

The final section of this chapter connects and integrates the pieces of the puzzle, synthesizing the theoretical assumptions made above into a series of models. They show the causal pathway from QoG to policy support and beyond. This is to first convey the bigger picture and situate the dissertation in a larger theoretical framework, and second to illustrate how all the pieces fit together. It presents the overarching theoretical framework and the main theoretical model, and outlines what parts of them are empirically probed in each of the four studies of the dissertation.

2.8.1 The full causal chain: from QoG to policy support and legitimacy

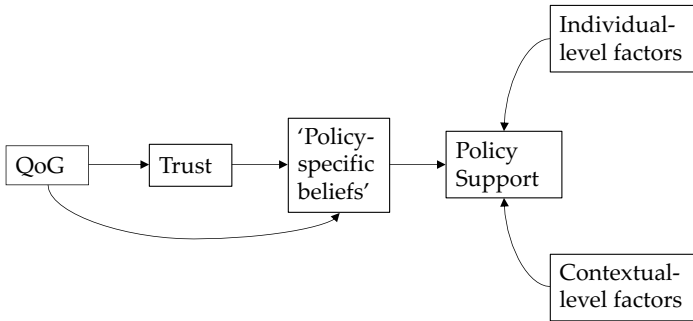
The basic causal chain from QoG to policy support, leaving out the moderating effect of QoG on the relationship between value orientations and policy support, is depicted in Figure 5. QoG is theorized to impact both trust levels (social, political, and institutional trust), including beliefs about decision-making, enforcement and compliance, and policy-specific beliefs (PSBs), i.e., the perceived effectiveness, fairness, and cost-efficiency of policies. It is expected to decrease trust and reinforce negative attitudes.

QoG presumably impacts levels of trust in other actors, which in turn impacts perceptions and expected outcomes of the policy itself (PSBs, thought of as mediating mechanisms behind the impact of trust on policy support³⁴ are not explored in Papers 2 and 3, but they are explored in Paper 4). If individuals do not trust political actors and institutions to implement a policy effectively and fairly, they are less likely to deem the policy effective in attaining its goals (e.g., to reduce emissions) and fair (e.g., the policy may affect some groups more than others), and in turn less likely to be supportive of the policy. In other words, QoG may impact perceptions of both expected policy outcomes and procedural fairness in implementation when shaping policy support.

While many contextual- and individual-level factors may impact climate policy support, the main individual-level factors under investigation in this dissertation are value orientations and trust (measured on the individual level), and the main contextual-level factor is QoG (measured on the individual, country, and regional level).

³⁴ The causal order between the two may be reversed, however. Trust may mediate the impact of policy-specific beliefs on policy support (You, 2018), i.e., QoG may impact policy-specific beliefs and in turn perceived trust. In the climate policy literature, however, PSBs are typically modeled as mediators of policy support (Matti, 2015; Jagers et al., 2021). In this dissertation, PSBs are modeled as an alternative causal pathway between corruption and climate policy attitudes (Paper 4), but theoretically they are considered to derive from trust (Figure 5). Determining the order of things in this presumed causal chain, i.e., whether QoG impacts trust and in turn PSBs, is difficult, however. Paper 4 does not probe the chain but provides new insights into whether corruption perceptions impact both trust and PSBs. Thus, putting these individual-level explanatory factors of climate policy support in a more nuanced light.

Figure 5. Basic causal chain from QoG to policy support



Note: The figure shows the basic causal chain from quality of government (QoG) to policy support that is empirically probed in the dissertation. See Figure 6 for an extended version of the model.

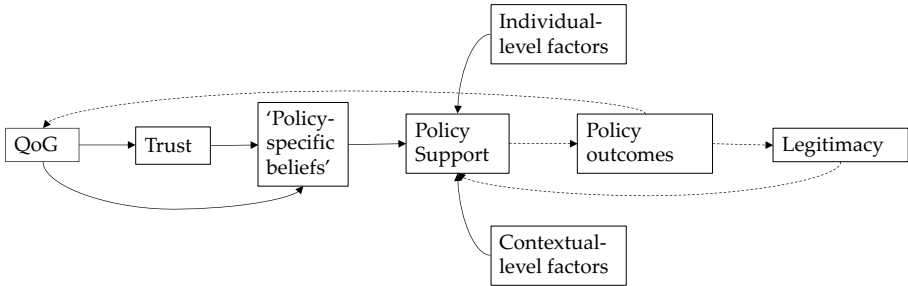
The overarching theoretical framework, which captures both the links examined empirically in this dissertation (as portrayed in Figure 5) and downstream implications and feedback effects, is summarized in Figure 6. QoG is theorized to have implications for policy outcomes in the short-term and long-term implications for legitimacy, with potential feedback effects on QoG and policy support, as reflected in the dashed from the right-hand side of the model. These parts of the model are not empirically probed in the dissertation, but they are highly theoretically relevant to understand the comprehensive implications of QoG for policy support.

Policy support is expected to affect the possibilities of implementing a policy in the first place, as well as the performance of the policy if it is implemented. A lack of support may induce policymakers to refrain from implementing the policy, and if the policy is implemented anyhow, it may jeopardize its effective implementation. Policy outcomes, including the policy (tax) fulfilling its original purpose (i.e., reducing emissions and inducing behavioral change for environmental protection), providing benefits (e.g., using revenues for public goods provision, environmental projects, or redistributive programs), will affect the perceived legitimacy of the policy, and the state or state regulation, and thus future decision-making.

That said, the legitimacy of a policy can also be enhanced by improving policy outcomes, inducing a positive feedback effect on policy support. Alternatively, policy outcomes may reinforce QoG perceptions and in turn impact trust and PSBs, depending on how it was implemented (i.e., whether the policy was effectively and impartially implemented and without corruption), and the policy outcomes in terms of public goods provision and the policy fulfilling its originally intended purpose.³⁵ The reinforced QoG perceptions in turn affect trust levels and policy-specific beliefs, and finally policy support.

³⁵ It should be noted that PSBs here denote individuals' perceptions of a policy (including, for example, beliefs about the expected effectiveness and fairness of the policy itself), whereas policy outcomes in this figure denote the actual outcomes of the policy after its implementation (i.e., how the policy was implemented, and the outcomes generated by the policy).

Figure 6. Theorized causal chain from QoG to legitimacy (extended model)

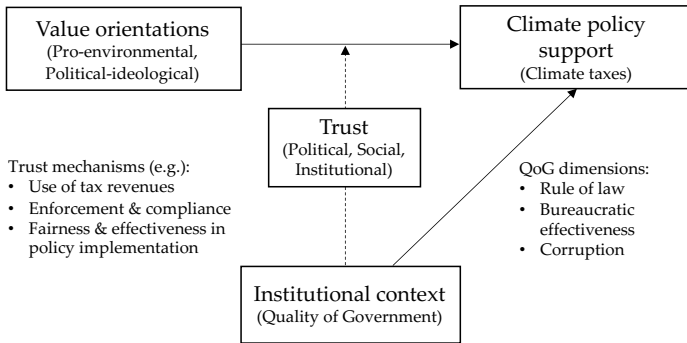


Note: The figure shows the basic causal chain from QoG to policy support on the left-hand side, and an extension of the model on the right-hand side showing the full theorized causal chain from QoG to legitimacy. The full arrows depict the relationships that are empirically probed in the dissertation, while the dashed arrows are assumed causal pathways that are not empirically investigated.

