UNIVERSITY OF
GOTHENBURG

HOW POLICY LEGITIMACY AFFECTS POLICY SUPPORT THROUGHOUT THE POLICY CYCLE

SVERKER JAGERS

SIMON MATTI

KATARINA NORDBLOM

WORKING PAPER SERIES 2016:15

QOG THE QUALITY OF GOVERNMENT INSTITUTE
Department of Political Science
University of Gothenburg
Box 711, SE 405 30 GÖTEBORG
November 2016
ISSN 1653-8919

How Policy Legitimacy affects Policy Support Throughout the Policy Cycle
Sverker Jagers
Simon Matti
Katarina Nordblom
QoG Working Paper Series 2016:15
November 2016
ISSN 1653-8919

ABSTRACT

We analyze the importance of legitimacy and compare how drivers of public policy attitudes evolve across the policy process consisting of the input (i.e., the processes forgoing acquisition of power and the procedures permeating political decision-making), throughput (i.e., the inclusion of and interactions between actors in a governance system), and output (i.e., the substantive consequences of those decisions) stages. Using unique panel data through the three phases of the congestion tax in the Swedish city of Gothenburg, we find that legitimacy is indeed important in explaining policy support. Moreover, we find a lingering effect where support in one phase depends on legitimacy both in the present and in previous phases. Hence, our study takes us one step further on the road to understand the complicated dynamic mechanisms behind the interactions between policy making, policy support, and the legitimacy and approval of politicians and political processes.

Keywords: Policy, Support, Attitudes, Legitimacy, Policy Cycle, Environment, Congestion Tax

Sveriker Jagers
The Quality of Government Institute &
The Centre for Collective Action Research (CeCAR)
Department of Political Science
University of Gothenburg
Sverker.jagers@pol.gu.se

Simon Matti
Political Science Uni
Luleå University of Technology
Simon.Matti@ltu.se

Katarina Nordblom
The Quality of Government Institute
Department of Economics
University of Gothenburg
katarina.nordblom@economics.gu.se

Introduction

In all societies it is unavoidable that politicians from time to time decide upon and eventually implement policies that lack support among parts of the citizenry. However, in many instances, initial negative public attitudes gradually alleviate or even transform into broadened public acceptance and support as the public experiences, and thus responds to, different aspects of the policy (Naurin 2010; Page and Shapiro 1983). Empirical evidence is found in relation to numerous major policy decisions ranging from, e.g., the Swedish decision to revert to right-hand traffic in 1967 (which only about 15% of the voters supported in the preceding referendum), across the rather recent introductions of smoking bans in most major cities around the world, to the implementation of single policy measures such as the congestion pricing mechanisms in London (Transport for London 2004) and Milan (Rotaris et al. 2010). These observations of gradually stronger public support *post-implementation* are in line with established theoretical models of policy feedback loops, where a policy simultaneously is treated both as an outcome of political processes, as well as an independent variable influencing public policy attitudes and thus constituting new inputs to the political system (Mettler and Soss 2004; Schattschneider 1935; Skocpol 1992).

Although the public policy-public opinion nexus is rather well researched, seen from Easton's systems perspective (e.g., Easton 1953), i.e., where policy outcomes affect both the incentives and the resources of the mass public (cf. Pierson 1993; Soss 1999; Svallfors 2010), significantly fewer studies theorize and scrutinize the *internal dynamics* of the policy cycle and the mechanisms that drive changes in public policy attitudes across different stages of the policy process. To better grasp how the feedback effects actually play out between citizens and policy makers, such an approach is key.
In this paper, we suggest that post-implementation changes in policy attitudes are the result of a process that unfolds throughout the whole policy cycle, from initial proposal to final implementation. Furthermore, we theorize that the perceived legitimacy, i.e., whether the policy arises from the rightful source and process of authoritative decision-making and whether its content pertains to a normatively justifiable interest of a policy (cf. Beetham 1991; Matti 2010), impact public support across the input, throughput, and output stages of the policy process. Thus, while we see the policy cycle as a continuum (ranging from agenda setting, decision-making, implementation, monitoring, evaluation, and eventually proceeding again to agenda setting), we refer to a policy process as a subset of this cycle, and in our case it spans the decision-making, implementation, monitoring, and evaluation phases.

In order to test our theoretical predictions, we make use of a unique panel data set, allowing for a systematic comparison of public policy attitudes and their antecedents, across the whole process of deciding upon and implementing a congestion tax in the Swedish city of Gothenburg. In the next

section, we first set the theoretical scene, after which we model this policy process and derive four hypotheses for empirical testing. In section 3, we account for our methods, measurements, and descriptive statistics of the data. In section 4, we present our results, which is followed by a discussion and concluding section.

Theory and Hypotheses: The Mechanisms of Policy Support

To grasp the dynamics of policy support as the policy process moves across the stages of the policy cycle, it is essential to consider if and how the mechanisms and factors likely to affect support change over time. Taking up this gauntlet, we start from the proposition that the antecedents of policy support stem from the perceived legitimacy of the policy. Accordingly, if perceptions of legitimacy, and what legitimacy entails, change throughout the policy process being studied, this should subsequently be manifested through corresponding changes in public policy support.

Legitimacy

Indisputably, legitimacy is one of the foundational concepts in most of the social and political sciences, although rarely associated with the support or compliance on the specific policy level. Most commonly, it has an intimate relationship with political power and authority and is frequently treated as an independent, explanatory factor behind phenomena such as regime performance and as a necessary trait for actors, e.g., states, international regimes, and political institutions, who aspire to avoid being ousted through elections or revolutions (Beetham 1991; George 1980; Smoke 1994). Elsewhere, legitimacy is seen as a prerequisite for political authority, creating the right for the Government to expect obedience from its citizens when exercising its power (Buchanan 2002; 2003), therefore determining the costs associated with monitoring and enforcing public compliance (Beetham 1991; Birch 2001; Parkinson 2003; Stoker 1998).[1] In this category we also find a broad range of research occupied with the performance of new, primarily subnational, governance regimes, confirming the suggested connection between high levels of political legitimacy and correspondingly higher levels of support and voluntary compliance with political decisions (cf. Black 2008; Ostrom 2005; Stern 2008; Tyler 1990).

Input, Throughput, and Output Legitimacy

Several sources to legitimacy are acknowledged in the literature. Broadly following Scharpf's (1999) Lincolnesque distinction between "government by the people" and "government for the people" (cf. Hodson and Maher 2002; Schmitt & Thomassen 1999; Skogstad 2003), these sources either refer to legitimacy as being founded in the processes forgoing the acquisition of power and the

[1] As captured by Eckstein (1971, 53), "It is hard to think of any goal that is likely to be attained effectively if illegitimacy is great, and certainly none that could be as effectively attained with low as with high legitimacy."

procedures permeating political decision-making (input legitimacy), or as connected to the consequences of those decisions (output legitimacy).

Thus, focusing on the input side assists us in identifying the structural problems facing contemporary political institutions, for instance, the well-researched democratic deficit of the European Union, or in targeting elements of representative democracy such as decision-making accountability and control through elections (e.g., Føllesdal and Hix 2006). However, considering output legitimacy may also be crucial, especially in the study of a specific policy or policy tool, as it contributes to our understanding of the public's longer-term reactions and responses to these policies (Finger and Finon 2011; Scharpf 1999; Wolf 2002). Thus, for output legitimacy to be generated, decisions need to conform to the public's expectations and work for the benefit of the public.

