Are responses to official consultations and stakeholder surveys reliable guides to policy actors' positions?

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Abstract:

Policy positions are used extensively to explain coalition formation, advocacy success and policy outputs, and government consultations and stakeholder surveys are seen as important means of gathering data about policy actors' positions. However, we know little about how accurately official consultations and stakeholder surveys reflect their views. This study compares advocacy organisations' publicly stated positions in their responses to official consultations with their positions expressed in confidential surveys conducted by the authors. It compares three decision-making processes in Switzerland - in energy, climate and water protection - to analyse responses via two different types of data gathering methods. The results show a substantial divergence between official and private expressions of policy positions. Specific types of policy actors (losers), instruments (persuasive measures), and subsystems (collaborative network) produce more divergent positions. This has important methodological implications for comparative policy studies that use different data gathering methods and focus on different policy domains.

Key words:

policy positions, government consultations, stakeholder surveys, policy instruments, advocacy, energy policy, water protection, climate policy

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1. Introduction

Theories of the policy process (Sabatier 1999; Hill and Varone 2017) and advocacy organizations (Baumgartner et al. 2009) are interested in how the ideologies, values and preferences of corporate actors (Coleman 1974) influence their policy positions, strategies and success. Policy positions are attitudes towards or convictions about the framing of an issue that attracts the attention of policy-makers. Moreover, policy positions are related to the policy solution that is eventually adopted to solve the policy problem at stake (e.g., climate change). They mainly concern policy objectives (e.g., 10% of CO_2 emissions reduction), policy instruments (e.g., incentive tax on fossil fuel), and actors' networks (e.g., arrangement led by -public agencies and including private actors) in charge of implementing the policy solution (Knill and Tosun 2012).

Information about actors' positions is relevant in policy studies because it is used to explain the policy process (Ingold 2011), actors' coordination (Henry 2011; Calanni et al. 2015), and policy success or failure (Ingold and Christopoulos 2015). Studies about policy beliefs and preferences (Sabatier and Jenkins-Smith 1993), coalition formation (Weible et al. forthcoming), policy learning (Heikkila and Gerlak 2013), the national mood relevant for policymakers (Cairney and Jones 2016), or, more broadly, the overall issue framing (Baumgartner and Jones 1991) are interested in policy positions of politically involved actors. Thus, empirical studies attribute considerable explanatory power to the policy positions gathered through content analysis or survey data. However, we do not yet understand very much about the discrepancies between the officially stated positions regarding an issue and what is stated in surveys in relation to the same issue. This article analyses whether we observe differences in the data on policy positions produced by content analysis or surveys, and aims to explain these discrepancies. We are not interested in proposing a "gold standard" for measuring policy positions, since a "one best way" does simply not exist (Bräuninger et al, 2013). We are rather interested in why some political actors diverge in their policy positions in survey situations compared to official public settings. What type of actors are more or less likely to deviate in their policy positions and under what conditions?

To answer this question, we compare statements of advocacy organizations in a public situation, i.e. statements in an official consultation procedure about a policy proposal, and in a private situation, i.e. stakeholder survey. We are in the unique position of having systematically gathered data about the same set of actors involved in three different policymaking processes that have stated their policy positions twice, officially as well as in a written survey. For all three cases, the survey takes place just after the consultation. The time delay between the two data gathering phases is short but might still provide opportunities for actors to change their policy positions. This is why we have formulated hypotheses about actor types that are specifically

sensitive to this time delay (i.e., target groups of instruments and losers of the policy process). That the survey takes place after the consultation and when the policy is already introduced can be considered to be a standard situation in policy studies, as political actors are reluctant to answer surveys during an ongoing process.

We use data from three policy subsystems (i.e., climate, energy, and water protection) in Switzerland and test our hypotheses using descriptive statistics, OLS regression, and multi-level models. We keep the larger (Swiss) institutional context constant, but hypothesize differences on the subsystem level, for instance regarding the actors' configuration or the mix of policy instruments. This allows us to see whether some types of actors (i.e. target groups, losers) have a systematic tendency to adapt their positions over time. In turn, this informs the selection of data gathering and treatment methods and, finally, impacts theory building. Our ambition is thus to go beyond the mere discussion of methodological biases and challenges such as data availability, transparency, social desirability and misreporting, and to make a theory-informed contribution about the difference between officially stated and survey-stated policy positions.

Our contribution to the literature is threefold: first, we empirically assess whether there is any discrepancy between officially- and survey stated positions. The first aim is therefore to obtain evidence about the difference between these two methods of data gathering. Second, we investigate factors that account for discrepancies in policy positions. We hypothesize the impact of actor and instrument types on the chance that positions diverge between the official consultation and the survey situations. We then formulate some practical recommendations for policy scholars regarding what conclusions to draw from empirical results obtained with different methods. If, for instance, we find evidence that one particular actor type has a tendency to adapt policy positions between consultation and survey, researchers might want to interpret results about this actor type differently in the future and chose the moment of data gathering (before or after final policy decision) accordingly. Moreover, if we find consistent evidence regarding certain actors, instruments, or subsystems "producing" discrepancies between the official and the survey situation, this might have theoretical implications. Third, if different methods lead to different empirical findings, then differences between case studies might simply be related to methodological design and not to true differences in real life. This is a big issue for comparative studies comparing case studies in different policy subsystems and countries: if these case studies use different methods, then no valid comparisons are possible. This is also challenging for the meta-analysis of case studies over time, since discrepancies due to data gathering methods will limit cumulative empirical knowledge and theory development.

2. Methodological challenges when studying policy positions

The genuine policy preferences of political actors reflect their deep values, beliefs, desires, and motives. These true policy preferences are obviously unobservable (Benoit and Laver 2009, p. 22). By default, policy scholars rely on policy positions that can be inferred from actors' activities and statements. More concretely, empirical studies apply two main techniques: content analysis and surveys. With content analysis, researchers extract policy positions that are explicitly supported and officially announced by political actors during a concrete policy-making process (for an overview see Bräuninger et al. 2013; Varone et al. 2017b; Jourdain et al. 2016). Alternatively, policy studies gather data on policy positions through attitudinal elite surveys (Sabatier and Jenkins-Smith 1993) or citizens' and household surveys (Bidwell 2016). Based on the answers to the surveys, researchers utilize the data to identify coalitions or communities of like-minded actors sharing similar positions about policy objectives, instruments, and implementation arrangements (Wilder 2015).

There exist but a few studies that compare different methods of data gathering, most often only focusing on one single policy process or one specific actor type. Focusing on political parties as key policy actors, Benoit and Laver (2009) compare the estimations of party positions from electoral manifestos (as coded by the Comparative Manifestos Project; Budge and Klingemann 2010; Klingemann 2008), on the one hand, and from their own expert survey about parties positioning on the left-right scale (Benoit and Laver 2009), on the other hand. This comparison reveals some inconsistencies in the party placements, both across and within countries. Eventually, the authors claim that the expert survey estimates are more accurate (see also Marks et al. 2007).

There is also an intense methodological debate regarding the best technique to apply for coding interest groups' positions stated in policy documents, like official consultation reports. While most researchers employ qualitative hand-coding to identify the policy positions of interest groups (Bunea 2012), others rely on text scaling algorithms like *Wordfish* (Slapin and Proksch 2008) to perform a quantitative content analysis (Klüver 2009). Bunea and Ibenskas (2015) compare both techniques for the analysis of official consultation documents related to the regulation of CO_2 emissions of cars in the European Union. They demonstrate that the estimates of policy positions derived by (human) qualitative versus (automatic) quantitative content analysis differ substantively, and that the former is of higher quality.

We therefore maintain that differences exist and have important implications on conclusions to draw. Unlike previous studies, the present article provides several additional values. It does not focus on one specific actor group but includes the full range of organizations participating in policymaking processes. Furthermore, it does not belong to the sophisticated methodological discourse about what methods of data gathering are best, and if any gold

standard can be defined. Rather, it contributes to the discussion by providing comparative empirical results about the discrepancies of the same set of actors who stated their policy positions in both an official consultation and a survey situation.

There are many reasons to expect divergent findings in policy studies based on surveys of stakeholders compared to the content analysis of official policy documents. Table 1 does not present an exhaustive list, but is a compilation of the main advantages and limitations of the two approaches (see Appendix 1 for more detail; Benoit and Laver 2009).