2.8.2 The main theoretical model and research questions

To summarize, Figure 7 depicts the main theoretical model that is empirically probed in the four studies of this dissertation. It shows the direct and moderating effect of QoG on the relation between value orientations and climate policy support, and trust as the underlying, mediating individual-level mechanism. Building on previous research, QoG is assumed to exert a causal influence on trust. While not empirically investigating this theoretical claim here (apart from in Paper 4, which examines the effect of corruption perceptions on trust), considerable evidence exists supporting this assumption (see, e.g., Rothstein & Uslaner, 2005; Delhey & Newton, 2005; Kumlin & Rothstein, 2010; Richey, 2010; Rothstein & Eck, 2009; Dinesen & Sønderskov, 2021; Martinangeli et al., 2023). The dissertation aims to find answers to three overarching research questions in four consecutive papers (for the more specific research questions guiding each paper, see Operative research questions in Table 1).

Figure 7. Main theoretical model



Note: The figure shows the moderating effect of QoG on the relationships between support for climate taxes and pro-environmental and political value orientations. The three QoG dimensions and presumed trust mechanisms are depicted on the right-hand side and the left-hand side. The arrow on the right denotes the direct effect of QoG on climate tax support. The dashed arrow in the middle denotes the mediating effect of trust behind the moderating effect of QoG.

RQ1: Does QoG moderate the association between attitudes towards environmental taxes and pro-environmental and leftist value orientations? (Papers 2 and 3)

RQ2: What aspects of QoG are associated with support for environmental taxes, and can trust help explain the link between QoG and policy attitudes? (Papers 1 and 3)

RQ3: Is the effect of QoG on climate policy attitudes and trust causal, and what are the more specific individual-level mechanisms at play? (Paper 4)

Paper 1 explores the direct effect of QoG on support for three different types of climate policy instruments, and the mediating effect of trust on the link between QoG and climate tax support. Papers 2 and 3 examine the direct effects of value orientations on climate tax support and the moderating effect of QoG (measured on the country and regional level respectively) on these relationships. In addition, Paper 3 unpacks the three QoG dimensions and explores the mediating effect of trust on the moderating relationship between regional-level QoG, value orientations and climate tax support. Finally, Paper 4 tests the direct effect of the corruption dimension of QoG on climate policy attitudes and levels of trust. Moreover, it examines the moderating relationship between corruption perceptions, value orientations and attitudes towards carbon taxes, and the underlying, mediating, individual-level mechanisms to further validate the postulated theoretical relationships (see Table 1 for an overview of the four papers).

3

Research design

3.1 Data

For the first three papers of the dissertation, I combine data from existing international surveys. The main two surveys with individual-level data include the European Social Survey (ESS Round 8) (ESS, 2016) and the International Social Survey Programme (ISSP Environment III – 2010) (ISSP Research Group, 2012). The country-level data was retrieved from the Quality of Government Basic Cross Section Datasets (Teorell et al., 2012; Dahlberg et al., 2018), and the regional-level data from the QoG European Quality of Government Index Data (2017) (Charron et al., 2019).

To date, there are no cross-sectional surveys measuring public support for climate policies in the strict sense (as defined by Kyselá et al., 2019), and no surveys to my knowledge measuring policy support cross-nationally over a long enough period of time to be able to gauge the causal role of QoG. The survey data from the ESS and ISSP, together with the data from the QoG institute, contain the best survey questions currently available for analyzing the theorized relationships. While there are other public opinion surveys measuring attitudes towards the environment, such as the Eurobarometer, these surveys do not contain measures of attitudes towards climate taxes. Therefore, for the fourth paper, I conduct an original survey experiment in Mexico and Sweden. The datasets used are discussed in more detail in the individual papers.

3.2 Operationalizations

3.2.1 The dependent variable

Climate policy support

The dependent variable is public support for climate policies. In Paper 1, I employ survey items that measure to what extent individuals are in favor or against certain policies to reduce climate change (including taxes, subsidies, and bans). I argue that they are useful proxies of climate policy support while acknowledging that they may be capturing passive evaluations of policies, i.e., *acceptability* of proposed policies or *acceptance* of existing policies, rather than support. In Paper 2, I employ two measures

of willingness to pay (WTP) much higher taxes and prices for environmental protection, which according to Kyselá et al. (2019) are measures of potential to support.

In Paper 4, I employ four survey items to gauge respondents' attitudes towards climate taxes. Specifically, their support and acceptance of existing carbon taxes in their country, their acceptability (i.e., potential to accept) an increase in these taxes, and their readiness to support (WTP) higher taxes to reduce climate change (Table 1). The items were constructed according to typical measures of climate policy attitudes in the literature, following Kyselá et al.'s (2019) distinctions of them.³⁶ Measuring all four items gives an opportunity to compare differences in results, and validate the measures employed across the four papers.

Ideally, I would like to measure policy support in all of the papers, since this may be the closest proxy for compliance with and active endorsement of a policy in practice.³⁷ That said, all the above measures capture public opposition (or the lack thereof), and hence employing measures that may be gauging mere acceptance or acceptability can provide meaningful implications. Public support, which is the typical jargon used in the literature to signify policy attitudes, may be difficult for policymakers to attain in practice. Acceptability and acceptance, which are often theorized as antecedent to policy support (Jansson & Rezvani, 2019), may be the second-best things to strive for.

In existing research, respondents tend to score higher on measures of acceptance than measures of policy support.³⁸ By measuring different types of policy attitudes, we may identify differences that need to be considered when providing policy recommendations. For example, if we find a moderating effect of QoG on the link between value orientations and mere acceptability, we can perhaps expect to find even stronger moderating effects of QoG when measuring actual support for climate policies.

3.2.2 The independent variables

Pro-environmental value orientation

The first value orientation of interest is pro-environmental value orientation. It is defined as individuals' general environmental attitudes and concerns and their more deeply held values and care for the nature. This dissertation thus distinguishes between pro-environmental values and concerns and attitudes towards climate policy instruments. Some scholars use additive scales to capture general environmental concern, including items that measure general willingness to pay for environmental protection

³⁶ It should be noted that 'policy attitudes' typically also encompass policy-specific beliefs, but the term is here mainly used to refer to attitudes towards policy instruments such as acceptance of and support for policies.

³⁷ WTP in particular should signal an intention to support since it involves a behavioral cost (Kyselá et al., 2019), asking people about their willingness to give up money from their pockets to protect the environment or mitigate climate change. Nevertheless, what people state in response to hypothetical policy scenarios in surveys may not always be entirely truthful (e.g., some may be prone to social desirability bias) or translate to compliance in practice.

³⁸ Acceptance on the one hand can entail acceptance of a policy without necessarily liking or being supportive of the policy (e.g., a policy can be considered to have been democratically implemented and is therefore accepted). Policy support on the other hand implies a higher behavioral cost to individuals, which means that levels of support tend to be lower than acceptance in opinion surveys (see Dreyer et al., 2015; Dreyer & Walker, 2013).

(Franzen & Meyer, 2010).³⁹ Beliefs and concern for the environment are, however, distinct and should therefore be measured separately from policy preferences on how to address environmental problems (Fairbrother, 2016). These scholars typically use measures of general climate change or environmental concern and risk perceptions to capture pro-environmental concerns (Tam & Chan, 2018; Smith & Mayer, 2018).

To capture people's pro-environmental value orientation, this dissertation employs measures of general environmental and climate change concern and care for nature. The latter is measured using one of the universalism items of Schwartz' (1992) basic human values scale, measuring how important care for nature and looking after the environment is to a person. While care for nature can be considered an operationalization of deeper pro-environmental values that are largely stable over time and not easily changed (Dietz et al., 2005), concern for climate change or the environment in general can fluctuate more over time and be considered to originate from values (see the VBN theory by Stern et al., 1999).⁴⁰ By measuring general environmental concern, we should to some extent also be capturing the more deeply held environmental values.

Political-ideological value orientation

The second value orientation of interest is political-ideological value orientation, defined as people's attitudes towards state intervention and government steering. It is measured as self-placement on the left-right political scale, assuming that where individuals place themselves on this scale reflects their attitudes towards state intervention (Karlsen & Aardal, 2016). Left-right orientation (based on either the self-placement or party affiliations of respondents) is the most commonly used measure of political-ideological value orientation in welfare policy research and the climate policy literature, and often the only measure available in international surveys.