Mainly in studies concerned with new governance systems (i.e., where traditional logic of hierarchical government are challenged by the inclusion of a multitude of stakeholders, often spanning multiple levels of governance), it has been recognized that merely focusing on legitimacy as a characteristic of input or an output is insufficient if we are to fully understand how legitimacy impacts the public's policy support (Doberstein and Millar 2015; Schmidt 2013). To comprehensively explain why some new governance systems perform better than others, some scholars therefore propose also analyzing throughput legitimacy, as distinct from traditional representation (input) or performance (output). The throughput dimension of legitimacy is significantly less theorized (Schmidt 2013) and is typically conflated to be merely an aspect of input legitimacy (Bäckstrand 2006; Scharpf 1999). However, examining political decision-making and implementation by treating throughput as a separate aspect of legitimacy allows for a specific focus on the quality of inclusion, interaction, and procedures that can nuance the legitimacy-inducing aspects of the decision-making process, particularly in multilevel governance structures.[2]

Policy Legitimacy

Despite the growing interest and the assumed relevance of legitimacy for explaining regime performance, legitimacy has yet to become a prominent point of departure for explicit studies on public policy and specific policy measures. For the most part, public policies are viewed as products emerging from a political system. Subsequently, a policy's legitimacy is mainly seen as dependent on the legitimacy of a broader political system. As Wallner (2008) concludes (see also Gormley 2007; Smoke 1994), the majority of empirical research in the field of policy studies tend to be concerned with evaluating the effectiveness or efficiency of policies or political programs by considering technical-administrative factors such as problem definition, selection of policy tools, access to re-

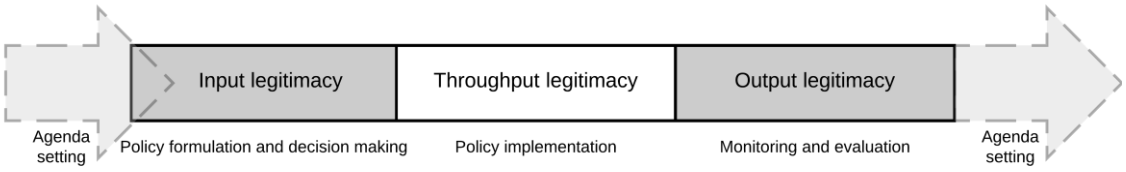
[2] It is thus intimately linked to the inclusion of deliberative practices and broadened participation where "all those subject to the decision in question" (Dryzek 2001, 651) also are allowed to participate and deliberate throughout fair, open, inclusive, and transparent governance processes.

sources, or the performance of the actors involved in the policy implementation process. This means that hitherto studies on specific policies and policy instruments, with a few notable exceptions (cf. Citrin and Muste 1999; Montpetit 2008; Schneider, Nullmeier, and Hurrelmann 2007; Wallner 2009), have systematically disregarded the proposition that the legitimacy for a *single policy* might also be a highly significant component affecting its overall performance (Merthens 2004; Skocpol 1997; Williams and Edy 1999). Thus, following Peters (2005), legitimacy is not only a matter to be associated with macro-level politics, such as regime stability or performance. Rather, it is equally significant at every level of politics, including micro-level decisions, such as the implementation and use of specific policy instruments. In these cases, it seems reasonable to assume that not only the substantive outputs of a policy, but also the processes and procedures prevalent throughout the policy cycle, affect perceptions of the policy's legitimacy, and subsequently, whether or not the policy is supported.

On the policy level, therefore, distinguishing between input, throughput, and output allows for analyzing how the sources of legitimacy, and thus the drivers of public policy support, vary as the process moves forward through the policy cycle: from initial decision-making (input), across implementation (throughput), to the general public's evaluation of policy outputs. By the same token, as political legitimacy can generate public support for an authority and, in the longer term, also a propensity among the public to subordinate to that authority, we propose that *policy legitimacy* can serve a similar function as a driver behind policy support.

The conceptualization of legitimacy as stemming from different sources during the input, throughput, and output phases, respectively, implies that the legitimization of authority should be viewed as dynamic. Initially it spans the procedures determining the gaining and exercise of power as well as the expected output. Thereafter it primarily involves the processes of implementation, and finally, it concerns the evaluation of actual consequences or outputs of decisions being made. On the policy level, this suggests that a policy should not be considered a finished project once a formal political decision has been made, but rather as being caught in a constant process of development, making it increasingly difficult to isolate decision-making from implementation, and output from process (Easton 1953; Friedrich 1940; Kingdon 1995; Stimson, Mackuen, and Erikson 1995). We illustrate this line of reasoning in figure 1, where we suggest that factors associated with input legitimacy determine the level of pre-implementation public policy support, factors associated with throughput legitimacy determine the level of support during the implementation phase, and output legitimacy factors affect the level of post-implementation support.

FIGURE 1, TYPES OF LEGITIMACY AND THEIR POSITION IN RELATION TO THE STAGES OF THE POLICY PROCESS



Note: Figure 1 illustrates the synchronous relationship between the phases constituting a policy process, i.e., the formulation, implementation, and evaluation of policy, and the different forms of legitimacy (input, throughput, and output). As the two arrows suggest, the output of, and public reaction to, one policy decision sets the agenda for future policy formulation thus creating a cyclical motion over time.

Modeling the Policy Process

In this section we sketch a simple theoretical model that illustrates our theoretical reasoning that goes through the three steps of the policy process in accordance with figure 1. We think of a timeline, where $t = 1$ indicates the input phase, $t = 2$ the throughput phase, and $t = 3$ the output phase. In $t = 1$, we focus on input legitimacy, i.e., the procedures concerning both acquisition of power and decision-making and the trust in policy makers' ability to make high-quality decisions. According to Norris (2011), approval of incumbent office holders and agreement with core principles and normative values are important in determining legitimacy at this stage. Hence, we can express input legitimacy, L_1, as the positive function

$$L_1 = L(A_1), \qquad (1)$$

where A_1 measures the approval and agreement of the procedures and of the decision-makers in the initial phase.

In order to explain policy support in this initial phase, we add to the perceived legitimacy of the political process the effect of expected policy outcomes. To account for expected outcomes we include both consequences for the individual in terms of perceived changes in costs and benefits (e.g., Frey 1997; Guagnano, Stern, and Dietz 1995; Schuitema, Steg, and Forward 2010,) and for the collective in terms of the policy's ability to reach collective goals (e.g., Jagers and Hammar 2009; Kallbekken and Sælen 2011; Lubell, Zahran, and Vedlitz 2007). Individual, *i*', policy support in the input phase thus depends on the expected utility following the policy:

$$E(U_i) = E_i[U(C_i, G, L_{IN})], \qquad (2)$$

where E indicates the expectations operator. C_i is the individual's private consumption and G is the (positive) effect generated by the policy. Expected utility of the policy is also affected by how legitimate the process is perceived for the time being. That is, for given levels of C_i and G, the individu-

al experiences a higher level of well being if the policy is perceived to be legitimate than when policy making is done illegitimately. Hence, support in the initial input phase, Y_1, depends positively on the expected outcomes C_i and G, as well as on L_1:

$$Y_1 = y(E(C_i), E(G), L_1), \qquad Y_1 \in (-\infty, \infty), \tag{3}$$

where $Y_1 > 0$ implies approval of the policy and $Y_1 < 0$ implies objection toward it.
In the two subsequent phases, the decision has already been made and the decision-makers are evaluated by the citizens who compare the decision and policy with their personal attitudes. The change in approval, A, from one phase to another can be described as

$$A_t - A_{t-1} = a(Y_{t-1} * D_t), \quad \forall t > 1 \tag{4}$$

$$D_t = \begin{cases} \alpha_t > 1 & \text{if } Y_{t-1} < 0 \\ 1 & \text{otherwise} \end{cases}$$

a is a positive function, implying that the stronger the policy support in the previous phase, the more one will approve of the politicians who made the decision or implemented it (depending on the phase) in a similar vein as *retrospective voting* (Fiorina 1981). The inclusion of D suggests that due to disappointment aversion, the marginal effect on approval would be stronger for those who objected to the decided policy than for those who approved of it (see e.g., Gul 1991). We also let this effect vary across phases, as the disappointment may be more decisive in some phases than in others.

When it comes to legitimacy in the *throughput* and *output* phases, it would still be affected by approval (like in (1)) and the change in legitimacy is expressed as a consequence of altered approval in the following way:

$$L_t - L_{t-1} = l[(A_t - A_{t-1}) * F_t], \tag{5}$$

$$F_t = \begin{cases} \beta_t > 1 & \text{if } A_t - A_{t-1} < 0 \\ 1 & \text{otherwise} \end{cases}$$

Just as the change in approval between the phases could be affected by disappointment, it is likely that a reduction of legitimacy following reduced approval is stronger than the increase following an approval increase of the same magnitude.

Legitimacy in phase *t* could thus be expressed as the sum of input legitimacy from (1) and the changes in (5). However, to allow for persistence in preferences, we let the effective legitimacy in phase *t* = 2 and t = 3, $\hat{L}_t$, be

$$\hat{L}_t = L_1 + \sum_{k=2}^{t} \gamma_k (L_k - L_{k-1}) \qquad (6)$$

$\gamma_k \in [0, 1]$.