Table 1: Comparison of Survey versus Content-analysis Data on Policy Positions

	Survey of policy actors	**Content analysis of policy documents**
Evidential basis	Self-reported policy positions	Officially stated policy positions
Sample size	Usually rather small; strongly dependent on response rate	No sampling required (all policy stakeholders participating to the policy process)
Sample definition	In the hands of the researcher	Defined by the process itself (impossible to access actors not having officially stated positions)
Observability of data	Selective (response rate)	Selective (document accessibility)
Bias	Misreporting due to social desirability and memory failure	"Filter" applied to the documents (political system)
Missing data	Due to low response rates	Due to the fact that some conceptual elements of the research design cannot be found in the official text
Targeted answers	High	Depends on document quality and coding scheme
Resource intensity	High	Higher if hand coding – Lower if automated coding
Replicability of results	Low	High

Note: Own compilation, partially adapted from Benoit and Laver 2009

While we fully acknowledge that alternative methods could *per se* lead to different measurements of policy positions, we aim to go beyond those methodological issues and try to find some conceptual explanations and empirical evidence for potential differences between survey- and officially-stated policy positions.

3. Hypotheses about discrepancies in policy positions

We outline three hypotheses related to specific actor types, and why these actors, when choosing between policy instruments, might change their policy position between their public statement in consultation and the survey. We argue that knowing more about actor types that are particularly (un-)stable in their positions informs policy studies in relation to the accurate choice of data gathering methods and moments (before or after the final decision is taken), but also in relation to the ability to draw conclusions and re-inform policy process theories.

Our hypotheses account for the fact that actors adapt their positions over time, and principally after a policy solution is introduced and known. There are some actors particularly affected if a certain policy solution is implemented. Future target groups of a policy instrument, for instance, might be particularly attentive or active during policy implementation in order to circumvent major impacts on their behaviour (Knill and Tosun 2012; Landry and Varone 2005). During policy formulation, and typically in situations where they officially state their positions (i.e. consultation), they might have a tendency to outline more radical stances than they hold in reality. This is because they might think that the more extreme their official statements are, the more the final policy output will resemble their policy positions as governments have a tendency to opt for a policy compromise between opposed advocacy coalitions. Therefore, stating more extreme positions during the policy formulation phase brings them closer to advocacy success.

The so-called “devil shift” phenomenon (having originated in the Advocacy Coalition Framework; Sabatier et al. 1987) is another reinforcing motive for target groups to adopt radical positions during official consultation procedures. Indeed, policy actors tend to systematically misperceive their opponents for two reasons. On the one hand, actors remember their policy defeats more vividly than their policy victories. Thus, they fear their opponents and tend to see them as more powerful than they really are. On the other hand, actors also overestimate the divergence of positions with their opponents. Consequently, they evaluate them as more evil than they actually are. Both biased perceptions of power and the positions of their opponents lead policy actors to adopt radical positions regarding the policy solution proposed by the government. Empirical studies in Switzerland (Fischer et al. 2016) and the United States (Leach and Sabatier 2005; Sabatier et al. 1987; Weible et al. 2009; Weible et al. 2011) have empirically measured the importance of this "devil shift” phenomenon. They highlighted that interest groups (i.e. representatives of target groups) and political parties suffer more frequently than neutral actors (i.e. public agencies and scientific experts) from these “devil shift” misperceptions.

In summary, we expect that the officially stated positions of target groups will be different from the ones they report in the survey situation, and this will be more radical than it is for other

actor types. The first research hypothesis postulates that *"actors potentially being the target group of a policy instrument have a higher discrepancy between officially and survey-stated policy positions than other actors" (Hypothesis 1)*.

The "losers" of the policy process, i.e. the actors whose positions are not considered in the final policy decision, are another actor type that might display a high discrepancy between officially and survey-stated positions. If the stakeholder survey is conducted after the binding decision has been taken, the losers of the political bargaining process are clearly identified[1]. As demonstrated by the psychological theory of loss aversion (Kahneman and Tversky 2009), individuals tend to overestimate and compensate for their losses. This might induce losing actors to adapt their positions in the survey situation so it does not become as obvious that they were on the losing side of the political game. This phenomenon is also very close to the "social desirability" bias in survey research. Typically, policy actors on the losing side might be tempted to misreport and to adapt their position towards the observable policy outcome, in order not to harm their reputation amongst their respective constituencies (e.g. voters for political parties; individual and collective members for interest groups).

Accordingly, the second hypothesis postulates that *"actors identified as the losers of the policy process have a higher discrepancy between officially and survey-stated positions, than other types of actors (typically winners)" (Hypothesis 2)*.

Not only the actors' characteristics, but also the nature of the public policy, and the specific policy instrument they decide about, might have an impact on how actors pronounce their assessment. Policy instruments are tools used to reach politically defined objectives (Howlett and Lejano 2013). They can include bans, prescriptions, taxes, subsidies, standards, information campaigns, voluntary measures, etc. Most often, policy instruments are categorized in one of three instrument types (Vedung 1998): regulative, incentive, and persuasive measures. From the first to the last, the degree of coercion of the target group typically decreases while state intervention increases (Sager 2009). Actor's assessment of instruments in different situations (public versus private) and points in time (before and after the final policy decision) might be heavily dependent upon how predicable and certain an instrument and its effects are: coercive measures like regulations create clear links between the state, the implementers and the target group; whereas financial incentives, and even more persuasive instruments create more room for manoeuvre for private actors. One side effect is that their consequences for winners and losers, and their outcomes are largely uncertain. This is very different with regulative, command-and-control instruments that come with a high

[1] Surveys are normally conducted after the binding policy decision has been taken, since policy actors will not answer surveys about an on-going process and disclose their position before advocating this officially.

degree of coercion, and where the resource distribution and implementation responsibilities are clear, as are most of the effects. Thus, we deduce that persuasive and incentive instruments have a greater potential for discrepancies between officially and survey stated positions, because at the time of policy formulation, their concrete effects are still largely uncertain. In line we hypothesize that "*discrepancies between officially and survey-stated policy positions are higher for persuasive, and to a lesser extent also incentive measures than for regulations" (Hypothesis 3).*

4. Cases, data and methods

We compare survey- to officially-stated positions in three policymaking processes (i.e. climate, energy, and water) in Switzerland. The Swiss institutional context is ideal since data-as-text as well as policy actors are both easily accessible. A high reliability and transparency in document coding and high survey response rates guarantee limited differences between the two data sets due to challenges relating to data accessibility and missing data (see Table 1 above). Thus, we can more accurately assess the impact of actors and instrument type on position discrepancies. However, we do not claim to be able to isolate the net impact of these variables. Furthermore, the three investigated policy processes are all located at the national level. The official public consultation always took place according to the same rules and before the stakeholder surveys were conducted. This is a "standard situation" in policy research as politically involved actors are very reluctant to answer survey questions about an on-going policy process with yet undefined output. Therefore, the setting we encounter for our empirical cases (officially stated position before survey statement) is most common. It is worth noting that our research design comes closest to the consultation procedure by sending out the survey immediately after it was finished and decisions made; and formulates hypotheses (principally hypotheses 1 and 2) that would account for the time dimension and for positions that change after knowing the policy output.

The case selection of climate, energy and water policy is justified for various reasons. Besides the same national government level, which accounts for necessary context and institutional similarities, the three cases are also comparable in terms of policy change: all three concern important alterations on the level of policy instruments (see next paragraph). Furthermore, the actors involved are not the same, but of a similar type, comprising public and private organizations involved in policymaking that we were able to categorize in business groups (such as peak organizations), citizen groups (such as consumer organizations and NGOs), institutional groups (such as platforms of cantonal representatives), science and political parties (see Appendix 4). All this makes the test of hypotheses feasible and robust, as data on actors and instruments is provided and comparable.

Finally, and this is not a trivial point, the three cases provide us with the necessary data that stems from the same techniques of systematic document coding and survey research, supervised by the same senior scientist. We are thus in the unique situation of having both survey and text data for three comparable subsystems. For more details about the timing, content, and details of the three policy processes, consult Appendix 2.

The policy positions we investigate here are the actors' preferences for policy instruments (Dermont et al. 2017; Table 3). Focusing on policy instruments is particularly insightful as they are the key element connecting all policy design elements (i.e. objectives, implementation arrangement, and target groups (Linder and Peters 1989; Schneider and Ingram 1993;). In other words, they act as the "glue" for policy design as they are installed to achieve policy goals, are implemented by agencies and other stakeholders, and aim to modifying target groups behaviour.