An alternative measure of political value orientations that has been employed in studies on public support for welfare policies is egalitarian values (Svallfors, 2013). Another measure is the GAL-TAN scale. However, since both egalitarian values and GAL-TAN in particular stand in close proximity to pro-environmental value orientations and may conflate with the effect of pro-environmental values on policy support, or even blur its effect completely, the traditional left-right political values scale is adopted in this dissertation to measure political orientation.⁴¹

One possible caveat with the chosen measure of political value orientation, is that people may have different understandings of the left-right dimension and what it entails (i.e., 'left' and 'right' does not necessarily have the same meaning in all countries) (McCright et al., 2016). What is assigned to the 'left' and 'right' dimensions and the categories in between has been found to vary across countries, with left-right having

³⁹ These scholars typically conceptualize environmental concern as including both beliefs and concerns about the environment and normative willingness to pay for environmental protection (Franzen & Vogl, 2013).

⁴⁰ This dissertation does not examine the causal chains asserted by the VBN theory or the effects of biospheric, altruistic, and ecocentric values on policy support. The latter are some examples of alternative measures of green value orientations that have received support in the literature (e.g., De Groot & Steg, 2009; Harring et al., 2017).

⁴¹ Apart from missing in international surveys, the GAL-TAN scale has green values as potential defining features, which makes it an inappropriate measure to employ in the current context. Political value orientation measured as left-right placement is presumed to capture underlying values such as egalitarian values, distinct enough from pro-environmental values.

opposite meaning in some countries, e.g., in Latin America (Zechmeister & Corall, 2010).⁴² The observational analyses in this dissertation are not able to account for such differences in meaning when theory testing, but the issue is highlighted (particularly in Paper 4, which finds unexpected results regarding the effect of left-right orientation on climate policy attitudes in Mexico), and it is one limitation of the present analyses.

Quality of Government

To capture aspects of the level of institutional quality (i.e., QoG) in a country, several measures have been used in previous observational studies. This dissertation employs two main measures of QoG, one at the national level (in Papers 1 and 2) and one at the regional level (in Paper 3).⁴³ It also employs individual-level measures of corruption perceptions (in Paper 4) to examine the effect of corruption on climate policy attitudes.

On the national level, the indicator of institutional quality by the International Country Risk Guide (ICRG), which consists of three variables: ‘Corruption,’ ‘Law and Order,’ and ‘Bureaucracy Quality,’ is employed. While the methodology behind the ICRG indicator of QoG has been debated and subject to criticism (Charron, 2021), it is a commonly used measure that captures the three presumed dimensions of QoG; corruption, rule of law, and government effectiveness (Rothstein & Teorell, 2008). In contrast, other indicators only capture one QoG dimension, e.g., Transparency International’s Corruption Perceptions Index (CPI), or include several other dimensions, e.g., the World Bank’s Worldwide Governance Indicators (WGI). A robustness check was performed using a third measure of QoG (in Paper 1); an index created with three (out of the six in total) aggregate WGI (‘Government Effectiveness,’ ‘Rule of Law,’ and ‘Control of Corruption’). These analyses showed substantively the same results.

On the regional level, the European Quality of Government Index (EQI) (Charron et al., 2019), the only measure currently available of regional-level QoG in Europe, is adopted. The EQI, similar to the ICRG indicator of QoG, consists of three dimensions or ‘pillars’ (‘Quality,’ ‘Impartiality,’ and ‘Corruption’), capturing the three QoG dimensions. In contrast to the ICRG, the EQI data has the advantage of measuring citizens’ own perceptions and experiences of QoG, which are central to the theoretical argument, rather than perceptions based on the assessments of country experts. Citizen-based and expert-based measures correlate with one another on the aggregate and are found to produce congruent results (Svallfors, 2013; Charron, 2016). This dissertation employs both types of measures to capture QoG perceptions cross-nationally.

Paper 4 employs original measures to capture corruption perceptions and their impact on climate policy attitudes. Both actual levels and perceptions of QoG are of interest in this dissertation. However, people’s own perceptions of QoG and their corruption perceptions in particular are central to the theoretical argument. While corruption perceptions may strongly differ from actual levels of corruption, the latter impact the former (Melgar et al., 2010), and high levels of corruption perceptions are enough

⁴² For example, pro-market oriented individuals, which is a common orientation typically among leftists, have in some countries been found to place themselves towards the left rather than right on the left-right political scale.

⁴³ Specifically, the two main indicators of QoG employed in the first three papers are the ICRG and the EQI. What these indicators, and the respective surveys, contain and measure is unpacked and discussed in more detail in each of the papers.

to cause, and in this case, perhaps even crucial in observing, negative effects on levels of trust and climate policy attitudes in societies. The different measures of QoG and corruption employed do portray similar effects on policy attitudes, however.

Trust

Three types of trust feature in this dissertation: political, institutional, and social trust. Social trust is typically measured using one or a combination of the following three survey questions: 1) ‘Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?’, 2) ‘Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?’, and 3) ‘Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?’.

The first item is the most commonly used measure of generalized trust (Paper 2). All three items can also be combined (Paper 1). However, some scholars argue against combining the last item with the former two, asserting the latter is only moderately correlated with the other two (Uslaner, 2018; cf. Newton et al., 2018). Hence, only the first two items should be combined (Paper 3). To see if there are any differences in results, different survey items are employed in the different papers.

Similarly, political trust is measured using one or a combination of traditional survey items gauging trust in parliament, politicians, and political parties,⁴⁴ and institutional trust using two or more measures of trust in the legal system, the police, and the civil service depending on the availability of items in the employed surveys.⁴⁵ Measuring political and institutional trust separately allows for distinguishing between trust in those who propose and decide on policy instruments and those who help ensure that they are properly and effectively enforced.

In addition to traditional measures of trust, original situation-specific measures are employed (Paper 4). These measures were designed to capture trust in other people, politicians, and civil servants to do *what* (Bauer & Freitag, 2018), and nuances that traditional measures potentially miss, and to facilitate interpretations of results. To capture social trust, for example, respondents are asked to what degree they trust other people to change their own behavior to decrease emissions, rather than free ride on others’ efforts.⁴⁶ To capture political trust, respondents are asked to what degree they trust politicians to decide on the most effective and fair policy instruments to reduce GHG emissions. To capture institutional trust, respondents are asked to what degree they trust civil servants to execute climate policies effectively and fairly, according to the principle that all are equal before the law. Employing behavior-specific items like these may be favorable when trying to tap into more specific underlying mechanisms.

All of the above are measures of trusting attitudes, which are the most common source of data on trust but weak predictors of actual trusting behaviors (Ortiz-Ospina

⁴⁴ Papers 1, 3 and 4 employ a combination of all three items. Paper 2 only employs trust in politicians, since this item is argued to be more strongly correlated with QoG than measures of trust in government (Harring, 2016).

⁴⁵ Papers 1 and 3 employ measures of trust in the legal system and the police. Paper 2 only measures political trust and not institutional trust. Paper 4 employs all three measures of institutional trust, including trust in the civil service.

⁴⁶ This item shows effects of social trust that go in the opposite direction compared to traditional measures, showing that higher social trust can generate *less* support for climate policy instruments rather than more.

& Roser, 2016). Measuring actual trusting behavior in an experiment, it is found that trusting attitudes seem to predict trustworthiness (i.e., individuals who say they trust others tend to be trustworthy themselves) (Glaeser et al., 2000). Conversely, other scholars argue that trustful individuals tend to perceive others as trustworthy (Stolle, 2001). Thus, while measuring trusting attitudes may not predict actual trusting behaviors, it may be a sufficient measure for gauging the effects of trust on policy attitudes. Trust is said to reflect the trustworthiness of others, or is the perception that others are trustworthy (Hardin, 1993; Levi & Stoker, 2000), and they also likely reinforce one another (You, 2012), meaning that measuring one unavoidably captures the other.