Hence, we could express effective legitimacy in the throughput and output phases as

$$\hat{\mathrm{L}}_2 = \mathrm{L}_1 + \gamma_2(\mathrm{L}_2 - \mathrm{L}_1) = (1 - \gamma_2)\mathrm{L}_1 + \gamma_2 \mathrm{L}_2$$
$$\hat{\mathrm{L}}_3 = \mathrm{L}_1 + \gamma_2(\mathrm{L}_2 - \mathrm{L}_1) + \gamma_3(\mathrm{L}_3 - \mathrm{L}_2) = (1 - \gamma_2)\mathrm{L}_1 + (\gamma_2 - \gamma_3)\mathrm{L}_2 + \gamma_3 \mathrm{L}_3.$$

No persistence against the policy would imply that $\gamma_2 = \gamma_3 = 1$, i.e., only present legitimacy explains effective legitimacy in a certain phase. No change of legitimacy over the policy process, or even the full policy cycle, would instead imply that $\gamma_2 = \gamma_3 = 0$.

Policy support in later phases follows the same structure as the one in the input phase, shown in (3), where the relevant legitimacy measure is the effective one, $\hat{\mathrm{L}}_\mathrm{t}$, determined in (6):

$$\mathrm{Y_t} = \mathrm{y}(\mathrm{E_t}(\mathrm{C_i}), \mathrm{E_t}(\mathrm{G}), \hat{\mathrm{L}}_\mathrm{t}), \qquad \mathrm{Y_t} \in (-\infty, \infty), \quad \mathrm{t}=1, 2, 3 \qquad (7)$$

Depending on the phase, the measures of $\mathrm{C_i}$ and G are either expected values or actual values based on the individual's own experience after implementation. Note that $\hat{\mathrm{L}}_\mathrm{t}$ in phase $t > 1$ may also depend on legitimacy perceived in *previous* phases, depending on the values of γ_2 and γ_3. Hence, policy support in, e.g., the throughput phase becomes a function of both input and throughput legitimacy.

This exposure has shown how legitimacy and policy support may evolve over the policy process and the possible links between the different measures in the three phases. Initial approval of policy makers may have long-lasting effects since it affects input legitimacy, which together with expected policy outcomes determines support in the input phase where policy is being formulated. This support is, in turn, important for how the policy makers are judged once they make the decision. If the decision goes against the general opinion, approval is reduced and legitimacy is likely to fall. This change in legitimacy will possibly affect support into the next period (unless $\gamma_2 = \gamma_3 = 0$) and so on. Next, we will apply this model to a specific policy process and test it with unique panel data.

Hypotheses

With guidance from the model above, we can formulate a set of hypotheses that will be tested empirically in section 4. We apply the model to the decision and implementation of a congestion tax in Sweden's second largest city, Gothenburg. We will analyze both policy support (what people think of the tax itself) and legitimacy in a policy process consisting of three phases (as measured by how the decision and implementation processes were perceived). Our theoretical model allows us to formulate the following hypotheses:

H_1: Legitimacy is a driver of policy support in all phases of the policy process.
H_2: The sources of legitimacy vary across the different phases of the policy process.

Concerning legitimacy, equation (6) opens up different possibilities. H_2 tests whether $\gamma_2 = \gamma_3 = 0$ (i.e., whether there are changes in the sources of legitimacy) or rather $\gamma_t > 0, t = 2, 3$ (i.e., whether effective legitimacy changes over time). According to (5) we should look for changes in legitimacy as a consequence of altered approval as we proceed across the policy process. Moreover, (7) indicates that there is an interconnected relationship between legitimacy and policy support at the input, throughput, and output phases, respectively (i.e., $\gamma_t \in (0, 1), t = 2, 3$). Thus,

H_3: Public policy support in one phase of the policy cycle is a function of legitimacy in both the present and the previous phase(s) of the policy cycle.

Once we have established that legitimacy in previous phases also matters, we can finally hypothesize the relative strength by $\gamma_t > \frac{\gamma_{t-1}}{2}, t = 2, 3$, that is,

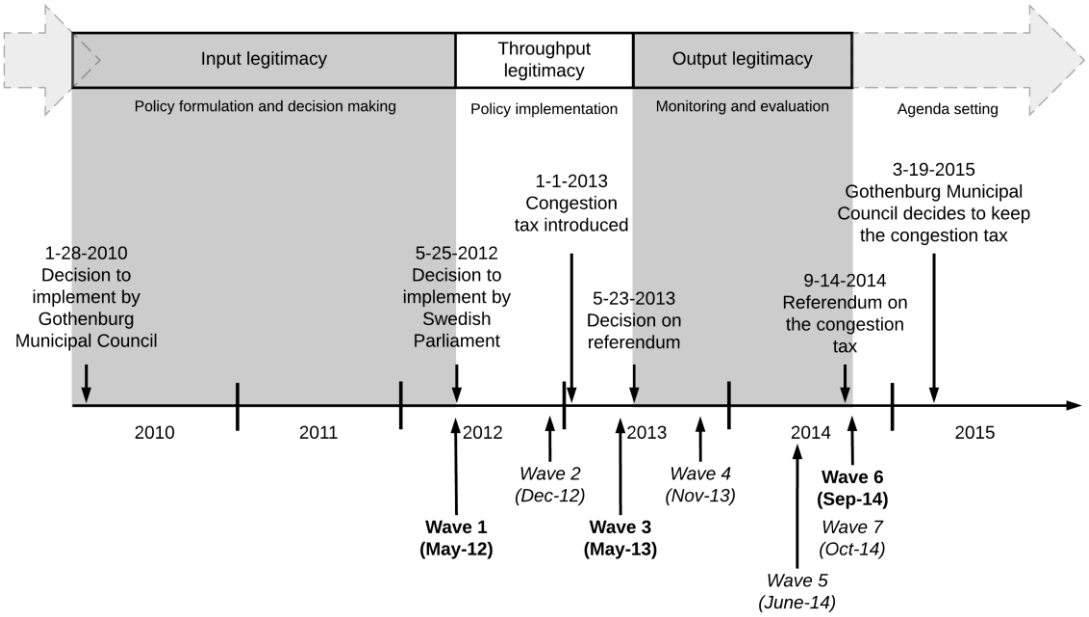
H_4: If H_3 holds, legitimacy in the present phase has stronger explanatory power of present policy support than legitimacy in previous phases has.

Method, Measurements, and Descriptive Statistics of Data

To test our hypotheses, we conducted a field experiment constituted by the introduction of a congestion tax in Gothenburg, the second largest city in Sweden. A congestion pricing mechanism (CPM) is a policy tool aimed at charging the users of certain goods and services for the negative externalities generated by the peak demand in excess of available supply. At a price of zero, demand exceeds supply, causing a shortage that is corrected by charging the equilibrium price rather than bringing demand down by increasing the supply. This pricing mechanism has been used in several public utilities and public services for setting higher prices during congested periods as a means to

better manage the demand for the service and to avoid expensive new investments just to satisfy peak demand, or because it is not economically or financially feasible to provide additional capacity to the service. The Gothenburg congestion tax (Swedish: Trängselskatt i Göteborg) is a CPM implemented as a tax levied on most vehicles entering and exiting central Gothenburg, including some main roads passing by the city. The congestion tax was introduced on January 1, 2013, primarily to reduce traffic and improve the environmental situation in central Gothenburg, as well as to help financing a number of large road and rail construction projects in and around Gothenburg (Transportstyrelsen 2016). In figure 2, we illustrate the timing of the data collection in relation to key events during the congestion tax policy process.

FIGURE 2, KEY EVENTS AND TIMING OF DATA COLLECTION FOR THE GOTHENBURG CONGESTION TAX



The data was collected through a panel survey across seven waves, from May 2012 to October 2014. Enabling a test of changes in public attitudes as the tax implementation was nearing, the first wave of data collection took place seven months before the Gothenburg congestion tax was implemented, followed by a second wave in December 2012, three weeks before the implementation of the congestion tax, in January 2013. Approximately five months after the tax implementation, in May 2013, a third wave of data collection was conducted in order to measure differences in public attitudes before and after the implementation. Data collection encompassing fewer observations and questions, along with a significant drop in response rate, continued in November 2013, June 2014, and September 2014, just before a referendum on the tax. The last wave was carried out in October 2014, just after the referendum. Here, we make use of three waves clearly distinct in time and corresponding to the input, throughput, and output phases of the policy process: May 2012 (wave 1), May 2013 (wave 3), and September 2014 (wave 6).