4.1 Identification of policy actors

We collected the survey data in three stakeholder surveys conducted amongst representatives of advocacy organizations. To derive the officially stated positions, we coded the answers to three government induced consultation procedures. In such a consultation procedure, organizations express their positions about specific elements of a policy proposal.

For both the survey and the text coding, policy actors were selected following the same combination of positional, decisional, and reputational approaches (Laumann and Knoke 1987. Public organizations having formal competences in policy-making in general (e.g. federal chancellery), or in the policy domain in particular (e.g. leading public agency), as well as private organizations taking part in different stages of the policy process (e.g. groups demonstrating their interest in the issue) are included in a preliminary list of actors. This list is then completed and adapted after realizing two expert interviews per case with senior representatives of public and scientific agencies.

Although we ended up with very similar lists of actors that participated in the official consultation procedure compared with those that answered our questionnaire, the final set of coded compared with surveyed actors differed for several reasons. Following the above mentioned actor identification procedure, public agencies are recognized as key actors in policymaking. However, they typically do not officially state their position in the consultation procedure, which is why we had to eliminate them from our sample. Other actors, typically some private interest groups or representatives of the civil society took part in the consultation procedure, but did not reply to our survey. It should be highlighted that we did not observe any major self-selection bias: the response rates of potential target groups (H1) and losers of the policy process (H2) are similar to the response rate of all other actor types. Finally, and this becomes clear when looking at Table 2 and the figures of the energy case, a few individuals

and lay persons formulated statements during the consultation procedure, but were not identified as a cohesive advocacy group. For sake of direct comparison and the creation of our dependent variable (discrepancy between the two positions), we thus had to construct an overlapping data set that contains only actors that are present in both the consultation and the survey situation for each subsystem (see Table 2 for details and Appendix 3 for a complete actor's list).

Table 2: Structure of Data Sets

Cases	N Survey all	N Survey answered	N Consultation all	N Consultation coded	N Overlap
Climate	41	34	255	46	24
Energy	64	39	417 (+52*)	22	15
Water	58	42	214	31	31

Note: N overlap: Survey and Consultation; ***** Private people (38) and independent expert groups (14)

4.2 Measuring discrepancy of policy positions between consultation and survey

In what follows, we present the construction of the dependent variable. We coded policy positions on a scale from 1 to 4, where 1 reflects the worst evaluation of a policy instrument (i.e. "completely reject") and 4 the best evaluation (i.e. "fully accept"). As our focus lies on analysing and explaining the differences between survey data versus text-coded data we created a *Delta variable*. We derive the difference between the positions of actors stated in the consultations and those they stated in the survey by subtracting the values of the consultation (C) from the values of the survey (S) for all instruments and all subsystems, i.e. S-C. In this way, we ensured that the sign of the *Delta variable* reflects the direction of change, i.e. a negative sign reflects a deterioration of the evaluation in the survey, whereas a positive sign reflects an improvement. The values can range from -3 to +3, where -3 would mean that an actor has changed its opinion from the best rank (4) to the worst (1). Conversely, +3 implies an improvement of the evaluation from the worst rank (1) to the best. Consequently, 0 refers to no differences between the consultation and the survey.

For the climate case, we coded policy positions on four different instruments, based on a survey conducted in 2005 and the documents related to the public consultation held in 2004. These instruments are the climate penny, which is a levy on petrol and diesel imposed by the private sector, the CO_2 tax on combustibles, tradable permits on CO_2 emissions, and voluntary measures in general (see Table 3 for details on instrument labels and type). The final policy output is a policy mix mainly consisting of the penny and the tax, but permits and voluntary measures can be categorized as complementary instruments.

For the energy case, we investigated the positions regarding four central policy instruments as discussed in the context of the Energy Strategy 2050, i.e. the ban for building new nuclear power plants, the expansion of renewable energy, the nuclear phase-out, and supply targets for energy efficiency. We used data from the 2012-13 consultation on the Energy Strategy and a subsequent survey on the same issue held in 2014. The final policy output is a policy mix of the first three measures, whereas the ban of new power plants and the expansion of renewable energy are the most important aspects of Switzerland´s energy policy.

Finally, we also compared the positions on important policy instruments discussed in the context of the revision of the Swiss water protection act as expressed in a public consultation in 2013 and a later survey in 2014. The investigated revision focused on how Switzerland could tackle the issue of emergent substances, so-called micro-pollutants. The following policy instruments were discussed during the political debate: end-of-pipe measures in order to upgrade wastewater treatment plants and filter out micro-pollutants, source-directed measures (such as substance taxes or user licenses), all possible measures to achieve zero micro-pollutants in waters and, finally, no preventive action until full scientific evidence could be provided. The final policy mix consists of end-of-pipe and source-directed measures, with a clear domination by the former of these measures (for more details about the cases, consult Appendix 2)

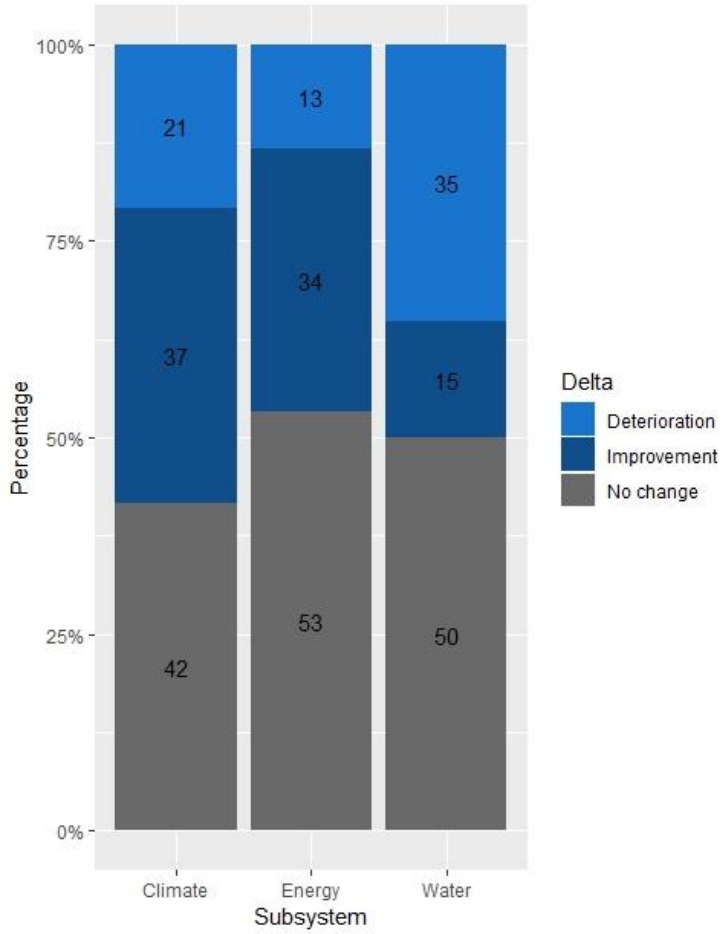

Figure 1: Directions of change in policy positions in the three subsystems (climate, energy, water) in the survey (S) compared to the consultation (C)

Note: Stacked barplot refers to the percentage of policy actor that adjusted their preference upwards, downwards, or not at all. Deterioration = lower ranking of policy instrument than in the consultation; Improvement = higher ranking of policy instrument than in the consultation, No change = same value as in the consultation.