3.2.3 Confounding factors

There are a few potential confounding factors to take into account.⁴⁷ At the individual level, controls for the normal suspects such as personal or household income, education, and age are included. These factors have been found to correlate with climate policy attitudes in previous research (Shwom et al., 2015). In addition, concern for one's country's fossil fuel dependency is controlled for.⁴⁸ A similar indicator has been used as a proxy for countries' current energy policy contexts (Stadelmann-Steffen & Eder, 2021). Political interest, which may play a confounding role in the effects of existing policies, issue saliency and knowledge on climate policy, is likewise controlled for.⁴⁹ General knowledge questions about familiarity with climate change and policy tools may be more prone to social desirability bias and were thereby left out.

At the contextual level, controls for economic development, economic inequality, and environmental quality (measured as a country's environmental performance) are included. The rationale behind including them as controls is discussed in more detail in the individual papers. In short, economic development is included since environmental protection may be affordable only in rich countries, economic inequality due to perceived regressive effects of environmental taxes on low-income households (cf. Sterner, 2012), and environmental quality since the current state of the environment and countries' climate action may impact demand for climate policies.

Many of the contextual-level factors are related to and plausibly endogenous to one another and QoG in particular.⁵⁰ Hence, including them may end up blurring the evidence of the moderating effect of QoG (see Svallfors, 2013), rather than rule out competing explanatory factors. Controlling for these alternative factors may do more

⁴⁷ Please see the individual papers for more detailed discussions of the control variables included in each paper.

⁴⁸ National carbon dependency has been found to inhibit public responses to climate change (e.g., Hao et al., 2020), and energy dependency seemingly fuels public aversion towards carbon taxes (Umit & Schaffer, 2020).

⁴⁹ Existing climate policies and potential feedback effects on policy support cannot be controlled for or modeled with the data at hand, while issue saliency may be too close to measuring value orientations. They are considered as factors that may introduce background noise in the models, and should not significantly affect the theorized moderating relationships.

⁵⁰ Environmental quality may impact both the level of environmental concern and policy attitudes, which means that controlling for it may introduce bias, and is therefore not included in all of the models. Similarly, economic development may impact both (post-materialist) pro-environmental value orientations and policy support.

harm than good.⁵¹ Therefore, the contextual-level controls are included in some but not in all models to see potential differences in results. Economic development, e.g., is excluded from the exploratory analyses in Paper 1 due to potential multicollinearity issues with QoG but is included in the analyses in Papers 2 and 3 where the main moderating effect of QoG is tested.⁵² Except for these endogeneity issues, the potential for reverse causality is deemed to be slim (e.g., it is more likely for QoG to impact climate policy attitudes, and values to impact policy attitudes, than the other way around). The potential risk for omitted variables is also small given the extensive controls and alternative modeling strategies utilized in the papers to isolate the focal relationships.

One possible individual-level explanation not included in the models relates to party sympathy. Support for the current political parties in office may potentially affect policy support. However, controlling for this was not possible.⁵³ A measure of trust in politicians in general, rather than trust in government may be an alternative way of at least partially alleviating this problem. Paper 2 employs a measure of trust in politicians, in an attempt to make policy support less susceptible to the ideological positioning and level of environmentalism of current political parties in office. However, even if the employed measures capture policy attitudes spurred by incumbents, this is more likely a source of background noise. Observing an effect of QoG on policy attitudes is still interesting, and perhaps even more so if they reflect party sympathies.⁵⁴

Finally, the level of democracy may be an important explanatory factor of both existing climate policies and policy attitudes. However, in order to not overload already overly complex models, and since the majority of countries under study in the employed datasets are developed democracies, this contextual-level explanatory factor was excluded from the current analyses.⁵⁵

3.3 Methods

3.3.1 Multilevel models, structural equation models, and survey experiments

The project combines multilevel analyses and survey experiments to explore the moderating effect of QoG on the interplay between value orientations and attitudes towards environmental taxes. Ordered logistic and linear multilevel models are applied

⁵¹ If a factor correlates with both the main independent variables and the dependent variable it not only counts as an omitted variable, but also as a 'pre-treatment covariate,' which if controlled for may introduce bias (Acharya et al., 2016; Elwert & Winship, 2014). There is, however, a lack of consensus on the matter (Greenland et al., 1999; Rosenbaum, 2002).

⁵² Separating out the effects of QoG and economic development may be difficult. However, controls for income show that personal wealth is not the main individual-level mechanism linking QoG to climate policy support.

⁵³ A measure of party sympathy stands in too close proximity to the measure of political value orientation. The measure of left-right political orientation in Paper 2 builds on respondents' party affiliations. The latter have been found to dampen the effect of ideology on support for environmental spending (Yen & Zampelli, 2021). Moreover, ideological stance of incumbents impacts political trust (Noordzij et al., 2021). Thus, controlling for the ideological color of the political parties in office may not be desirable since it may induce endogeneity bias.

⁵⁴ Apart from party sympathy, the role of political parties in creating or deterring demand for climate policies is not dealt with here. Interested readers are referred to the research on populism, political party elites and climate policy (see, e.g., Sohlberg, 2017; Boasson et al., 2021; Huber et al., 2021; Kulin et al., 2021; Conversi & Hau, 2021).

⁵⁵ Readers interested in the effect of democracy on environmental policy outcomes are advised to consult Povitkina (2018).

to individual-, regional-, and country-level data from international surveys (see section 3.1) to identify cross-national patterns in public support for climate taxes and find evidence of the hypothesized moderating effect of QoG. The moderating effect is then further examined using survey data, collected with an experiment, from two countries.

Multilevel models have the advantage of taking into account the hierarchical structure of observational data. Employing individual-level data sampled from countries and regions may introduce contextual effects, which cause dependency in the data (meaning that individuals from the same country or region are more likely to be similar to one another than individuals from other countries or regions). Specifically, multilevel models consider individuals as nested within the sampled countries or regions, and account for correlations between individuals that are induced by higher-level contextual variables.⁵⁶ Moreover, they are necessary to model the hypothesized moderating relationships, where the association between individual-level value orientations and policy attitudes are theorized to be contingent on a contextual-level factor.

Moreover, trust is analyzed as one potential individual-level mechanism behind the direct and moderating effect of QoG (Papers 1 and 3), using multilevel structural equation modeling (SEM), and what aspects of QoG that matter for policy support by disaggregating its three dimensions (Paper 3). SEM allows for examination of presumed casual pathways. In this dissertation, SEM is used to examine the theoretical associations between the variables of interest and the models test whether the observed data are consistent with the causal structure.⁵⁷ While SEM is described as a tool to probe causal structures in postulated relationships, they still need to be underpinned by theory. Moreover, the direction of causality cannot be confirmed unless multiple pathways are examined, and all relevant or presumed causal pathways are included in the same model (see section 3.3.2 on Limitations).⁵⁸ This dissertation applies SEM to both observational and experimental data to conduct mediation analyses and employs the structural equation modeling framework in Stata (using *gsem* and *sem* commands).

To better address the question of causality in the observed patterns, which the three observational studies leave open, the last study (Paper 4) builds on survey experiments and original survey data from two countries. The survey experiment employs randomized vignettes varying information about corruption in the respondents' country, to temporarily sway their corruption perceptions upwards or downwards. After having received the treatment, they are asked several questions about their climate policy attitudes. By temporarily manipulating participants' corruption perceptions, the effect of corruption (as one core dimension of QoG) on climate policy attitudes and trust is

⁵⁶ Thus, multilevel models address the problem of dependence between observations, or 'dependence in errors,' which violates the assumption of traditional regressions that units of analysis are independent from each other. By accounting for the nested structure of the data, they produce more accurate estimations. If contextual-level effects are ignored, regression parameters and standard errors may be biased (Guo & Zhao, 2000; Hox et al., 2017), with underestimated standard errors and overestimated significance levels as a result (Allison, 2009).