Before the first wave of data collection, we recruited 7,888 potential participants from two sources. Primarily, participants were recruited through a pop-up ad on the website of the main local daily newspaper in the Gothenburg region (*Göteborgs-Posten*) reaching out to more than 400,000 readers (year 2013), which yielded 4,998 participants who registered their e-mail addresses for the panel study. In addition, a second supplementary participant recruitment method was used, consisting of a large-scale mailed invitation to a random sample from the Swedish population register, and it resulted in an additional 2,890 participants who registered their e-mail addresses for the panel study. The second additional recruitment round was undertaken in order to ensure more variation in the sample. Further, this second sample consisted of two strata in order to include a sufficient number of people living inside the planned toll zones, which was expected to be an influential factor on public attitudes toward congestion taxes (Eliasson 2009). Residential area had to be a selection criterion because the share of people living inside the planned toll zone in the entire Gothenburg region is very small, approximately 8%.

Of the 7,888 people who registered their e-mail address in the panel, 70% (N = 5,521) responded to the first panel wave, about 65% (N = 5,127) to the second wave, and 60% (N = 4,732) to the third wave. In the last wave we use for our analysis—the sixth wave in September 2014—we have 1,422 respondents, but some of them were recruited in later phases. This implies that this study has a within-subjects design with 980 respondents participating in all three waves that we make use of in the regressions. The socioeconomic characteristics for the whole sample, as well as for our subsample, are displayed in table 2.

TABLE 2, SOCIOECONOMIC CHARACTERISTICS

	May 2012	May 2013	Sept. 2014	Subsample
Female	0.34	0.33	0.34	0.33
Education (1 = 9+ years, 7 = graduate studies)	5.0	5.1	5.2	5.0
Age (2013)	48	48	49	50
Subjective income (1=very bad, 5=very good)	4.02	4.03	4.02	4.01
Gothenburg resident	0.63	0.63	0.61	0.63
Number of obs.	5,512	4,399	1,399	980

Our sample is not perfectly representative of the population as it consists of more educated, older, and male respondents than the general population. In all regressions, we therefore controlled for gender, education, age, and subjective income. Furthermore, in the sample a majority of the respondents were residing in Gothenburg, whereas most of the remaining respondents resided in nearby municipalities.

Our policy support variable was captured by a single item repeated across the waves, where respondents were asked, "What is your general opinion about the congestion tax in Gothenburg?" The response alternatives ranged from 1 (very negative) to 7 (very positive). Hence, 4 indicated

neutrality (neither positive nor negative). Table 3a shows how this dependent variable changes over time, across three waves of data-collection, in the input phase (May 2012), throughput phase (May 2013), and output phase (September 2014). The first three columns display the figures for the total samples in the three waves, while the last three columns contain the subsample data—those who participated in all three phases and who we consider as proxies for the input, throughput, and output phases, respectively. Consistent with previous studies on policy support, support for the congestion tax increased with experience, as the respondents became less negative post-implementation. However, 21 months after the implementation, a majority of respondents still displayed negative attitudes. This was also evident when asked for the dichotomous choice, whether one is generally for or against the tax, as displayed in the second row of table 3a. In table 3b we included all steps and the sample was reduced further. From here it becomes apparent that the major changes occur after the implementation (January 2013) and just before the referendum (September 2014), when support increases significantly.

TABLE 3A, ATTITUDES TOWARD THE CONGESTION TAX

	Total			**Subsample**		
	May 2012	**May 2013**	**Sept. 2014**	**May 2012**	**May 2013**	**Sept. 2014**
Total mean (7 steps)	2.62	3.06***	3.39***	2.74	3.05***	3.25***
Share against	72.9%	64.4%***	56.5%***	69.0%	61.3%***	56.9%***
Number of obs.	5,493	4,703	1,422	980	980	980

*Note: *** indicates significant difference from the mean in the previous wave at the 1% level according to t-tests.*

TABLE 3B, ATTITUDES TOWARD THE CONGESTION TAX IN ALL SEVEN WAVES AMONG THOSE REMAINING IN THE PANEL THROUGHOUT THE WHOLE PERIOD

	May 2012	**Dec. 2012**	**May 2013**	**Nov. 2013**	**June 2014**	**Sept. 2014**	**Oct. 2014**
Total mean (7 steps)	2.74	2.70	3.05***	3.13	3.10	3.25***	3.26
Number of obs.	874	874	874	874	874	874	874

*Note: *** indicates significant difference from the mean in waves 1 and 2 at the 1% level according to t-tests.*

The total distribution of responses indicates that the most reluctant respondents, i.e., those who answered that they are very negative to the congestion tax (response alternative 1), account for the major change as their share decreased from about 48% in the first wave to 38% in the second and to 33% in the third.[3]

Although the congestion tax was implemented in Gothenburg, it naturally affects everyone driving into and out of the city. Apparent from table 4, a majority of our sample resided in Gothenburg, though not necessarily within the tolls, and the share is fairly stable across the waves. In all waves, those residing in Gothenburg are significantly less negative to the congestion tax than are those living outside of Gothenburg.

[3] Statistics are available on request.

TABLE 4, ATTITUDES TOWARD THE CONGESTION TAX BY CITY OF RESIDENCE (TOTAL SAMPLE)

	May 2012		**May 2013**		**Sept. 2014**	
	Gothenburg	Outside	Gothenburg	Outside	Gothenburg	Outside
Total mean (7 steps)	2.78	2.34***	3.14	2.83***	3.52	3.18***
Share against	69.2%	79.1%***	62.5%	69.7%***	53.9%	62.1%***
Share of obs.	63%	37%	63%	37%	64%	36%

*Note: *** indicates that those residing in and outside of Gothenburg have different attitudes at the 1% level.*

To measure our variable of main interest, legitimacy, we focus on three items, where the respondents were asked to indicate how democratic, how open, and how fair they perceived the decision-making process to be. Response alternatives ranged from 1 (not at all democratic/not at all open/highly unfair) to 7 (completely democratic/completely open/highly fair) and are presented in table 5. In the last wave, only information about the democracy aspect was available, and as the three measures are highly correlated, we use this variable as a proxy for legitimacy in our regression analyses in section 4.

TABLE 5, PROCEDURAL FACTORS. MEAN VALUES

	Total			**Subsample**		
	May 2012	**May 2013**	**Sept. 2014**	**May 2012**	**May 2013**	**Sept. 2014**
Democratic?	2.38	2.53***	2.59	2.49	2.57***	2.50***
Open?	2.41	2.36**				
Fair?	2.54	2.60***				
Number of obs.	4,094	4,094	1,418	980	980	980

*Note: *** indicates significant difference from the mean in the previous wave at the 1% level according to t-tests.*

Overall, respondents consider the process as neither democratic, nor open or fair. Comparing the results before and after implementation, the process was regarded significantly more democratic and less unfair after implementation. At the same time, it was regarded as significantly less open.

As pointed out in section 2.4, perceptions of the legitimacy of the political process are likely to be affected by the approval of and trust in the institutions responsible for it. Here, institutional trust was measured using a set of items on both a general level, focusing on trust in national political authority, and more specifically on local political institutions. The respondents were asked to indicate their level of trust in the Swedish government, the Swedish parliament, the municipal council, the municipal executive board, and the municipal public administration. Response alternatives ranged from 1 (very high trust) to 5 (very low trust), with 3 labeled as neither high nor low trust. Table 6 displays the extent of institutional trust reported by the total sample of respondents before and after implementation of the policy.