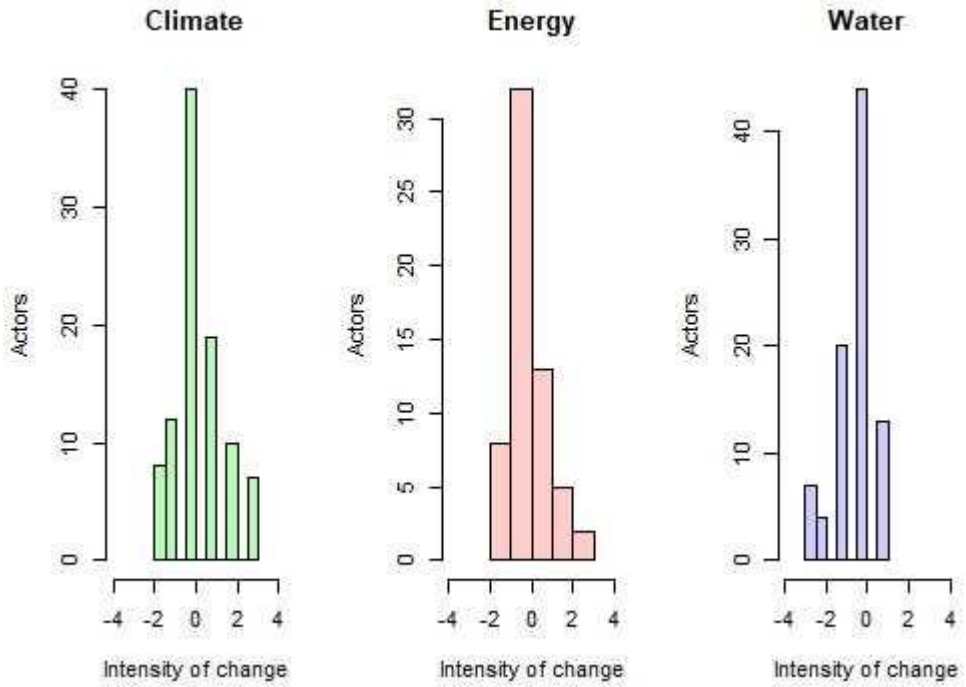

Figure 2: Intensity of change in policy positions in the three subsystems (climate, energy, water) in the survey (S) compared to the consultation (C)

Figure 1 shows that overall, around half of the policy actors change their positions between the consultation and the survey, and half of them stick to their policy preferences. Most change between the consultation and the survey happens in the climate policy subsystem (58%) followed by the water policy subsystem (50%). 53% of the actors in the energy policy subsystem are unchanged.

Interestingly, the intensity of change is very different between the subsystems: in the water policy subsystem, 35% of all actors and around 1/3 of all changing actors correct their policy positions downwards. This is also why the mean change in the water subsystem is -0.40 compared to 0.32 and 0.33 in the energy and climate policy subsystems respectively. In the climate policy subsystem only 21% and in the energy subsystem even only 13% correct their positions downward; in both those subsystems, the tendency of change is towards and improvement.

4.3 Measuring independent variables

We have three key independent variables in accordance with our hypotheses. The first hypothesis focuses on the target group that might change its behaviour between the consultation and the survey situation. There is no target group per subsystem, but each policy instrument has its own target group (see details in Table 3).

Secondly, the losers of the policy process are one single group per subsystem because it includes all those who could not see their positions (i.e. preferred instruments) translated into policy outputs (i.e. introduced policy instruments; see Table 3). In the climate case, the climate penny was subject to strong opposition, but was finally introduced. All actors opposed to the penny and, most importantly, the Green party and all policy actors belonging to the pro-ecology coalition were losers in this policy process (for details about the policy process and coalitions' membership, see Appendix 2 and 3). In the energy case, the pro-change coalition in favour of the energy transition contains the winners and the pro-status quo contains the losers of the process. Finally, assigning clear winners and losers in the water subsystem, which is also the most collaborative among the subsystems, is more difficult. While the policy process has clear winners, namely, science which was strongly involved in the design of new techniques and introduced end-of-pipe and the water quality coalition; all other actors are, to a certain extent, located on the losing side of the process. Therefore, we coded them as losers.

Thirdly, the policy instruments were categorized in persuasive, incentive and regulatory measures related to their degree of coercion. While bans and prescriptions could easily be attributed to regulative, taxes and permits to incentive, and voluntary measures and research to persuasive measures, there were other instruments where the categorization was not as clear cut. For instance in the water subsystem, source directed or "all measures for zero micro-pollutants in waters" could include a wide array of measures, so we decided to categorize the

instrument under the category where we suspect most measures were introduced in this case. Thus, for source-directed measures this would be incentives, while zero micro-pollutants might need strong state intervention, and would therefore be regulative.

Table 3: Policy Instruments, target group, outputs and losers per subsystem

CASE	Selected instruments	Target group	Final output	Losers
CLIMATE	Climate Penny (incentive)	Motor fuel consumers (under business group) (n = 6)	Climate Penny and Tax	Losers: Green party and pro-ecology coalition (n = 15)
	Co_2 Tax (incentive)	Combustible consumers (including house owners; all under business group) (n = 6)		
	Tradeable permits (incentive)	Combustible consumers (under business group) (n = 6)		
	Voluntary measures (persuasive)	Business group (n = 10)		
ENERGY	Ban for new plants (regulative)	Energy suppliers (under business group) (n = 2)	Ban on new plants and expansion of renewables	Losers: pro-status quo coalition (n = 3)
	Expansion of renewables (regulative)	Energy suppliers (under business group) (n = 2)		
	Nuclear phase out (regulative)	Energy suppliers (under business group) (n = 2)		
	Targets on efficiency (incentive)	Energy suppliers (under business group) (n = 2)		
WATER	End of pipe (incentive)	Cantons and the wastewater treatment plants (under institutional group) (n = 11)	End-of-pipe and source-directed measures (with a stronger focus on the former)	Losers: all actors, but science and the water quality coalition, which are the clear winners of this policy process (n = 9)
	Source directed (incentive)	Business group (n = 7)		
	No prevention (persuasive)	Science (n = 1)		
	Zero (total state intervention) (regulative)	Business group, cantons and the wastewater treatment plants (under institutional group) (n = 15)		

4.4. Models and control variables

To assess whether target group actors (H1) and losers (H2) have a higher propensity to diverge in their positions between the official consultation and the subsequent survey situation, and to investigate if this is also true for actors evaluating incentive and persuasive instruments (H3),we apply an ordinary least-squares (OLS) regression model to our data (Kutner et al. 2005). This is a generalized linear modelling technique that is ideally used to model a single response variable, which has been recorded on at least an interval scale. Additionally, we calculate a multi-level model that serves as robustness check as it manages to control for data hierarchies, i.e. for units of analysis that are nested within each other (Steenbergen and Jones 2002). In our case, the independent and control variables are nested within each of the three subsystems. Instead of introducing a control variable for subsystem difference as done in the OLS, the multi-level model assembles the data in one residual component that is partitioned in a between-subsystem component (the variance of the subsystem level residuals) and a within-subsystem component (the variance of the actor-level residuals). We can thereby control for subsystem specificities, as the subsystem residuals (or subsystem effects) represent unobserved characteristics of the subsystem that might affect the size of the Delta variable. Besides subsystems, we also control for different actor types (Appendix 4).

Each model includes data from all three subsystems and all policy instruments. So the total N, which is 280 in each model, corresponds to the total number of actors of all three subsystems times four, as we have four policy instruments that were evaluated per subsystem. Consult Appendices 5 and 7 for an illustration of Goodness of Fit (GOF) statistics.

5. Empirical results

Table 4 outlines the ordinary least square (OLS) (Model 1) and the multi-level (Model 2) models. The main results do not change among the two.

Table 4: Parameter estimates as coefficients with standard errors below

	Model 1 (OLS, Delta)	Model 2 (ML, Delta)
Intercept	-0.07 (0.20)	-0.18 (0.21)
Value Consultation		
Target group	0.08 (0.17)	0.07 (0.17)
Losers	0.43* (0.17)	0.46* (0.17)
Actor Type (Business group is baseline category)[2]		
Citizen group	0.43* (0.16)	0.42* (0.19)
Institutional Group	-0.26 (0.29)	-0.35 (0.27)
Political party	0.15 (0.24)	0.29 (0.20)
Science	0.16 (0.29)	-0.23 (0.17)
Instrument Type (Incentives as baseline category) [3]		
Persuasive	-0.22 (0.18)	-0.23 (0.17)
Regulative	-0.21 (0.25)	-0.15 (0.18)
Subsystems (Climate policy subsystem is baseline category)		
Energy policy subsystem	0.19 (0.22)	
Water policy subsystem	-0.51**(0.18)	
AIC	860.12	866.72
BIC	903.74	906.70
Log Likelihood	-418.06	-422.36
Num. obs.	280	280
Subsystem fixed Effects	no	yes

Models 1 and 2 predict the Delta between the survey and the consultation (survey minus consultation), hence positive values signify an improvement, negative values a deterioration of the evaluation of policy instruments in the survey as compared to the consultation. First and

[2] Business group is the modal group of the actor type variable and serves as baseline category.
[3] Incentive instruments is the modal group of the actor type variable and serves as baseline category.

foremost, we find that the losers of a policy process tend to show a significant upwards correction in their positions in the survey. The same is true for the citizen groups. We note that typically in the climate subsystem and to a lesser extent also in the water subsystem, organizations belonging to the citizen group are the losers of the process. Moreover, we see that in the water policy subsystem, policy actors are more likely to change their opinions, here by a downward correction of their evaluation of policy instruments (see Figures 1, 2 and Table E of Appendix 6), than in the climate policy subsystem. In contrast, we do not find any significant effect for the energy policy subsystem. The only difference between Models 1 and 2 is the upwards in contrast to the downwards correction of positions of the actor type "science". However, in both models, the results are not significant.