⁵⁷ One advantage of SEM is that plenty of measurements and tests can be performed at the same time using one statistical estimation procedure that calculates errors based on all of the information in the model, which allows for more accurate estimations of errors than, e.g., if each part of the model were to be calculated and estimated separately (MacCallum & Austin, 2000). SEM methods have, however, also been subject to critique that draws to light potential problems with underlying mathematical formulas, external validity, and biases (Tarka, 2018).

⁵⁸ For a review of the history of the causal interpretation of SEM see, for example, Bollen and Pearl (2013).

observed. Interactions between corruption perceptions and value orientations are then examined in observational analyses of the collected survey data to identify moderating effects.⁵⁹ Lastly, post-treatment questions measuring trust and policy-specific beliefs are employed to further explore the underlying individual-level mechanisms.⁶⁰

Survey experiments are often argued to combine the benefits of surveys and experiments by drawing on their respective strengths, while eliminating many of their weaknesses through research design (Mutz, 2011). Observational studies employing advanced statistical modeling techniques such as multilevel modeling and SEM are useful when the aim is to identify patterns cross-nationally, but limited when it comes to supporting causal inferences. Thus, in combining observational studies with survey experiments this dissertation benefits from the strengths of both research methods, i.e., the external validity of cross-sectional analyses and the internal validity of experiments. The various methods are employed to help fulfil the aims of the dissertation, enhance the generalizability of findings, and move one step closer towards causality.

3.3.2 Limitations

As stated previously, the general modeling approach adopted in the cross-sectional analyses in this dissertation is to control for as many confounding individual- and contextual-level factors as possible that may impact climate policy support. In addition, varying modeling approaches and alternative operationalizations of the main variables of interest are employed to assess the robustness of the results to alternative measures, control variables, and modeling approaches.

The first three observational studies (i.e., Papers 1-3) employ varying statistical models, including linear and ordered logistic multilevel models.⁶¹ The models are applied to data at different levels of analysis, including regions within countries, which allows for the inclusion of country-fixed effects. In the regional analysis, the N is thus significantly increased, and other country-level characteristics held constant, which should help provide for a more *robust test* of the theorized moderating relationships (Paper 3). Moreover, alternative operationalizations of the main variables of interest – pro-environmental and political value orientations (including environmental values, concerns, and party affiliation), trust (using traditional and original situation-specific measures), and QoG (using expert-based and citizen-based measures) – are employed and various individual- and contextual-level controls included (see section 3.2.3).

The main drawback with the cross-sectional analyses, is that causal inferences cannot be made (see Hill, 2013; Feller & Gelman, 2015). The same holds true for the

⁵⁹ Value orientations are depicted as moderators of the link between corruption perceptions and policy attitudes in Paper 4, while QoG is depicted as the moderator of the link between value orientations and policy attitudes in Papers 2 and 3. However, the aim of the analyses of moderating relationships in all three papers is the same; to observe whether even those individuals who hold pro-environmental values and concerns and otherwise favorable attitudes towards government regulation are less supportive of climate taxes in corrupt institutional settings.

⁶⁰ The survey experiments were pre-registered at the Open Science Framework (OSF) prior to data collection. More information about the research design, applied methods, and surveys can be found in Paper 4 and in the pre-analysis plan that can be accessed through the following link: <https://doi.org/10.17605/OSF.IO/U7PJG>.

⁶¹ The dependent variable is treated as both continuous and categorical to see whether a linear or logistic model fits the data best, and if there are any significant differences in results. There were no significant differences.

SEM models utilized in Papers 1 and 3 to explore the mediating effect of trust behind the direct and moderating effect of QoG (Bollen & Pearl, 2013). SEM models are also employed to study whether trust and policy-specific beliefs mediate the relationship between corruption perception and policy attitudes in the exploratory analyses of the collected survey data in Paper 4. These analyses are observational, employing treated corruption perceptions, and share the same drawback. These models allow us to draw paths between variables of interest, but similar to correlations in regression models, they do not prove that the drawn paths are causal. Omitted variables and paths may bias the estimates from these models, which causes difficulties in the interpretation of results. Including both political and institutional trust in the mediation models, e.g., is necessary not to omit any plausible mediation paths, but the high correlation between them may simultaneously compromise the significance of their indirect effects due to multicollinearity issues (Preacher & Hayes, 2008).⁶² Moreover, mediation analyses employing data from untreated mediators that have, e.g., not been manipulated in an experimental setting, are prone to producing biased mediation effects (Bullock & Ha, 2011). Thus, the mediation analyses should be interpreted with caution.

In an attempt to get closer to the theorized individual-level mechanisms, survey experiments are employed in the final study of the dissertation. However, isolating the effects of randomized and non-randomized treatment effects,⁶³ and learning about causal mechanisms from both experimental and observational studies is difficult and far from unproblematic (see, e.g., Imai et al., 2011). Survey experiments allow for examining different parts of theorized causal chains one step at a time, typically requiring administering distinct treatments of each variable of interest in a series of experiments to arrive at evidence of all the different pathways. This is not possible in the current study, and therefore the experiments only focus on certain paths of the model. Specifically, the casual effect of corruption perceptions on trust levels and attitudes towards climate taxes. Consult Paper 4 for more details on the employed experimental method.

⁶² Examining political and institutional trust in separate models would require them to be independent from and not affect one another (VanderWeele & Vansteelandt, 2015). This would entail assuming that trust in political actors does not reflect or impact trust in other state officials such as bureaucrats in the public administration, which theoretically is rather unlikely.

⁶³ In this case, referring to the effect of corruption perceptions and QoG in survey experiments and cross-sectional studies.

4

Results

4.1 Overview of the studies and the main findings

The dissertation examines from a number of different angles the role of QoG and how it impacts climate policy support. Specifically, how QoG impacts the link between value orientations and climate tax support. The first three observational studies employ data from existing international surveys, while the last study analyzes original data collected with a survey experiment fielded in two countries. Adopting different statistical approaches, levels of analysis, and operationalizations of the main variables of interest, they probe the main theoretical model depicted in Figure 7 (section 2.8.2).

First, Paper 1 takes a look at how QoG and trust correlate with support for three different types of climate policy instruments (taxes, subsidies, and bans) and, finding that QoG mainly appears to be correlated with support for taxes, explores whether trust mediates the correlation between QoG and tax support. Second, Paper 2 tests whether there is a moderating effect of QoG on the correlation between public support for environmental taxes and pro-environmental and political-ideological value orientations respectively. Third, Paper 3 provides a more stringent test of the moderating effect by testing the relationships on the regional level, within countries. It also explores what aspects of QoG matter by dissecting the regional QoG measure. Finally, Paper 4, employs survey experiments to explore the specific individual-level mechanisms at play and the causality of observed relationships (see Table 1 for an overview).

In terms of the findings, the first study shows that QoG and social trust are positively correlated with public support for climate taxes, while no statistically significant correlations are found with support for subsidies and bans. Moreover, political trust is more strongly linked with support for taxes than with support for subsidies and bans. The second study reveals that QoG moderates the relationship between value orientations and support for environmental taxes. It shows that environmentally concerned are more willing to pay higher taxes for environmental protection if they live in high QoG countries, and that politically leftist oriented are less willing to pay environmental taxes than rightists and other value groups in low QoG countries. The third study, holding variations in other country-level factors constant, shows additional evidence of the moderating effect of QoG, and indicates that corruption may be the most important aspect. Where corruption is prevalent and trust in state institutions is low,

support for climate taxes may be undermined, even among those we would expect to support them; individuals who hold pro-environmental values and who are concerned about climate change, and citizens with favorable attitudes towards state intervention.