TABLE 6, INSTITUTIONAL TRUST. MEAN VALUES (1 = MEANS HIGH TRUST, 5 = LOW TRUST)

	May 2012	May 2013
Trust in central government	2.64 (2.66)	2.6 (2.67)
Trust in parliament	2.72 (2.72)	2.71 (2.70)
Trust in municipal government	3.53 (3.68)	3.66*** (3.81***)
Trust in municipal council	3.51 (3.64)	3.63*** (3.77***)
Trust in municipal administration	3.44 (3.56)	3.50** (3.62***)
Number of obs.	3,790 (2,393)	3,790 (2,393)

*Note: *** indicates significant difference from the mean in the previous wave at the 1% level according to t-tests. Results for Gothenburg residents in parentheses.*

Between 2012 and 2013, trust in national politicians does not change. However, trust in the municipal politicians is significantly lower after the implementation of the congestion tax. Respondents residing in Gothenburg are no different from the total sample in terms of national institutional trust, but they have significantly lower trust in the municipal institutions.[4] As might be expected, the correlation between political trust on the municipal level and the respondents' view of the process is rather high. There are also strong correlations between political trust on the local level and support for the congestion tax, while the corresponding correlations are approximately zero for trust toward national politicians.

Additionally, to gauge the policy version of output legitimacy we also included a number of items tapping into the citizens' expectations and experiences of the policy and its consequences. When the policy has been in place for some time, citizens have not only experienced the personal effects of the policy but have also received and consumed information regarding societal impacts. The respondents were therefore asked to indicate the extent of agreement with a number of questions tapping into both personal and societal consequences. All items were measured on a 7-point scale and displayed in table 7.

[4] It is not meaningful to make a direct comparison with institutional trust in the output phase, since there was a general election held in September 2014 implying that there were different politicians in office at the time of data collection. However, in order to reduce problems with multicollinearity we instrumented trust by predicted values, which also means that we are able to include trust for the third wave in the regression analysis.

TABLE 7, PERSONAL AND POLITICAL OUTCOMES. MEAN VALUES (1 = DO NOT AGREE, 7 = FULLY AGREE)

	May 2012	May 2013	Sept 2014
The congestion tax goes against my values	4.66	4.45***	
I will have it better than before	2.41	2.93***	2.62***
My economic situation will be worse	4.29	4.12***	3.70***
It violates my sense of freedom	4.30	4.08***	
I think it will affect my quality of life negatively	3.98	3.76***	3.76
My travel time will be shorter	2.13	2.93***	2.42***
It is a necessary measure	2.72	3.03***	3.11**
It is a fair measure	2.70	2.84***	2.84
It contributes to protect future generations	2.91	3.13***	3.10
It Contributes to protect the environment	2.98	3.17***	3.12
It affects primarily those causing the problems	3.09	3.17**	
It will be very cumbersome to pay	3.22	2.41***	
How will the tax affect the congestion (1 = diminish, 7 = increase)	3.22	3.07***	3.69***
How will the tax affect the pollution (1 = diminish, 7 = increase)	3.32	3.26**	
How will the tax affect the noise (1 = diminish, 7 = increase)	3.58	3.55	
How will the tax affect the city's economy (1 = diminish, 7 = increase)	4.18	4.28***	4.35**
Number of obs.[A]	3,580/976	3,580/976	976

*Note: *** and ** indicate a significant difference from the means in the previous wave at the 1% and 5% level, respectively, according to t-tests.*

[A] For variables covered in the two first waves only, the sample is 3,580. The sample for questions covered in all waves consists of 976 respondents.

Like for the attitude toward the tax itself, when it comes to the personal outcome expectancies people became significantly less negative after the tax was implemented. After implementation, the measures were in terms of experiences rather than expectations and it seems that many of the consequences turned out to be less negative than expected (most measures were valued significantly more positive in May 2013 than one year earlier). However, the attitudinal development after implementation was not equally uniform. Whereas respondents in September 2014 were more positive concerning some aspects (e.g., their own economy and the city's economy), they clearly became more negative about others (e.g., the effect on congestion and their own travel time).

Results

In the following, we use regression analysis to establish the relationships between legitimacy and policy support. All regressions are run by ordinary least squares (OLS)and some of the right-hand-side variables are instrumented by predicted value in order to reduce problems with multicollinearity.[5]

Table 8 shows the raw results where the dependent variable is the support for the congestion tax in the input, throughput, and output phases. In model 1, we examine support in the input phase, i.e.,

[5] Alternatively, one could have used ordered logit or probit, but the qualitative results are the same in OLS and easier to display. Ordered logit or probit results are available on request. Collinearity is tested for in all regressions and the presented specifications are not problematic concerning this issue.

well in advance of the policy implementation. As an explanatory variable, we include input legitimacy as measured by the predicted values from the regression that is displayed in the first column in table 9. We also include the expectations of some of the personal and political outcomes that were presented in table 7.[6] In the second phase, May 2013, the congestion tax had been in place for almost five months. Analyzing the support in model 2, we still control for input legitimacy, but also for the potential change in perceived legitimacy between 2012 and 2013. The effect of throughput legitimacy could therefore be interpreted as the sum of the coefficients of legitimacy in 2012 and the difference. However, people tend to be persistent in their views and the support in 2013 could to a large degree be explained by support in 2012. Since input legitimacy may affect initial support, the estimate of input legitimacy could be biased. Therefore, we also control for support in 2012 in model 2b. In May 2013, we control for the experienced outcomes. Models 3a and 3b follow the same structure for support in the output phase. For the sake of comparability, all regressions in table 8 are run on the subsample that responded to the questions in all three waves.

TABLE 8, OLS REGRESSIONS FOR SUPPORT FOR THE CONGESTION TAX

	Model 1 May 2012	**Model 2a May 2013**	**Model 2b May 2013**	**Model 3a Sept. 2014**	**Model 3b Sept. 2014**
Legitimacy (2012)[A]	0.529***	0.643***	0.182***	0.465***	0.126**
	(0.0713)	(0.0748)	(0.0493)	(0.0722)	(0.0540)
Change in legitimacy (2013–12)		0.0997***	0.129***	0.0493	0.109***
		(0.0333)	(0.0213)	(0.0350)	(0.0256)
Change in legitimacy (2014–13)				-0.0114	0.0713**
				(0.0421)	(0.0308)
I will be worse off economically	-0.397***	-0.372***	-0.105***	-0.341***	-0.160***
	(0.0225)	(0.0229)	(0.0163)	(0.0219)	(0.0172)
Shorter travel time	0.368***	0.236***	0.0941***	0.398***	0.135***
	(0.0318)	(0.0290)	(0.0189)	(0.0311)	(0.0244)
Congestion increases	-0.317***	-0.321***	-0.094***	-0.259***	-0.137***
	(0.0416)	(0.0421)	(0.0275)	(0.0421)	(0.0310)
City's economy improves	0.0548*	0.0801**	0.00455	0.182***	0.0450**
	(0.0315)	(0.0327)	(0.0209)	(0.0307)	(0.0229)
Support 2012			0.736***		0.645***
			(0.0197)		(0.0223)
Female	0.227**	0.268**	0.147**	0.194*	0.136*
	(0.100)	(0.106)	(0.0680)	(0.100)	(0.0731)
Age 2013	-0.0136***	-0.0198***	0.00753***	-0.0156***	-0.00710***
	(0.00357)	(0.00376)	(0.00242)	(0.00360)	(0.00264)
Education	-0.0503	-0.0781*	-0.0470*	-0.0747*	-0.0429
	(0.0385)	(0.0405)	(0.0259)	(0.0388)	(0.0283)
Gothenburg	0.350***	0.442***	0.0879	0.388***	0.104
	(0.0958)	(0.100)	(0.0647)	(0.0959)	(0.0706)
Income	-0.129**	-0.0434	-0.0164	-0.0600	-0.0245
	(0.0537)	(0.0559)	(0.0357)	(0.0532)	(0.0388)
Constant	3.563***	3.912***	1.489***	3.312***	1.243**
	(0.421)	(0.445)	(0.291)	(0.435)	(0.298)
Number of observations	972	969	969	966	966
***R* squared**	0.593	0.568	0.824	0.603	0.789

*Note: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1*
[A] Instrumented by predicted values.

From table 8 it is clear that input legitimacy is a highly important explanatory factor for support in the input phase. In the throughput phase, input legitimacy still plays a role, although throughput legitimacy is more important. In the output phase, just before the referendum, legitimacy in all

[6] Due to collinearity, we cannot include all measures.

phases matters to a significant degree, where output legitimacy plays the most important role. The expectations/realizations of policy outcomes matter in all phases.