Relying on those results, we do not have any strong evidence to corroborate the first hypothesis that target groups have a tendency to correct their positions over time and to display higher discrepancy between officially and survey-stated policy positions than other actors. In both models this variable is insignificant with a very low coefficient. But in the water subsystem, and when also consulting Table F in Appendix 8, institutional actors most significantly change their instrument assessment, and not for the better. It is this actor group, including cantonal actors and wastewater treatment plants that are the targets of the finally introduced, end-of-pipe policy measures.

We can confirm our second hypothesis: losers of the policy process significantly change and improve their instrument evaluation between the consultation and the survey. The rationale behind this could be that they know that they are the losers and thus adapt their policy positions towards the final policy output, at least in the survey situation that succeeds the public consultation. This is best illustrated by the citizen group in the climate case: these losers of the process have the strongest tendency to significantly change and improve their policy positions between consultation and survey. The citizen group in the climate policy subsystem mainly comprises green NGOs that were strongly in favour of a CO2 tax that was only partially introduced. So these actors improved their assessment of all other instruments they were not lobbying for. We can only guess the reasons for that such as social desirability, policy learning processes or active compromise finding. Regarding hypothesis 3, we cannot confirm that actors, when evaluating persuasive measures, adapt their positions across data gathering situations or over time. Moreover, very coercive regulative instruments are assessed negatively, so there is no clear pattern to suggest that less coercive measures provide more room for manoeuvre and preference adaptation than more coercive measures.

We controlled for subsystem and actor type. And we can see notable differences within both of these categories: actors within the water subsystem have, compared to climate and energy, the highest tendency to change their instrument assessment between the official and

the survey situation. They do so in this specific water case whilst significantly moving towards a downwards correction. Also here, we can only guess the reasons: maybe policy implementation of the introduced (and preferred) instruments showed being more difficult than imagined during policy negotiation. And the results summarized in Table F (Appendix 8) provide some evidence that there are not as many single actor types and advocacy groups that have a tendency to evaluate instruments as better or worse, but there is a subsystem effect: in the climate subsystem for instance, it seems that something happened that made actors through all groups evaluate instruments as better, whereas in the water subsystem, something drove actors to dislike the proposed policy instruments after the final decision.

6. Conclusion

The aim of this paper was to make a conceptual and empirical contribution to measure and explain the difference between officially stated and survey stated policy positions that stakeholders advocate during policymaking processes. We acknowledge that differences between the two can be due to divergent methods of data gathering or data treatment, but we still tried to find some regularities in the differences by more closely looking at different policy actors, instruments and subsystems. We assessed policy positions related to the policy instruments (e.g. tax, ban, preventive measures) under negotiation in three different subsystems (climate, energy, and water) in Switzerland. Actors were defined as all public and private organizations taking part in the policymaking process. Officially-stated positions were taken into consideration following text coding of publicly accessible statements during a public consultation procedure. The stakeholder survey then asked about the positions in relation to the same policy instruments as discussed in the consultation. Surveys took place immediately after the public consultations.

Comparing the values over all subsystems and the empirical findings from the statistical models, we observe a general pattern of instruments being more positively evaluated in the survey situation than in the public consultation. This means that actors generally tend to be more positive and accept, rather than reject, policy instruments between consultation and survey. This point concretizes our first contribution: we show clear evidence that a difference exists between data gathered via survey and those assessed through the coding of official texts.

The more theoretical implications of this finding consists of the second contribution of our analysis: we found some systematic, theory-deduced evidence that can explain this discrepancy between officially stated and survey stated positions about policy instruments. Losers in the policy process tend to improve their assessment between consultation and

survey and thereby show a higher discrepancy than other actors. This might be an indicator for the “correction” of their positions once they knew about their policy defeat, but this is not a trivial result. First, the moment of data gathering seems to be relevant. Second, when thinking about theories like the Advocacy Coalition Framework (Sabatier and Jenkins-Smith 1993) that conceptualizes policy beliefs and preferences as stable, this result reveals at least two interesting rationales: either actors in the survey situation correct their positions and thereby act through mechanisms of social desirability; or, policy positions are not as stable as some frameworks might predict. Empirical evidence already exists for the proof of the latter (Montpetit and Lachapelle 2015; Leach et al. 2014), but more research is needed to systematically identify situations of stability or change.

The exceptions to the trend of evaluating instruments more positively in the survey than in the consultation are also interesting: target group actors evaluate relevant policy instruments more negatively and thereby also show a higher discrepancy between officially- and survey-stated policy positions than other actors. However, our models show no significant and no huge effect for the target group predictor variable. For policy instrument types, we also do not have a clear result, but there still exists a tendency for actors to express their opinion about the least coercive instruments (persuasive measures in our case) and adapt their position in the survey for the worse. This could be an indicator that predictability, certainty about who are the implementers and the concerned actor groups, and distributive information is relevant to actors. It furthermore seems that predictability was missing or information at the stage of consultation was not framed in the same way as it was after final policy introduction, because the negative assessment of persuasive instruments had already started in the consultation phase.

Our models show also difference among the subsystems. The biggest discrepancy between officially- and survey-stated positions is observable in the water policy subsystem where actors significantly downgrade their instrument assessment between the consultation and the survey. More research is needed to clearly identify the subsystem-level factors that drive actors to change their positions between data gathering situations. One explanation could be that in more collaborative (in contrast to conflictive) subsystems the discrepancy is greatest because of the potential that this collaborative setting provides for actors to mutually learn and adapt positions (Moyson 2017; Heikkila and Gerlak 2013). From earlier studies we know that the climate subsystem, in contrast to the water subsystem, was much more conflictive (Ingold 2011; Markard et al. 2016). So the more collaborative environment in the water policy subsystem might have induced mutual learning. But as the change in the water subsystem was mainly a deterioration of the instrument preferences, one might also think of another explanation: perhaps in collaborative subsystems there are also underlying conflict lines

between actors that make them change their position between the official and the private situation. This would imply that the literature on collaborative governance (Guerrero et al. 2015; Ansell and Gash 2007) would need to pay more attention to both collaboration and conflict, as their origins, development and consequences are not the same.

What are the broader implications of these empirical findings for (comparative) policy studies? As losers of the political game seem to have a systematic tendency to improve their instrument assessment between consultation and survey, it is worth reflecting about who could be the losers of the process, particularly when only working with survey data. This innovative finding is highly significant policy analysis aims at knowing "who gets what, when, how" (according to the seminal question asked by Lasswell 1956). Indeed, it should be more difficult to know accurately "who gets what" if one cannot fully trust how actors defeated during a policy battle will report on their policy positions or if they have a tendency to quickly adapt their positions. Of course, to assess the range of misreporting, positions volatility and their impact on policy studies, upcoming studies should take further steps. The critical proof would be to compare text-coded and survey-stated positions both of which should be gathered at several points in time. It would then be important to run statistical models with data on policy positions stemming from content analysis compared to that collected through surveys, to see if these different data sets lead to divergent findings about coalition building, actors' coordination and, eventually, policy success or failure in the policy subsystem under consideration. For instance, if a study applies the Advocacy Coalition Framework as theoretical model, and identifies coalition members according to their respective support for the same policy instrument (Fischer 2014; Ingold 2011), then the measurement of policy positions is crucial. Similarly, if an empirical study tries to measure the advocacy success of interest groups by looking at their goal's achievement (i.e. substantive adequacy between initial policy position and final decision made by policymakers; Varone et al. 2017a), the accurate measure of the policy positions is also a key methodological issue, mostly to identify the political loss of some actors.

In addition, upcoming studies should test the two strong assumptions that we made in our study. First, we assumed in the statistical models that the policy positions of actors are independent. This is not a realistic claim since policy stakeholders reflect upon the positions of their allies and enemies. This is the case during public consultation procedures, parliamentary hearings or other official statements. By contrast, this is probably not the case during a survey. Accordingly, the impact of positions interdependencies in various data gathering situations should be taken into account in the future.