The more exploratory rather than hypotheses testing analyses in Papers 1 and 3 indicate that trust, and political trust in particular, may explain the direct and moderating effect of QoG. The SEM models applied to the data in Paper 1 suggest that political trust mediates the effect of QoG on support for climate taxes. Similar analyses conducted in Paper 3 indicate that political trust also mediates the moderating effect of QoG on the relationship between value orientations and policy support. However, the results of these analyses need to be interpreted with caution (see section 3.3.2). Building on the findings of Paper 3, that corruption seemingly exhibits the strongest effect, Paper 4 examines whether the effect of corruption perceptions on attitudes to climate taxes is causal and explores the underlying individual-level mechanisms. It shows that increased corruption perceptions reduce trust levels and positive attitudes towards climate taxes, particularly among greens and leftist,⁶⁴ and that perceptions related to trust and policy-specific beliefs (PSBs) may potentially explain the observed relationships.

Taken together, the results of the four studies strongly suggest that QoG matters for public support for environmental taxes, and that pro-environmental and leftist political value orientations and climate tax support are more strongly correlated in high QoG contexts than in low QoG contexts. While corruption perceptions appear to depress political and institutional trust and policy attitudes across the board, pro-environmentally oriented and climate change concerned individuals and those typically in favor of state regulation appear to be more affected. It is also found that corruption perceptions are strongly correlated with PSBs, and that in countries where the level of corruption is perceived to be high, individuals are more likely to believe that climate taxes are ineffective, regressive, cost-inefficient, and just another source of income.

Papers 2 and 3, examining whether greens and leftists are more supportive of climate taxes than those who lack pro-environmental values and concerns and favorable attitudes towards state regulation (H1) and if they are more supportive of such taxes in high QoG settings (H3), find support for both hypotheses. Greens and leftists are more supportive of environmental taxes in general and more supportive of them in high QoG contexts. In addition, examining if individuals in general are more supportive of climate taxes in high QoG settings (H2), limited evidence is found in support of the second hypothesis. National-level QoG seems to generate support for taxes in general, whereas regional-level QoG does not have a statistically significant effect.

Moreover, Paper 4 examines the negative effect of corruption perceptions on attitudes towards climate taxes (H1) and trust (H2), and whether the effect is more pronounced among greens and leftists (H3). Finding that high corruption perceptions reduce both positive attitudes towards climate taxes and levels of trust, it generates support for the first two hypotheses. The third hypothesis, which is probed in an observational analysis of the survey data from the experiment, is somewhat supported by the study, showing that greens and leftists (in Sweden, rightists in Mexico) appear to be

⁶⁴ In Mexico, rightists appear to be more positive towards climate taxes to begin with and in turn more affected by corruption perceptions. This is explained by a difference in meaning of the left-right dimension (see Paper 4).

more susceptible to corruption perceptions than other value groups. The hypotheses and key research findings from the studies are outlined and summarized in Table 1.

Together, all four studies suggest that without a sufficient level of institutional quality (QoG), factors that are typically found to boost climate policy support will not have the expected effects. This may make climate taxes more difficult to implement successfully and effectively, particularly in corrupt institutional settings, despite citizens' otherwise pro-environmental attitudes and preferences for state intervention. Corruption perceptions may, however, have a more important role than anticipated in explaining climate policy attitudes in less corrupt institutional settings (Paper 4), undermining the credibility of effective and successful climate policy implementation. Trust in political actors and institutions as well as negative policy-specific beliefs may help explain the observed relationship between QoG and climate policy attitudes, but further analyses of the more specific individual-level mechanisms at play are needed.

Table 1. Overview of the four studies and key research findings

Studies	Dependent variable	Operationalizations (DV)	Operative research questions	Hypotheses	Method & Analysis level	Data	Key findings
Study 1: Exploring the cross-national variation in public support for climate policies in Europe: the role of quality of institutional context and trust author, published in <i>Energy Research and Social Science</i> .	Public support for climate taxes, subsidies and bans to mitigate climate change. (acceptability, acceptance)	In favor or against increasing taxes on fossil fuels; using public money to subsidize renewable energy; a low energy efficient household appliances; to reduce climate change. (readiness to accept)	1) Is there a correlation between public support for climate policies and levels of QoG and trust respectively? 2) Does the strength of this correlation vary for different types of climate policy instruments? 3) Does trust mediate the correlation between institutional quality and climate policy support?	-	Cross-sectional analysis. Multilevel ordered logit models, and structural equation models, are applied to individual- and country-level data.	ESS8 2016, QoG Basic cross-section 2018 (23 countries, 34837 individuals)	<ul style="list-style-type: none"> • QoG and social trust are positively linked to support for subsidies and bans. • Trust was more strongly linked to support for taxes than to support for subsidies and bans. • Political and social trust appear to mediate the effect of QoG on support for fossil fuel taxes.
Study 2: The contingent effects of environmental concern and ideology: institutional context and environmental taxes for fossil fuel pay author, published in <i>Environmental Politics</i> .	Public support for environmental taxes. (support)	Willingness to pay much higher taxes and prices to protect the environment. (readiness to support)	1) What is the association between pro-environmental and political ideological value orientations and support for environmental taxes? 2) What is the association between pro-environmental and political ideological value orientations and support for environmental tax support?	H1: Individuals holding pro-environmental or leftist value orientations are generally more supportive of environmental taxes than individuals without such orientations or rightists. H2: Individuals in high QoG countries are generally more supportive of environmental taxes than individuals in low QoG countries. H3: The positive effects of green and leftist values on public support for environmental taxes are stronger in high QoG countries.	Cross-sectional analysis. Multilevel ordered logit models are applied to individual- and country-level data.	ISSF 2010, QoG Basic cross-section 2012 (30 countries, 29937 individuals)	<ul style="list-style-type: none"> • Greens and leftists are generally more supportive of climate taxes, than rightists and individuals who lack pro-environmental values. • Individuals with high QoG and leftist values are more supportive of environmental taxes in high QoG than in low QoG countries. • Leftists are less willing to pay environmental taxes than rightists and others in low QoG countries and more in high QoG countries.
Study 3: Quality of government, trust, values, and public support for taxation for climate change mitigation: evidence from 135 European regions (self-authored, unpublished manuscript).	Public support for taxes to mitigate climate change. (acceptability, acceptance)	In favor or against increasing taxes on fossil fuels to reduce climate change. (readiness to accept)	1) Does QoG moderate the association between pro-environmental and political ideological value orientations and support for climate taxes? 2) What aspects of QoG are associated with climate tax support? 3) Can trust help explain the moderating effect of QoG?	H1: Individuals with pro-environmental and leftist orientations are generally more supportive of climate taxes than individuals without and rightist value orientations. H2: Individuals living in high QoG regions are generally more supportive of climate taxes than individuals in low QoG regions. H3: The positive associations between pro-environmental and leftist value orientations and support for climate taxes are stronger in regions with high levels of QoG.	Cross-sectional analysis. Multilevel ordered logit models with country-fixed effects, linear mixed-effects models, and generalized structural equation models are applied to individual- and regional-level data.	ESS8 2016, QoG Basic cross-section 2018, EQI 2017 (15 countries, 135 regions, 1000 individuals)	<ul style="list-style-type: none"> • QoG moderates the relationship between value orientations and tax support, and political trust is a mediating mechanism. • Corruption appears to be the most important aspect of QoG that moderates the relationship and greens is lower in more corrupt regions than in less corrupt regions.
Study 4: Corruption perceptions, trust, and public support for environmental taxes survey evidence from Mexico and Sweden (sole-authored, unpublished manuscript).	Public attitudes towards climate taxes, (support, acceptability, acceptance)	Acceptance of existing carbon tax (acceptance); support for raising carbon tax (support) in favor against increase in existing carbon tax (readiness to accept); WTP (readiness to accept); higher taxes to reduce climate change. (readiness to support)	1) Do corruption perceptions impact levels of trust and attitudes towards climate taxes? 2) Does the link between corruption perceptions and policy attitudes depend on value orientations? 3) What individual-level mechanisms can potentially explain the effect of corruption perceptions on policy attitudes?	H1: Increased corruption perceptions reduce positive attitudes towards climate taxes. H2: The negative relationship between corruption perceptions and attitudes towards climate taxes is more pronounced among pro-environmentally and leftist oriented.	Survey experiment with randomized vignettes and observational analysis of survey data. Independent samples t-test, ordinary least squares, ordered logit, and structural equation models are applied to individual-level data.	Original individual-level data collected in Sweden (1000 individuals) and Mexico (with field in 2022). (2 countries, 6016 individuals)	<ul style="list-style-type: none"> • Corruption perceptions reduce positive attitudes towards climate taxes and trust in political and institutional trust. • The climate policy attitudes of greens and leftists (rightists in Mexico) are more susceptible to corruption perceptions. • Trust and policy-specific beliefs mediate the relationship between corruption perceptions and climate policy attitudes.