Many of the variables included in the regressions in table 8 are significantly correlated,[7] which makes the magnitudes of the coefficients somewhat unreliable. However, the qualitative results (i.e., signs) are valid. In order to reduce this potential endogeneity problem, we also present the results in difference terms in table 9.

In table 9 we instead analyze changes in legitimacy and policy support throughout the political process and make use of samples as large as possible in each phase.[8] In the input phase (model 1), we first regress legitimacy as proxied by perceived democracy in the political process on political distrust and political interest in addition to the socioeconomic control variables. The predicted values from this regression are then used to instrument legitimacy in the support regression presented in model 2, which is similar to the regression presented in model 1 in table 8.

After the input phase, distrust in politicians may change as a consequence of the policy as indicated by the theoretical model. Hence, the difference in distrust for local politicians between May 2012 and May 2013 is regressed on the support for the congestion tax in May 2012. It is, moreover, likely that the effect on political distrust is not symmetric if one supports or objects to the congestion tax. In order to allow for different responses, we apply a kink design with possibly different slopes depending on support or objection to the congestion tax in 2012. After this regression is run (results presented in model 3), the predicted values are used as an explanatory variable for the change in legitimacy, which is shown in model 4. Also here we allow for potentially different effects depending on whether distrust increased or decreased. Change in support between 2012 and 2013 is displayed in model 5. Both change in legitimacy as such and reduced legitimacy are included on the right-hand side as are the differences between expected outcomes in May 2012 and perceived outcomes one year later. When we move on to the output phase just before the referendum (models 6–8), the procedure is the same.

[7] See table A1 in the appendix for a correlation matrix.
[8] Table A2 in the appendix is a corresponding table for the subsample who participated in all three waves. The results are similar although less significant than those in table 8.

TABLE 9, REGRESSIONS OF DIFFERENCES IN LEGITIMACY AND SUPPORT, OLS

	Model 1 Legitimacy May 2012	Model 2 Support May 2012	Model 3 Change in Political Distrust May (2013–12)	Model 4 Change in Legitimacy May (2013–12)	Model 5 Change in Support May (2013–12)	Model 6 Change in Political Distrust Sept. (2014–May 2013)	Model 7 Change in Legitimacy (Sept. 2014–May 2013)	Model 8 Change in Support (Sept. 2014–May 2013)
Political distrust 2012	-0.691***							
Changed distrust [A]				-0.646***			-1.634***	
Increased distrust [A]				-0.233***			0.0247	
Legitimacy 2012 [B]		0.160***						
Change legitimacy					0.144***			0.106***
Reduced legitimacy					-0.0554**			-0.0381
Support last wave			-0.0295***			0.0381		
Objected last wave			0.0395**			0.0072		
Tax has neg. effect on personal economy		-0.233***						
My travel time will be shorter		0.151***						
Tax protects environment		0.519***						
Tax increases congestion		-0.114***						
City's economy will improve		0.0216**						
Change personal economy.					-0.0776***			-0.0403**
Change environment					0.190***			0.106***
Change congestion					-0.0302***			-0.0193
Change travel time					0.0689***			0.0270*
Change city's economy will improve					0.0200**			0.0224
Political interest	-0.214***			-0.0664*			-0.0242	
Income		-0.0522***			-0.0372***			0.00704
Gothenburg	0.381***	0.0666**	0.0609**	0.0185	-0.0462	0.139**	0.154	0.0362
Observations	5,293	5,216	4,078	3,800	3,890	1,204	1,004	1,234
***R* squared**	0.178	0.718	0.013	0.024	0.171	0.013	0.023	0.049

*Note: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. All results are controlled for gender, age, and education.*

[A] *The change in political distrust between the present and the previous period is instrumented by predicted values.*

[B] *Input legitimacy is instrumented by predicted values.*

From model 1 in table 9, it is clear that distrust of local politicians reduces input legitimacy, while a strong political interest increases it. In model 3, we see that the support for the congestion tax affects the change in distrust and that the effect is much stronger for those who object to the congestion tax than for those who support it.[9] Exactly the same pattern is found in model 4, where legitimacy changes as a consequence of altered trust; changes in distrust have a significant effect on legitimacy, but the effect is stronger for increased distrust. Hence, throughput legitimacy is different from input legitimacy and can be explained by reduced trust for the local politicians, which in turn is explained by the objection to the policy, just as suggested in the theoretical model. Change in support between the input and throughput phases depends significantly on the change in legitimacy, especially if legitimacy was reduced between 2012 and 2013. Also changes in the expected policy outcomes are significant with expected signs.

Models 6–8 in table 9 show the results of the output phase. Our analysis of the output phase is conducted like the throughput phase: we analyze whether the attitude toward the policy alters political trust. We find that the updated attitude toward the congestion tax has no effect on political distrust in this phase, but it seems like the political cost came together with policy implementation and there is no further change in political distrust that can be attributed to the policy attitude. The change in legitimacy, shown in model 7 can still be explained by altered distrust, but there is no longer any different impact from whether distrust has increased or decreased. Concerning policy support, the change between the throughput and the output phases depends on the change in legitimacy, but once again, there is no difference depending on the direction of legitimacy change. We can thus conclude that the strongest effect from policy support on legitimacy occurs between the input and throughput phases. Legitimacy in all phases also seems to matter for policy support, where the strongest effect comes from present phase legitimacy.

Discussion

Our main theoretical argument suggests that the policy process is dynamic, implying that the drivers of public policy support, and therefore support itself, are changing over the time, during which policy is being decided on and implemented. However, we also argue that perceived legitimacy in the input phase may indeed have lingering effects that have an impact on support in the throughput and output phases. In order to test these hypotheses on the case of the Gothenburg congestion tax policy process, we conducted

[9] The congestion tax was initiated and first decided on by the local council but then also formally decided on by the central parliament. Interestingly, the corresponding regressions for the central government and the parliament show completely insignificant results. Thus, although both central and local politicians were involved in the decision, only the latter experienced a political cost in terms of reduced trust.

a set of operations enabling us to analyze how the antecedents of public support for the congestion tax varies across the input, throughput, and output phases, respectively. Doing so, we found that input legitimacy, i.e., institutional trust and positive perceptions of the decision-making processes and procedures, indeed is an important explanatory factor for policy support in the input phase. In addition, there are also lingering effects of input legitimacy on policy support in the subsequent throughput and output phases, although this effect is reduced as factors more readily connected to the more immediate phase become increasingly important. In addition, we found that perceptions of policy outcomes affect support in all three phases being studied, but they have slightly different effects as these perceptions change from mere expectations to actual experiences.

Furthermore, change in support between the input and throughput phases depends significantly on change in legitimacy perceptions, and in our particular case this is especially so if legitimacy was reduced between 2012 and 2013. As predicted by theory, we also found that distrust of local politicians weakens perceptions of input legitimacy, while a strong political interest increases it. The initial level of support for the congestion tax affects subsequent changes in political trust with the effect being significantly stronger for those objecting to the congestion tax than for those supporting it. This pattern was also found when legitimacy changed as a consequence of altered trust; changes in political trust have a significant effect on legitimacy, but the effect is stronger for increased distrust. Hence, and as illustrated in figure 1, throughput legitimacy is different from input legitimacy and this can be explained by reduced trust in local politics, which in turn is explained by experiencing the implementation of a policy one initially objected to.

Taken together, these results imply support for all our hypotheses becuse with the data we have used, we find that (1) legitimacy is a significant driver of policy support in all phases of the policy process, (2) the sources of legitimacy vary across these phases, (3) public policy support in one phase of the policy cycle is a function of legitimacy in both the present and the previous phases of the policy cycle, and (4) the relationship between pre- and post-implementation legitimacy appear to be hierarchical as the importance of legitimacy in the present phase is more important than legitimacy in previous phases.

Conclusions

A range of political science research on policy feedback loops have demonstrated how public opinion changes as a result of policy implementation, following Schattschneider's (1935) proposition that new policy is indeed conducive to new politics. However, to date the literature has mainly focused on the attitudinal effects of policy outputs or outcomes (e.g., Pierson 1993; Soroka and Wlezien 2010; Soss 1999;

Soss and Schram 2007), whereas the question of if, and the processes by which, policy attitudes change during the process of deciding on and implementing a policy, has been less explored. Apart from the theoretical relevance of better understanding these processes to grasp the dynamics of the public opinion-public policy nexus, knowledge about the mechanisms of public opinion in this respect also pertains, empirically, to the overall effectiveness of and political possibilities to introduce various policy measures and to make political priorities.