Second, we claim that comparing different policy subsystems and stakeholders should enhance the external validity of the empirical findings. However, we have kept the (Swiss) institutional framework constant in our study. This is an important limit to generalizability since

the high importance of pre-parliamentary consultation procedures in policy processes, as well as a political culture based on interests' accommodation and political comprises, that are typical for the Swiss consensus democracy, are probably not given in a majoritarian democracy. We hope that new studies will thus add a cross-country comparison to the comparison across policy domains undertaken here.

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Appendix 1 Background text to Table 1

First, there might be a considerable difference in sample size between the two techniques. This has immediate impact on data quality and potential statistical tools to be applied to the data. Most often, stakeholder surveys gather the self-reported policy positions of a selective sample of actors, whereas content analysis of policy documents captures the officially-stated positions of all actors that took part in the policy process. On the positive side, in survey research the scholar has to define and justify actor selection. It can also address actors that did not officially state their positions, but nevertheless took part in the process, for instance administrative agencies that do not set out their positions in public consultation procedures or business interest groups that practice only informal lobbying. On the downside, the sample size of stakeholder surveys is rather small and often faces low response rates and self-selection biases. These issues are not found in content analysis of official policy documents, such as consultation reports.

Secondly, reliability and accessibility are important properties of any empirical measure and data. Text-as-data is based on written and publicly available records. This allows for competing and replicable measurements of the same policy positions or even the triangulation of qualitative and quantitative coding techniques. However, and most often regarding the political system (democratic versus autocratic systems), official positions are not easily, only partly, or not at all available. Further, policy positions can be biased because of a filter or recension applied to them. The biases in survey data come from individual issues related to social desirability or memory failure of the respondent (Belli et al. 1999; Bundi et al. 2016). Social desirability indicates the tendency of a respondent to answer in a most socially acceptable way (Crowne and Marlowe 1960; DeMaio 1984; Tourangeau and Yan 2007) and memory failure refers to the situation in which the respondent cannot precisely remember an event (Groves et al. 2011). Furthermore, the replicability of survey data is lower as the completion of a scientific survey is time-consuming and policy stakeholders will not generally agree to participate in the same survey twice.

Thirdly, the survey gives the researcher the freedom to ask targeted questions in line with the research design and questions. When coding texts, some theoretically or conceptually derived categories and policy positions might not be empirically observable. While missing data in survey research mainly stems from low response rates, missing data in document analysis is related to the restriction of what is available. Thus, there is no possibility of coding an actor's position if it did not make any statement to one specific (sub-) issue of interest, or if its statement was not recorded.

Appendix 2 Case study details and differences in the dependent variable

Case 1: Revision of CO2-Act 2004-05

The CO2-Act is the centrepiece of Swiss climate legislation. It meant to implement international CO2 emission reduction commitments, as documented in the Kyoto Protocol of 1997. Switzerland agreed to reduce its total greenhouse gas (GHG) emissions by 8% as compared to 1990 levels and its CO2 emission from combustibles and motor fuels by 10% (8% combustibles, 10% motor fuels). Policy measures targeted the industry and traffic sectors, as well as households and small to medium sized enterprises. The Federal Council (i.e. government) started to consider the introduction of a carbon tax by 2004. Under the auspices of the oil association, the transport and energy sector lobbied for an alternative policy instrument to avoid a carbon tax on motor fuels. The so-called 'climate penny' was a voluntary levy of 1.5 Swiss cents per litre gasoline and diesel, to be collected by private actors. The revenue from this charge should be used to support climate projects and to finance a state-level building modernization program. In reaction to this, the Federal Council launched a consultation process to discuss several different alternative policy mixes. The result of the consultation suggested a compromise solution: a carbon tax on combustibles and the climate penny on motor fuels, which entered into force in 2005 after it went to parliament. Winners and losers of this development vary with respect to the policy instrument. On the one hand, the pro-economy coalition, which comprises business groups, and energy and traffic organisations, can be regarded as on the winning side of this policy process, as a skilful lobbying prevented the introduction of a carbon tax on motor fuels. However, the industry sector is a clear loser, as the carbon tax on combustibles was introduced in the end. On the other hand, the pro-ecology coalition is a loser with respect to the success of the climate penny that prevented a tax on motor fuels (see also Ingold 2011; Markard et al. 2016).

Case 2: Energy Strategy 2050

The 2011 nuclear disaster in Fukushima served as trigger for the Swiss energy turnaround. Only few months after the reactor accidents in Fukushima, a political process was initiated that started with the Federal Council's decision for a gradual nuclear phase-out and the adoption of the new Energy Strategy 2050. The first set of measures included – among other measures – a ban on the construction of new nuclear power plants and the promotion of renewable energies. This also entailed a complete revision of the Energy Act and amendments to various other federal laws. The parliament adopted the revised bill in September 2016 and the electorate approved it in May 2017.

Appendix 2 cont.

On the one hand, the pro-change coalition is on the winning side of this policy process, as they achieved their goal to ban nuclear power plants and promote renewable energies. The pro-change coalition mainly consists of leftist-green parties, renewable energy associations and environmental organizations. The pro-status quo coalition, on the other hand, is mostly on the losing side. It includes central-right parties and actors in the electricity industry (Kammermann & Strotz 2014). However, some actors such as Swiss business peak organization "economiesuisse" are split on whether they approve of or oppose the revisions of the Energy Act. The same is the case for the electricity industry: BKW (owner of one nuclear power plant in the canton of Bern) supports a nuclear phase-out and has already put plans into motion for the shutdown. The other two companies (Axpo and Alpiq) owning nuclear power plants still oppose a ban.

Case 3: Revision of the Water Act 2007-2015

The case of water policy in Switzerland deals with a novel water protection issue originating e.g. from the usage of cosmetics, detergents, or pharmaceuticals. With technological processes it is today possible to detect pollutants in waterbodies at increasingly small concentrations. As these "micropollutants" remain largely unregulated, a political process was initiated to amend the Swiss Waters Protection Act and Ordinance (observation period: 2007-2013) to overcome legislative gaps. In this process, actors debated whether political measures were necessary given that there were many outstanding uncertainties regarding the sources and impacts of micropollutants. Members of the water quality coalition argued in favour of taking precautionary measures payable by polluters themselves in order to address potential environmental and health risks. By contrast, the opposing coalition argued against political action as long as scientific proof was not complete and advocated for the risk-based principle. They also criticized excessive environmental standards. The final compromise adopted in 2015 follows a technical end-of-pipe approach. Selected wastewater treatment plants are required to upgrade their wastewater treatment technologies in order to better filter micropollutants from their effluents. However, the polluter-pays-principle is only partly respected, as the source of the problem is not addressed and industrial polluters are excluded for the new technical standard (Metz 2015).

Discrepancy between consultation and survey of the three cases:

In Tables A, B and C, we show the mean and median of the differences in the positions towards all policy instruments in all subsystems between the consultation and the survey. For this purpose, we subtract the mean or median of consultation values from the mean or median of survey values (S-C). We then present the results of a Kruskal test to investigate if the

differences between survey and consultation positions are significant. The Kruskal test is comparable to a t-test but is for interval scaled data to examine differences between populations.

Table A shows higher standard deviations for both the consultation SD (C) and the survey SD (S) for the tax and the climate penny compared to the standard deviation of the voluntary measures and the tradable permits. In addition, the Kruskal test shows that the evaluations are significantly different between the consultation and the survey for the climate penny, the CO_2 tax, and the voluntary measures, but not for the tradeable permits. This is indicated by p-values below 0.001 for the climate penny and the CO_2 tax, and a p-value below 0.05 for the voluntary measures.

Table A: Differences in Actor Positions on Policy Instruments in the Climate Policy Subsystem

CLIMATE	***Climate Penny***	**CO_2 *Tax***	***Tradeable Permits***	***Voluntary Measures***
Mean Diff	0,83	-0,33	0,83	0,67
Median Diff	1,00	-1,50	1,00	1,50
SD (C)	1,45	1,46	0,85	1,30
SD (S)	1,47	1,20	0,89	0,81
Kruskal Test p-values	0,0005	0,0003	0,35207	0,02784

Note: The table shows the mean difference, median difference, standard deviation of values in the consultation (SD (C)) and the survey (SD (S)), and the results of the Kruskal Test.

For the energy case, Table B highlights that the evaluations differ significantly (p-values are below 0.05 for all four instruments) between the survey and the consultation. At the same time, the ban also has the biggest spread of position values (see SD (C) and SD (S) in Table B). Compared to the climate policy subsystem, in the energy policy subsystem the standard deviations are on average lower, which means that policy actors make smaller adjustments to their policy evaluations in the survey in the aftermath of the consultation. Again, the results of the Kruskal test suggest significant differences between the consultation and the survey data, this time for all policy instruments.