Disclaimer: While the papers aim to measure public support for environmental taxes, the employed measures may likely be capturing acceptability and acceptance of such taxes (see sections 2.5 and 3.2.1).

5

Concluding discussion

5.1 Contributions of the dissertation

Natural scientists have argued for implementing climate policy instruments with the greatest environmental effectiveness and economists have developed policies that can attain this at the lowest societal cost. This dissertation considers a third important aspect: the role of public support for the instruments, which has foremost been a concern of environmental psychologists, sociologists, and political scientists. The dissertation is situated at the intersection of these three fields. Drawing on various literatures, including research on values from environmental psychology, and research on trust and institutions from sociology and political science, it develops a theoretical framework and examines if and how quality of government (QoG) can impact climate policy attitudes, and potentially break the link between pro-environmental and political value orientations on the one hand and public support for climate taxes on the other.

The theoretical framework and empirical analyses broaden our understanding of factors that have been identified as crucial determinants of policy support in the climate policy literature. The dissertation shows that left-right political orientations and pro-environmental values do not automatically translate into favorable attitudes towards climate taxes but instead vary depending on one largely overlooked factor – QoG. While there are a few studies empirically examining the role of QoG in explaining people’s environmental policy preferences (e.g., Harring, 2014b, 2016),⁶⁵ the mechanisms were undertheorized and have not been empirically explored until now. In general, the research on climate policy support has struggled to determine the causality of observed cross-national patterns and to identify individual-level mechanisms. This dissertation makes theoretical and methodological advances to help explain and map observed patterns. Moreover, it contributes to an increased understanding of the determinants of climate policy attitudes by studying moderating effects between individual- and contextual-level factors that scholars until recently have largely ignored.⁶⁶

The main theoretical contribution of the dissertation lies in examining the link between pro-environmental and political-ideological value orientations on the one hand and attitudes towards climate taxes on the other. Specifically, the dissertation provides

⁶⁵ Here, support for climate policies is measured rather than policy *preferences*, which entail choices between policies.

⁶⁶ Tam and Chan (2018), Smith and Mayer (2018), and Fairbrother et al. (2019) are a few notable exceptions.

insights into how or through what mechanisms, institutional quality (QoG) moderates this link. Bringing QoG to the forefront of contextual-level constraints that may impact policy support and potentially break the link between value orientations and climate policy attitudes, with trust as one key mediating mechanism, the dissertation also contributes to an increased understanding of state-citizen relations. It provides insights into when state regulation and intervention in the daily lives of citizens is supported and perceived as legitimate by the public, and thus contributes to the question of how climate policies and climate politics overall can be legitimized in the longer term.⁶⁷

The environment, and environmental taxation, may be a good case for studying what explains policy support and acceptance of state intervention in people's lives more generally. Specifically, the dissertation shows under what conditions citizens are willing to support state regulation to solve large-scale collective action problems and undertake costly efforts in order to facilitate public goods provision, and how the institutional context may impact the political feasibility of a certain type of state intervention. This research holds important policy implications. The evidence for the theoretical model and the policy implications are discussed in the next section. The final section then concludes by providing some suggestions for avenues for future research.

5.2 Summarizing the main findings and policy implications

The dissertation set out to investigate the link between public attitudes towards environmental taxation and pro-environmental and political-ideological value orientations, and if the quality of government (QoG) moderates this link and through what mechanisms. Specifically, the dissertation aimed to answer the following research questions:

RQ1: Does QoG moderate the association between attitudes towards environmental taxes and pro-environmental and leftist value orientations? (Papers 2 and 3)

RQ2: What aspects of QoG are associated with support for environmental taxes, and can trust help explain the link between QoG and policy attitudes? (Papers 1 and 3)

RQ3: Is the effect of QoG on climate policy attitudes and trust causal, and what are the more specific individual-level mechanisms at play? (Paper 4)

While QoG does not appear to break the link between pro-environmental value orientations and environmental tax support entirely – people who care for nature and are concerned with climate change and the environment are supportive of implementing environmental taxes even in low QoG contexts – they are less supportive than their counterparts in high QoG contexts. Moreover, leftists, who are generally expected to be more in favor of state intervention and more concerned with environmental issues

⁶⁷ Measuring support for policies, the perceived effectiveness and fairness of political actors and institutions, and particularly institutional that is argued to be key in creating legitimacy (Rose-Ackerman & Kornai, 2004), may indirectly capture the perceived legitimacy of state regulations (see also Gilley, 2006 for an overview of indicators of legitimacy).

than rightists, are less supportive of such taxes than rightists in low QoG contexts. Hence, pro-environmental and leftist orientations appear to be more significant predictors of environmental tax support in high QoG contexts than in low QoG contexts.⁶⁸

Several different aspects of QoG appear to impact climate tax support, and in particular the corruption dimension. Where corruption is prevalent, to the degree where citizens cannot expect proper and impartial enforcement of rules, laws and regulations and equal and efficient provision of public goods and services, support for climate taxes even among those who are typically expected to be in favor of them is likely to be low. The level of political and institutional trust in particular seems to explain the effect of corruption perceptions on climate policy support and the moderating effect that QoG has on the link between value orientations and policy support. Specifically, perceptions that tax revenues will disappear and not be used for public goods provision, that taxes will not be properly and equally enforced, and that others will attempt to evade and not comply with the taxes, are associated with more negative attitudes towards climate taxes. Moreover, corruption also appears to negatively impact policy-specific beliefs. Higher corruption perceptions correlate with perceptions that climate taxes are regressive, ineffective, cost-inefficient, and just another source of income.

While taxes have been argued to be the most cost-efficient solution to tackle climate change and increase environmental protection, it may not be a politically feasible solution in all contexts, taking levels of political trust and institutional quality into account. Building QoG, i.e., effective, and impartial institutions without corruption is not an easy task or something that is achieved during a short period of time. However, there are still strategies that can be used to increase trust in policymakers and policy solutions, while improvements in institutional quality are made. Policy design, information and communication strategies, and commitment devices currently explored in the literature, may reduce negative attitudes towards taxes.⁶⁹ Earmarking tax revenues for environmental purposes and public goods provision, which may help alleviate concerns of where tax revenues will end up, and clearly communicating the objectives, benefits, and expected effects of the policy to target audiences, and tailoring messages to different value groups, could help increase acceptability. Proper enforcement of the policy may in turn increase support for the policy, paving the way for future climate change mitigation policies and adjustments in existing policy instruments.