In this article we have used unique panel data to explore the process of changing policy attitudes in a policy-cycle perspective, tracing public policy support and its antecedents across two and a half years from initial political decision-making to the post-implementation period covering the input, throughput, and output phases of the policy process. Specifically, we demonstrate how public support for the introduction of a large-scale congestion tax in the Swedish city of Gothenburg is affected by changes in perceptions of legitimacy, pertaining both to the processes and procedures of decision-making and to the expectations and experience of substantial outcomes resulting from the congestion tax. Our analysis shows that although first impressions last, because legitimacy in the input phase retains significance for policy support in later phases, the sources of legitimacy and therefore of policy support also change during the policy process as new experiences, rather than expectations, of individuals and the collective come to the fore. Furthermore, our results suggest that the policy process indeed is dynamic and we show clear interactions between policy support and legitimacy that help us understand how policy attitudes develop. When aiming to better understand how and why public opinion changes as a result of policy implementation, attitudes in the output phase cannot be taken at face value. Rather, this dynamic relationship between political events and public policy support points to the significance of exploring the mechanisms behind policy attitudes in each phase of the policy cycle, as the perceptions of legitimacy that drive public policy support are not the same throughout the process from decision-making to implementation and policy evaluation. Attitudes of the policy and expectations of its effects in one phase may very well affect the perceived legitimacy in future phases, which in turn affects future attitudes and so on.

We have made a first attempt to thoroughly scrutinize the dynamics of the policy cycle by analyzing how perceptions of legitimacy, both toward the inputs to the policy process and its proposed outcomes, change over time to affect policy support in different phases. Through the use of panel data and a within-subjects design with 980 respondents, we have been able to follow the development of policy attitudes throughout the policy process and trace these developments to the changes in political trust, perceptions of decision-making procedures, as well as increasing experiences of policy outcomes. Although this approach reveals a great deal of the antecedents of public policy attitudes, and will be a way forward for

future empirical research into the policy-opinion dynamic, further studies might focus on the political side of the story by more closely analyzing the specifics of the decision-making and implementation processes and how the debate surrounding new policy is played out in media and among political elites, potentially affecting both initial public attitudes and the retrospective formation of policy support.

REFERENCES

Bäckstrand, K. 2006. "Multi-Stakeholder Partnerships for Sustainable Development: Rethinking Legitimacy, Accountability and Effectiveness." *Environmental Policy and Governance* 16 (5): 290–306.

Beetham, D. 1991. *The Legitimation of Power* .London: Macmillan Press.

Birch, A. H. 2001. *Concepts & Theories of Modern Democracy*. London: Routledge.

Black, J. 2008. "Constructing and Contesting Legitimacy and Accountability in Polycentric Regulatory Regimes." *Regulation & Governance* 2: 137–64.

Buchanan, A. 2002. "Political Legitimacy and Democracy." *Ethics* 112 (4): 689–719.

Buchanan, A. 2003. *Justice, Legitimacy and Self-Determination: Moral Foundations for International Law*. Oxford: Oxford University Press.

Button, K. J. 1993. *Transport Economics*. 2nd Edition. Aldershot: Edward Elgar Publishing Ltd.

Citrin, J., and C. Muste. 1999. "Trust in Government." In *Measures of Political Attitudes*, eds. L. S. Wrightsman, P. R. Shaver, and J. P. Robinson. San Diego, CA: Academic Press, 465–532.

Doberstein, C., and H. Millar. 2015. "Balancing a House of Cards: Throughput Legitimacy in Canadian Governance Networks." *Canadian Journal of Political Science* 47 (2): 259–80.

Dryzek, J. S. 2001. "Legitimacy and Economy in Deliberative Democracy." *Political Theory* 29 (5): 651–69.

Easton, D. 1953. *The Political System*. New York: Knopf.

Eckstein, H. 1971. *The Evolution of Political Performance: Problems and Dimensions*. Beverly Hills, CA: Sage.

Eliasson, J. 2009. "A Cost–Benefit Analysis of the Stockholm Congestion Charging System." *Transportation. Research. Part A* 43 (4): 468–80.

Finger, M., and D. Finon. 2011. "From 'Service Public' to Universal Service." In *International Handbook on the Liberalization of Infrastructures*, eds. M. Finger, and R. Künneke. Cheltenham: Edward Elgar Publishing, 54–69.

Fiorina, M. P. 1981. *Retrospective Voting in American National Elections*. New Haven, CT: Yale University Press.

Føllesdal, A., and S. Hix. 2006. "Why There is a Democratic Deficit in the EU: A Response to Majone and Moravcsik." *Journal of Common Market Studies* 44 (3): 533–62.

Frey, B. S. 1997. *Not Just For the Money. An Economic Theory of Personal Motivation*. Cheltenham, UK and Northampton, MA: Edward Elgar Publishing.

Friedrich, C. J. 1940. "Public Policy and the Nature of Administrative Responsibility." In *Public Policy*, eds. C. J. Friedrich and E. S. Mason. Cambridge, MA: Harvard University Press, 3–24.

George, A. L. 1980. "Domestic Constraints on Regime Change in U.S. Foreign Policy: The Need for Policy Legitimacy." In *Change in the International System*, eds. O. R. Holsti, R. M. Siverson, and A. L. George. Boulder, CO: Westview Press.

Giuliano, G. 1992. "An Assessment of the Political Acceptability of Congestion Pricing." *Transportation* 19 (4): 335–58.

Gormley, W. T. 2007. "Public Policy Analysis: Ideas and Impacts." *Annual Review of Political Science* 10: 297–313.

Guagnano, G. A., P. C. Stern, and T. Dietz. 1995. "Influences on Attitude-Behaviour Relationships: A Natural Experiment with Curbside Recycling." *Environment and Behaviour* 27: 699–718.

Gul, F. 1991. "A Theory of Disappointment Aversion." *Econometrica* 59 (3): 667–86.

Hodson, D. and I. Maher. 2002. "Economic and Monetary Union: Balancing Credibility and Legitimacy in an Asymmetric Policy-Mix." *Journal of European Public Policy* 9 (3): 391–407.

Jaensirisak, S., M. Wardman, and A. D. May. 2005. "Explaining Variations in Public Acceptability of Road Pricing Schemes." *Journal of Transport Economics and Policy* 39: 127–53.

Jagers, S. C., and H. Hammar. 2009. "Environmental Taxation for Good and for Bad: The Efficiency and Legitimacy of Sweden's Carbon Tax." *Environmental Politics* 18 (2): 218–37.

Kallbekken, S., and H. Saelen. 2011. "Public Acceptance for Environmental Taxes: Self-Interest, Environmental and Distributional Concerns." *Energy Policy* 39: 2966–73.

Kingdon, J. W. 1995. *Agendas, Alternatives and Public Policies*. 2nd edition. New York: HarperCollins.

Lipset, S. M. 1981. *Political Man: The Social Bases of Politics*. Baltimore: Johns Hopkins University Press.

Lubell, M., S. Zahran, and A. Vedlitz. 2007. "Collective Action and Citizens Responses to Global Warming." *Political Behavior* 29 (3): 391–413.

Matti, S. 2010. "Sticks, Carrots and Legitimate Policies - Effectiveness and Acceptance in Environmental Public Policy." In *Environmental Policy and Household Behaviour: Sustainability and Everyday Life* ed. Patrik Söderholm. London: Earthscan, 69–98.

Mehrtens III, F. J. 2004. "Three Worlds of Public Opinion? Values, Variation, and the Effect on Social Policy." *International Journal of Public Opinion Research* 16 (2): 115–43.

Mettler, S., and J. Soss. 2004. "The Consequences of Public Policy for Democratic Citizenship: Bridging Policy Studies and Mass Politics." *Perspectives on Politics* 2 (1): 55–73.

Montpetit, E. 2008 "Policy Design for Legitimacy: Expert Knowledge, Citizens, Time and Inclusion in United Kingdom's Biotechnology Sector." *Public Administration* 86 (1): 259–277.