Table B: Differences in Actor Positions on Policy Instruments in the Energy Policy Subsystem

ENERGY	*Ban for new plants*	*Expansion renewables*	*Nuclear Phase out*	*Targets for efficiency*
Mean Diff	0,07	0,73	0,44	0,00
Median Diff	0,00	1,00	1,00	1,00
SD (C)	1,33	1,22	0,96	1,01
SD (S)	1,46	0,48	1,12	1,08
Kruskal Test p-values	0,0047	0,0226	0.0447	0.0333

Note: The table shows the Mean difference, median difference, standard deviation of values in the consultation (SD (C)) and the survey (SD (S)), and the results of the Kruskal test.

For the water case, the dispersion in the survey situation is much smaller than in the consultation (see standard deviations SD in Table C). However, the Kruskal tests for the water policy instruments show that, in fact, there are significant differences between the two data sets for all positions except for 'no prevention'.

Table C: Differences in Actor Positions on Policy Instruments in the Water Policy Subsystem

WATER	*End of pipe*	*No prevention*	*Source directed*	*Zero*
Mean Diff	-0,16	-0,90	-0,29	-0,38
Median Diff	0	-1	-1	0
SD (C)	0,71	1,39	0,81	0,85
SD (S)	0,61	0,87	0,61	0,98
Kruskal test p-values	0,0010	0,18	0,0242	0,0384

Note: The table shows the Mean difference, median difference, standard deviation of values in the consultation (SD (C)) and the survey (SD (S)), and the results of the Kruskal test.

Appendix 3 Actors' list

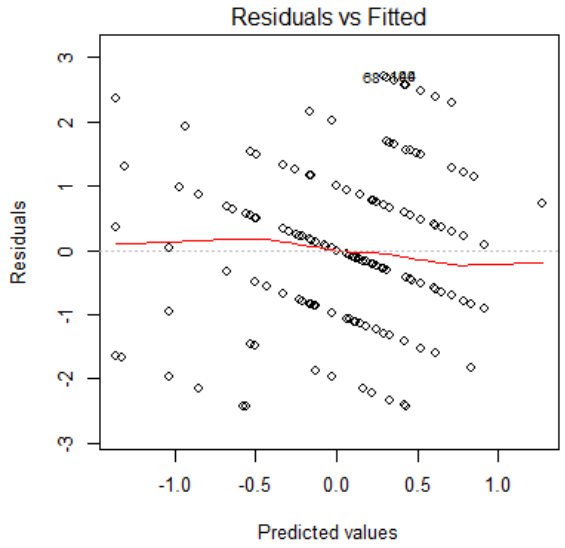
Full Name	Advocacy Coalition
Climate Policy Subsystem	
Economiesuisse, Swiss Business Federation	Pro-Ecology
Swiss Association of Chemical and Pharmaceutical Industry	No Coalition
Swiss electrical and mechanical engineering industries association	Pro-Economy
Association of the Swiss Cement Industry	Pro-Economy
Swiss Homeowner Association	Pro-Economy
Association for Ecological Integration in Business Management	No Coalition
Swiss Touring Club	Pro-Economy
Association for Transport and Environment	Pro-Ecology
Road Traffic Association	Pro-Economy
Swiss Federation of Trade Unions	Pro-Economy
Association of Trade Unions	No Coalition
Agency for Renewable Energy	Pro-Ecology
Petrol Union	Pro-Economy
Energy Forum Switzerland	Pro-Ecology
Christian Democratic People's Party Switzerland	No Coalition
FDP. The Liberals	Pro-Economy
Social Democratic Party of Switzerland	Pro-Ecology
Swiss People's Party	Pro-Economy
Green Party of Switzerland	Pro-Ecology
Forum for Global and Climate Change	Pro-Ecology
Advisory Board on Climate Change	Pro-Ecology
Greenpeace Switzerland	Pro-Ecology
WWF Switzerland	Pro-Ecology
Energy Policy Subsystem	
Organisation for Renewable Energy and Energy Efficiency	Pro-Ecology
Axpo Holding AG	Pro-Economy
Conservative Democratic Party of Switzerland	No Coalition
BKW AG	Pro-Economy
Economiesuisse	Pro-Economy
Green Liberal Party of Switzerland	No Coalition
Christian Democratic People's Party Switzerland	No Coalition
ProNatura	Pro-Ecology
Swiss Energy Foundation	No Coalition
Federation of Trade Unions	Pro-Ecology
Swiss Association for Small and Medium-sized Enterprises	No Coalition
Social Democratic Party of Switzerland	Pro-Ecology
Swiss People's Party	Pro-Economy
Swiss Association for Transport and Environment	Pro-Ecology
WWF Switzerland	Pro-Ecology

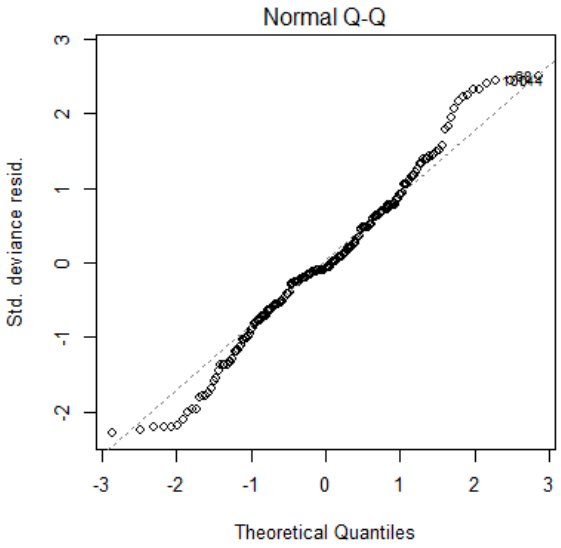
Water Policy Subsystem	
Western Swiss Association for Water and Air Protection	Water Quality
Conference of Cantonal Directors of Construction, Planning and Environmental Protection	Water Quality
Cercl'eau	Water Quality
Swiss Federal Institute of Aquatic Science and Technology	Water Quality
Economiesuisse	Opposing
Sewage Treatment Plants in Large Cities Initiative	Water Quality
FDP. The Liberals	Water Quality
University of Applied Sciences of North-West Switzerland	Water Quality
Green Party of Switzerland	Water Quality
Western Swiss Group of Sewage Treatment Plants Operators	Water Quality
Basel Chamber of Commerce	Opposing
Consumer Forum	Water Quality
Communal Infrastructure	Water Quality
Conference of Heads of Cantonal Offices for Environmental Protection	Water Quality
Competence Network of Cantonal Laboratories for Water and Environmental Protection	Water Quality
ProNatura	Water Quality
Swiss Employers' Association	Water Quality
ScienceIndustries - Swiss Business Association Chemistry Pharma Biotech	Opposing
Swiss Farmers Union	Opposing
Swiss Fishery Association	Water Quality
Swiss Municipalities Association	Water Quality
Swiss Trade Association	Opposing
Swiss Cosmetics and Detergent Association	Opposing
Social Democratic Party of Switzerland	Water Quality
Swiss People's Party	Opposing
Swiss Cities Association	Water Quality
Swiss Gas and Water Industry Association	Water Quality
University of Lausanne	Water Quality
Association of Cantonal Chemists of Switzerland	Water Quality
Swiss Water Association	Water Quality
WWF Switzerland	Water Quality

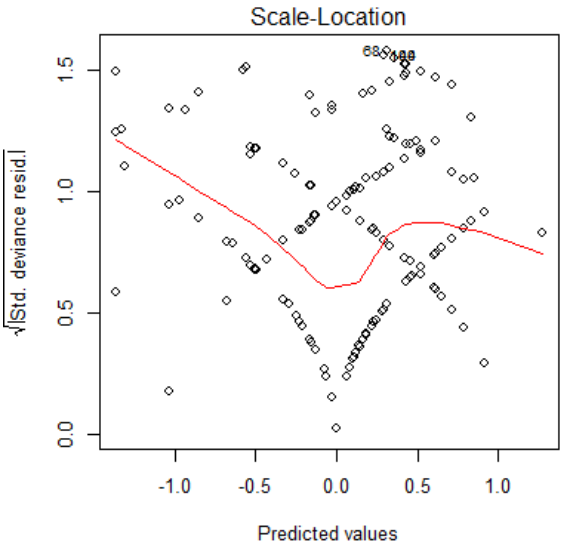
Appendix 4 Number of actor types per cases