In institutional settings where government institutions are weak, inefficient, and corrupt, implementation of climate taxes will be the most challenging. In some of these countries, low or a lack of national bureaucratic capacity and institutional structures may make it difficult to build up the institutional structures needed to uphold market-mechanisms such as climate taxes (Steinebach & Limberg, 2022). In these settings, however, ‘pockets of effectiveness’ or ‘islands of integrity’ within central state administrations, i.e., government agencies offering high-quality administration (McDonnell & Vilaça, 2021), may be utilized to gauge public support for climate taxes and other policy instruments despite citizens’ broad perceptions of dysfunctional

⁶⁸ There is some variation, however. As shown by the findings in Paper 4, rightists appear to be more supportive of climate taxes than leftists in Mexico. Hence, rightist orientations may be more significant predictors of policy attitudes in some countries (depending on the meaning of ‘left’ or ‘right’) if they are significant predictors of climate policy attitudes at all.

⁶⁹ See Axsen and Wolinetz (2021); Baranzini et al. (2021); Carattini et al. (2018); Maestre-Andrés et al. (2019).

government. Given the findings of this thesis, the communication and commitment strategies mentioned above may be particularly important in reducing negative attitudes towards climate taxes in more corrupt and ineffective institutional settings.

Given that political trust seemingly is an individual-level mechanism that can be traced back to a contextual-level constraint, which appears to influence trust and moderate the effects of crucial individual-level explanatory factors of policy support, QoG needs more attention. Low institutional quality may not only lead to less efficient or successful implementation of climate taxes. It may also prevent their implementation in the first place due to lacking public support. Policymakers may implement policies that go against public opinion, but this may come at a very high cost and damage both policy and political legitimacy. Thus, policymakers should either make efforts to promote environmental taxes in a way that will increase their acceptability, or resort to other policy instruments that may be more attractive, appropriate, and effective in the institutional context at hand. While we cannot expect a single policy to be the solution to increase climate action cross-nationally (or taxes the ‘silver bullet’ against climate change), implementing a combination of policy instruments that complement one another and work in unison towards the same goal will be a more successful approach.

To be able to provide more specific policy recommendations to policymakers, a continuation of the research agenda, based on the results of this dissertation, is needed. The final section of this introductory chapter outlines avenues for future research.

5.3 Avenues for future research

Extensive research on public support for environmental taxes has been conducted in developed European or Western countries. There is, however, a lack of comparative research and research outside those contexts. Provided that existing research, and this dissertation, shows that levels of QoG, corruption and trust matter for public attitudes towards environmental taxes, such taxes can be expected to work less properly and efficiently in more corrupt contexts. In developing countries, where levels of corruption are usually higher than in many European countries, public resistance may pose an even greater challenge, preventing their implementation. Expanding the scope of empirical studies beyond European and OECD countries should be a priority in future research, to provide insights into suitable policy solutions and how to facilitate implementation of climate change mitigation policies in various institutional settings.

Support for other types of climate policy instruments also needs further investigation. To date, support for instruments such as subsidies and stricter regulations have been less studied in comparative research. This may be partly due to few and rather blunt measures of attitudes towards these instruments. Studying public support for various policy tools separately and as part of policy-packages (Wicki et al., 2019) is an area for future research. While future research should not be restricted to studying the role of values, trust, and QoG in explaining support for various policy instruments, data over longer periods of time is needed to be able to convincingly show that QoG plays a causal moderating role. This is also relevant for other explanatory factors.

Having data over time to study in the future may also facilitate studying policy feedback effects (see Stadelmann-Steffen & Eder, 2021), and how policy outcomes and experiences with implemented policies may impact policy attitudes and trust in the state, and value orientations in terms of the degree of left-right ideological placement and pro-environmental values, and how attenuated or enhanced they may be by previous experiences (see Campbell, 2012). Measuring individuals' experiences with existing policies and exploring policy feedback effects was beyond the scope of this dissertation, but it is an important next step. Examining how policy feedback effects potentially affect the theorized moderating relationships may provide a more nuanced picture and further enhance our understanding of them.⁷⁰

In addition, examining potential interaction effects between pro-environmental values and concerns and political value orientations may prove a promising area of investigation.⁷¹ The relationships between these value orientations and their interplay with other potentially important individual-level factors such as income and education warrant further investigations. Given the mixed findings regarding the link between political value orientations and climate policy attitudes in this dissertation, the role of the left-right dimension and political value orientations in various policy contexts and institutional settings also needs further investigation.

Whether similar moderating effects of QoG on the relation between value orientations and policy support exist also in other policy domains is an empirical question for future research. The environment may be a special case in some respects, being a complex and often disputed policy domain with many conflicting interests (Matti, 2009). However, as this dissertation shows, a similar theoretical reasoning on the moderating role of QoG in explaining policy attitudes among value groups in the welfare policy domain (Svallfors, 2013) seems to generalize to the climate policy domain.

One explanation for why we find similar results in these two domains, is that both environmental and welfare policies help provide public goods, made possible through taxpaying citizens. In both cases there are collective action problems, when it comes to contributing to the provision of public goods by complying with the taxes that help provide them. Moreover, both involve transfers of money from large segments of the population to potentially corrupt, inefficient, and partial governments.

Trust in public institutions and political ideology are found to be the most important predictors of public attitudes towards welfare and climate change policies in Europe (Otto & Gugushvili, 2020). Ignoring problems of low institutional trust may be detrimental to people's willingness to pay for public goods, particularly in institutional settings where impartial government institutions such as legal and regulatory agencies are perceived to be highly corrupt (Kassahun et al., 2021). Research has demonstrated that government efficiency impacts the performance of policies and sustainable policy outcomes (Jahn & Suda, 2022), and highlighted the lacking administrative capacities across countries to implement a growing number of environmental

⁷⁰ Greens in corrupt settings who have experienced poor implementation of climate policy instruments, for example, may reinforce the negative effect of corruption on policy support, lower political trust further, reduce the importance of values for policy attitudes, and in turn prevent the implementation of future climate policies – a negative policy feedback effect.

⁷¹ A person who holds leftist political value orientations *and* strong pro-environmental values, for example, may be more supportive of climate taxes than a leftist person who lacks strongly pronounced pro-environmental value orientations.

policies (Limberg et al., 2021). However, more research is needed on the role of trust in political actors and institutions, and citizens' value orientations and perceptions of institutional quality, in explaining climate policy attitudes to better understand how institutional factors affect the prospects for effective and sustainable climate policy.

Lastly, expanding the scope of and adjusting the theoretical model in the dissertation to be able to explain climate policy support also in other regime types is a task for future research. The theoretical model has mainly been developed to study policy support in democracies, and the same theoretical underpinnings of this model may not hold in authoritarian regimes. We can expect, e.g., the legitimacy aspects in the state-citizen relationship and the role of public opinion in policymaking to differ in autocracies, and that other unaccounted factors also come into play.⁷² Climate policy support in autocracies is an under researched area. What role public opinion, trust, and QoG play in less democratic institutional settings is another avenue for future research.

⁷² Research on democracies and environmental sustainability outcomes has shown that authoritarian regimes perform better than democracies when QoG is low (Povitkina, 2018). Further examinations of the link between climate policies, public opinion and the environmental performance of regimes are needed, however.

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Papers I-IV

- I. Davidovic, D. & Haring, H. (2020). Exploring the cross-national variation in public support for climate policies in Europe: The role of quality of government and trust. *Energy Research & Social Science*, 70, 101785.
- II. Davidovic, D., Haring, N., & Jagers, S.C. (2020). The contingent effects of environmental concern and ideology: Institutional context and people's willingness to pay environmental taxes. *Environmental Politics*, 29(4), 674–696.
- III. Davidovic, D. (2022). Quality of government, trust, values, and public support for taxation for climate change mitigation: Evidence from 135 European regions. *Unpublished manuscript*.
- IV. Davidovic, D. (2023). Corruption perceptions, trust, and attitudes towards carbon taxes: Survey experimental evidence from Mexico and Sweden. *Unpublished manuscript*.