Naurin, E. 2009. "Promising Democracy. Parties, Citizens and Election Promises." PhD dissertation. University of Gothenburg.

Norris, P. 2011. *Democratic Deficit: Critical Citizens Revisited*. New York, Cambridge University Press.

Ostrom, E. 2005. *Understanding Institutional Diversity*. Princeton: Princeton University Press.

Page, B. I., and R. Y. Shapiro. 1983. "Effects of Public Opinion on Policy." *American Political Science Review* 77: 175–90.

Parkinson, J. 2003. "Legitimacy Problems in Deliberative Democracy." *Political Studies* 51: 180–196.

Peters, G. B. 2005. *Institutional Theory in Political Science: The "New Institutionalism."* London: Continuum.

Pierson, Paul. 1993. "When Effect Becomes Cause: Policy Feedback and Political Change." *World Politics* 45 (4): 595–628.

Rotaris, L., R. Danielis, E. Marcucci, and J. Massiani. 2010. "The Urban Road Pricing Scheme to Curb Pollution in Milan, Italy: Description, Impacts and Preliminary Cost–Benefit Analysis Assessment." *Transportation Research Part A: Policy and Practice* 44 (5): 359–75.

Scharpf, F. W. 1999. *Governing in Europe – Effective and Democratic?* Oxford: Oxford University Press.

Schattschneider, Elmer E. 1935. *Politics, Pressures and the Tariff: A Study of Free Private Enterprise in Pressure Politics, as Shown in the 1929–1930 Revision of the Tariff*. New York: Prentice-Hall.

Schmidt, V. A. 2013. "Democracy and Legitimacy in the European Union Revisited: Input, Output and 'Throughput'." *Political Studies* 61: 2–22.

Schmitt, H., and J. Thomassen. 1999. *Political Representation and Legitimacy in the European Union*. Oxford: Oxford University Press.

Schneider, S., F. Nullmeier, and A. Hurrelmann. 2007. "Exploring the Communicative Dimension of Legitimacy: Text Analytical Approaches." In *Legitimacy in an Age of Global Politics* eds. A. Hurrelmann, S. Schneider, and J. Steffek. Basingstoke: Palgrave Macmillan, 126–55.

Schuitema, G., L. Steg, and S. Forward. 2010. "Explaining Differences in Acceptability before and Acceptance after the Implementation of a Congestion Charge in Stockholm." *Transportation Research Part A* 44: 99–109.

Skocpol, T. 1992. *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States*. Cambridge, MA: Harvard University Press.

Skocpol, T. 1997. *Boomerang: Health Care Reform and the Turn Against Government*. New York: W.W. Norton.

Skogstad, G. 2003. "Legitimacy and/or Policy Effectiveness?: Network Governance and GMO Regulation in the European Union." *Journal of European Public Policy* 10 (3): 321–38.

Small, K. A., and E. T. Verhoef. 2007. *The Economics of Urban Transportation*. New York: Routledge.

Smoke, R. 1994. "On the Importance of Policy Legitimacy." *Political Psychology* 15 (1): 97–110.

Soroka, Stuart, and Christopher Wlezien. 2010 *Degrees of Democracy*. Cambridge: Cambridge University Press.

Soss, Joe. 1999. "Lessons of Welfare: Policy Design, Political Learning, and Political Action." *American Political Science Review* 93 (2): 363–80.

Soss, Joe, and Sanford F. Schram. 2007. "A Public Transformed? Welfare Reform as Policy Feedback." *American Political Science Review* 101 (1): 111–27.

Stern, M. J. 2008. "Coercion, Voluntary Compliance, and Protest: The Role of Trust and Legitimacy in Combating Local Opposition to Protected Areas." *Environmental Conservation* 35 (3): 200–10.

Stimson, J. A., M. B. Mackuen, and R. S. Erikson. 1994. "Opinion and Policy: A Global View." *PS: Political Science and Politics* 27 (1): 29–35.

Stoker, G. 1998. "Governance as Theory: Five Propositions." *International Social Science Journal* 50 (155): 17–28.

Svallfors, Stefan. 2010. "Policy Feedback, Generational Replacement, and Attitudes to State Intervention: Eastern and Western Germany, 1990–2006." *European Political Science Review* 2 (1): 119–35.

Transport for London. 2004. *Impacts Monitoring: Second Annual Report.*

Transportstyrelsen. 2016. "Congestion Tax in Stockholm and Gothenburg." http://www.transportstyrelsen.se/en/road/Congestion-taxes-in-Stockholm-and-Goteborg/ (November 5, 2016).

Tyler, T. 1990. *Why People Obey the Law: Procedural Justice, Legitimacy and Compliance.* Princeton, NJ: Princeton University Press.

Wallner, J. 2008. "Legitimacy and Public Policy: Seeing Beyond Effectiveness, Efficiency, and Performance." *The Policy Studies Journal* 36 (3): 421–43.

Williams, B. and J. A. Edy. 1999. "Basic Beliefs, Democratic Theory and Public Opinion." In *Public Opinion* eds. C. J. Glynn, S. Herbst, G. J. O'Keefe, and R. Y. Shapiro. Boulder, CO: Westview Press, 212–48.

Winslott-Hiselius, L., K. Brundell-Freij, A. Vagland, and C. Byström. 2009. "The Development of Public Attitudes towards the Stockholm Congestion Trial." *Transportation Research Part A: Policy and Practice* 43: 269–82.

Wolf, K. D. 2002. "Contextualizing Normative Standards for Legitimate Governance beyond the State." In *Participatory Governance – Political and Societal Implications* eds. J. R. Grote and B. Gbikpi. Wiesbaden: Springer VS, 35–50.

APPENDIX

TABLE A1, CORRELATION MATRIX FOR VARIABLES IN MAY 2012

	Support	Instrumented Legitimacy	Tax Has Neg. Effect on Personal Economy	Travel Time Will be Shorter	Tax Increases Congestion	City's Economy Will Improve
Support	1					
Instrumented legitimacy	0.42	1				
Tax has neg. effect on personal economy	-0.61	-0.30	1			
Travel time will be shorter	-0.48	-0.28	0.34	1		
Tax increases congestion	0.47	0.22	-0.28	-0.29	1	
City's economy will improve	0.16	0.12	-0.09	-0.12	0.08	1

TABLE A2, REGRESSIONS ON ATTITUDES FOR THE SUBSAMPLE WHO TOOK PART IN ALL THREE PHASES OF THE SURVEY

	(1) Legitimacy (May 2012)	(2) Support (May 2012)	(3) Change Political Distrust (May 2012–2013)	(4) Change Legitimacy (May 2012–2013)	(5) Change Support May (2012–2013)	(6) Change Political Distrust (May 2013-Sept. 2014)	(7) Change Legitimacy (May 2013 - Sept. 2014)	(8) Change Support– (May 2013 - Sept. 2014)
Political distrust 2012äää'	-0.814***							
Changed distrust[A]				-0.670			-1.321***	
Increased distrust[A]				-0.331***			-0.00164	
Legitimacy 2012[B]		0.164***						
Change legitimacy					0.133***			0.0957***
Reduced legitimacy					-0.0300			-0.0667
Support last wave			0.0190			0.0358***		
Objected last wave			-0.300**			-0.068		
Tax has neg. effect on personal economy 2012		-0.229***						
My travel time will be shorter 2012		0.592***						
Tax protects environment 2012		-0.0561*						
Tax increases congestion 2012		0.155***						
City's economy will improve 2012		0.00497						
Change personal ec.onomy					-0.0561***			-0.0630***
Change environment					0.170***			0.0768***
Change congestion					-0.00365			-0.00166
Change shorter travel time					0.0489***			0.0246
Change city's economy will improve					-0.000787			0.0177
Political interest	-0.137			-0.145**			-0.00939	
Income		0.0407			-0.0121			-0.00176
Gothenburg	0.574***	0.147**	0.0707	-0.0964	-0.0383	0.156**	0.126	0.0103
Observations	975	971	976	975	960	976	921	962
***R* squared**	0.230	0.756	0.018	0.041	0.120	0.016	0.016	0.039

*Note: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. All results are controlled for gender, age, and education.*

[A] *The change in political distrust between the present and the previous periods is instrumented by predicted values.*

[B] *Input legitimacy is instrumented by predicted values.*