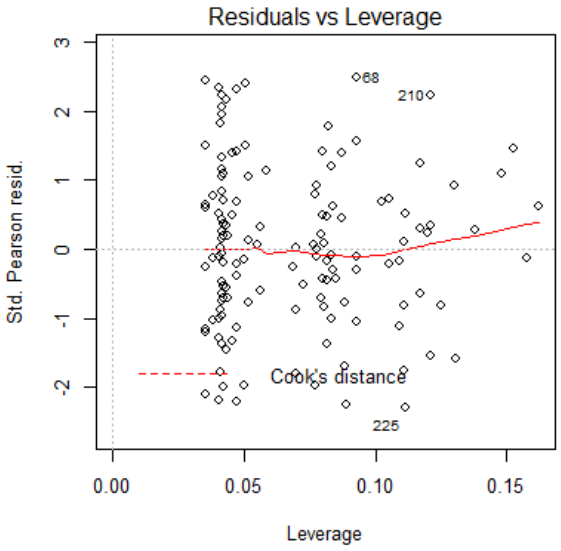
	Business Group	Citizen Group	Institutional Group	Science	Political party
Climate	12	5	0	2	5
Energy	7	3	0	0	5
Water	7	6	11	3	4

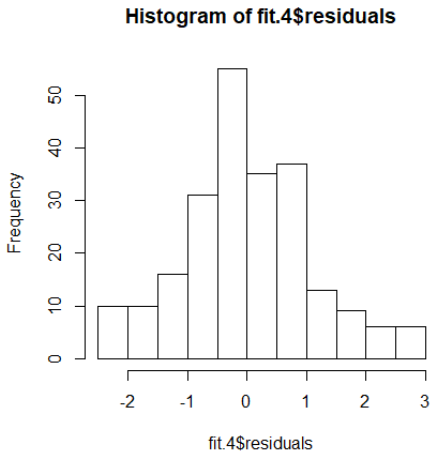
Appendix 5 Goodness of Fit OLS Regression











Appendix 6 Robustness Checks

Table D: Parameter estimates as coefficients with standard errors below

	Model X (OLS, Consult.)	Model Ya (OLS, Survey)	Model Yb (OLS, Survey)	Model 1 (OLS, Delta)	Model 2 (ML, Delta)
Intercept	2.89 *** (0.20)	2.83***(0.19)	1.46*** (0.23)	-0.07 (0.20)	-0.18 (0.21)
Value Consultation			0.47*** (0.05)		
Target group	-0.03 (0.17)	0.04 (0.16)	0.06 (-0.17)	0.08 (0.17)	0.07 (0.17)
Losers	-0.73*** (0.17)	-0.29 (-0.17)	0.05 (-0.15)	0.43* (0.17)	0.46* (0.17)
Actor Type (Business group is baseline category)[4]					
Citizen group	-0.15 (0.23)	0.28 (0.19)	0.35* (0.17)	0.43* (0.16)	0.42* (0.19)
Institutional Group	0.70* (0.20)	0.45 (0.27)	0.11 (0.23)	-0.26 (0.29)	-0.35 (0.27)
Political party	-0.13 (0.20)	0.14 (0.27)	0.21 (0.17)	0.15 (0.24)	0.29 (0.20)
Science	-0.03 (0.27)	-0.16 (0.34)	0.15 (0.23)	0.16 (0.29)	-0.23 (0.17)
Instrument Type (Incentives as baseline category) [5]					
Persuasive	-0.48** (0.17)	-0.70* (0.17)	-0.46** (0.15)	-0.22 (0.18)	-0.23 (0.17)
Regulative	-0.10 (0.18)	-0.27 (0.17)	-0.22 (0.15)	-0.21 (0.25)	-0.15 (0.18)
Subsystems (Climate policy subsystem is baseline category) [6]					
Energy policy subsystem	0.13 (0.22)	0.31 (0.21)	0.26 (0.19)	0.19 (0.22)	
Water policy subsystem	0.45 (0.18)*	-0.07 (0.18)	-0.28 (0.16)	0.51**(0.18)	
AIC	861.59	844.24	770.28	860.12	866.72
BIC	905.20	887.85	817.53	903.74	906.70
Log Likelihood	-418.79	-410.12	-.372.14	-418.06	-422.36
Num. obs.	280	280	280	280	280
Subsystem fixed Effects	no	no	no	no	yes

Note: p-values significance levels *** p < 0.001, ** p < 0.01, * p < 0.05. Parameter estimates are presented in coefficients.

[4] Business group is the modal group of the actor type variable and serves as baseline category.
[5] Incentive instruments is the modal group of the actor type variable and serves as baseline category.
[6] We assume that the water policy subsystem is collaborative, the energy policy subsystem is moderately conflictive, and the climate policy subsystem is conflictive. As we test a hypothesis on collaborative subsystems, we want to see the contrast with conflictive systems. Thus, we set the climate policy subsystem as the baseline category.

Appendix 6 cont.

Explanation to Table D and Models X, Ya and Yb not outlined in the text of the manuscript:

Model X shows factors that influence positions in the consultation (all instruments from all subsystems), thus the officially stated policy positions. We see that actors, anticipating themselves to be losers in a policy process, systematically evaluate policy instruments worse than actors that do not see themselves as losers. The contrary is true for institutional actors (such as cantonal representatives; only present in the water policy subsystem): they appreciate the policy instruments significantly more than the business group (baseline group). In addition, persuasive policy instruments are less popular than incentives (baseline category) among the consulted actors. Finally, we find that in the water policy subsystem evaluations are significantly better than in the climate policy subsystem

In Models Ya and Yb, the dependent variable is positions regarding instruments as reported in the survey (again, all instruments and all subsystems). The results in Model Ya reveal that persuasive instruments are again significantly negatively evaluated. As indicated by the reduced AIC and BIC values, the model fit improves when moving from Model Ya to Model Yb. Model Yb shows only one change with respect to the predictor and control variables – the citizen group is more likely to rank the discussed policy instruments higher than business actors. Most importantly, the results in Model Yb reveal a significant tendency to positively appreciate instruments in the survey, when already positively evaluated in the consultation.

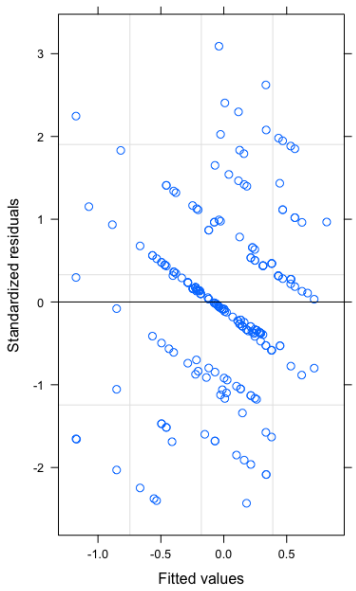
In addition, we tested different variance components running an ANOVA model (Table E) to understand whether there is significant variation at the subsystem level. The high F-ratio and low p-values indicate significant variation across the different subsystems in regard to the differences between the consultation and the survey positions.

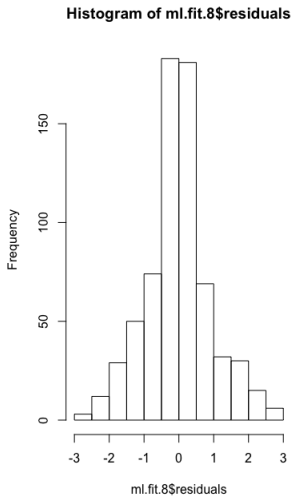
Table E: Results ANOVA Model

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Subsystem	2	25.25	12.626	9.488	0.000111 ***
Residuals	225	299.43	1.331		

Note: p-values significance levels *** p < 0.001, ** p < 0.01, * p < 0.05.

Appendix 7: Goodness of Fit Multi-level Regression





Appendix 8: Mean Delta per subsystem and actor type

Table F

	Climate	Energy	Water
Overall	0.33	0.31	-0.42
Business Group	0.16	0.17	-0.47
Citizen Group	0.85	0.16	-0.25
Institutional groups			-0.47
Political Party	0.25	0.60	-0.48
Science	0.50		-0.50

Note: The table shows the mean delta of values in the consultation (C) and the survey (S), i.e. S-C.