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Policy network structures, institutional context, and policy change

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Abstract

This paper studies whether characteristics of policy networks can help us understand policy change. The relation between policy networks and policy outputs is complex. I argue that taking into account the institutional context in which decision-making takes place allows understanding which policy network structures favor major policy change and which ones breed outputs close to the status quo. The study analyzes how conflict, collaboration, and power relations among coalitions of actors matter for the understanding of policy change in an institutional context of a consensus democracy. Empirically, I rely on Qualitative Comparative Analysis (QCA) to conduct a cross-sector comparison between the 11 most important political decision-making processes in Switzerland between 2001 and 2006. Coalition structures with low conflict and strong collaboration among coalitions as well as structures with dominant coalitions and weak collaboration both facilitate major policy change. Competing coalitions that are separated by strong conflict but still collaborate strongly produce policy outputs that are close to the status quo.

Introduction

Can policy network structures explain policy outputs? Policy network structures describe the relations among collective political actors (political parties, interest groups, state administration, etc.) participating in a given policy domain. Policy outputs are the result of negotiations and interactions among collective political actors during a decision-making process.[1] Therefore, relations between collective actors should be an element allowing us to understand policy outputs (Knoke *et al.* 1996, Bressers and O'Toole 1998, Howlett and Ramesh 1998, Marsh 1998, Adam and Kriesi 2007). Understanding how policy networks affect policy outputs is important mainly because policy outputs are potential solutions to political problems and as such regulate society. In different situations, different policy outputs might be preferable. If we know how policy network structures influence policy outputs, we might be able to design the policy networks that produce preferable outputs (Klijn 2005, Klijn *et al.* 2010). However, results from the existing literature are somewhat inconclusive (Börzel 1998, Thatcher 1998, Schneider *et al.* 2003, Sandström and Carlsson 2008).

This has several reasons. First, there exist many different aspects of policy outputs (Adam and Kriesi 2007, Howlett and Cashore 2009, Klijn *et al.* 2010). Given the broad interest for policy change among public policy scholars (Sabatier 1987, Baumgartner and Jones 1993, Sabatier and Jenkins-Smith 1993, Dudley and Richardson 1996, Howlett and Ramesh 1998, Weible *et al.* 2011, Baumgartner 2012), I focus on this aspect of policy outputs. More concretely, I shall explain why the output of political decision-making processes corresponds to a major policy change, or, alternatively, why the solution comes close to the status quo.

Second, different aspects of policy network structures are supposed to influence policy outputs in different and opposing ways. For example, while Provan and Kenis (2008) suggest that broad agreement, i.e. low conflict among actors favors policy change, Adam and Kriesi (2007) argue that only the presence of diverging ideas, i.e. high conflict among actors is able to produce new policy outputs. Similarly, while close collaboration among actors could increase the chances for policy change because it favors trust and coordination (Coleman 1990, Putnam 1995), strong collaboration also hinders new ideas to develop and thereby

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[1] Whereas policy outputs are defined as the specific action by the state and its administration, the broader consequences of a policy for the society are referred to as policy outcomes (e.g. Knoepfel *et al.* 2007). In this article, I shall only treat outputs. First, the study of outcomes needs an intensive long-term study of the consequences of a policy. Second, the term „outcome" is used in QCA-language for the „dependent variable" of the analysis.

favors the status quo (Adam and Kriesi 2007). A similar argument exists concerning power relations. This paper systematically discusses the diverging arguments related to three main elements of policy networks, i.e. conflict, collaboration, and power relations.

Third, and related to point two, I argue that the institutional context under which decision-making takes place impacts upon the relation between policy network structures and policy outputs (i.e. Radaelli *et al.* 2012). However, this factor has been neglected so far in studies on policy networks and outputs. As an example, whereas conflictive policy network structures might enable policy change in majoritarian political systems, I argue that in consensus democracies, low conflict is needed to achieve policy change. I empirically test my arguments in consensual political system. Given the high number of veto-points in the Swiss political system, opponents are granted with several opportunities to block policy change (Immergut 1990). Given types of policy network structures are therefore supposed to lead to policy change.

Empirically, I conduct a cross-sector comparison between the policy networks of the 11 most important political decision-making processes in Switzerland between 2001 and 2006. Such a comparison within one country has the advantage of keeping some macro-institutional or cultural factors constant. Additionally, and unlike studies focusing on a specific policy domain or policy process, this paper offers a fairly comprehensive view of the effects of policy network structures on policy outputs across a variety of policy domains. I rely on an innovative combination of two methods. In a first step, Social Network Analysis (SNA, Wasserman and Faust 1994) tools are applied to describe the policy networks, i.e. the different factors supposed to explain the output. In a second step, the 11 cases are compared by a Qualitative Comparative Analysis (QCA, Ragin 1987, Rihoux and Ragin 2009). While SNA allows for a systematic and formal description of the cases, QCA offers one way of identifying causal paths involving networks. Data stems from about 250 face-to-face interviews with representatives of political actors as well as from documentary sources about the 11 processes.

The remainder of this paper is structured as follows. Section two discusses the theoretical link between policy networks and policy outputs. Section three presents policy change as one of different aspects of policy outputs. Subsequently, three different dimensions of policy networks, i.e. conflict, collaboration, and power, and their influence on policy change are discussed. A section on the data and the methods follows. The results of the Qualitative Comparative Analysis are presented in section five. Section 6 goes back to the cases and discusses the results. Section 7 presents the conclusions of my study.

Policy networks and policy outputs

Policy networks are a tool to capture essential elements of modern political decision-making. First, owing to several inter-related developments, the classical boundaries between the different functions of state and private actors have become "fluent and irrelevant" over time (Laumann and Knoke 1987: 381, Knoke *et al.* 1996). The policy network approach takes this development into account and captures the various formal and informal relations among the complex set of different actors. Second, and as a consequence of the first, authority is dispersed in modern political systems. Because technical, financial, and political resources are fragmented and no actor alone has enough resources to unilaterally influence political decision-making, collaboration among actors is necessary to achieve a political decision (Berardo and Scholz 2010, Henry 2011). The policy network approach explicitly focuses on the relations among actors instead of their individual characteristics. Conceptually, policy networks are meso-level concepts, situated between institutional arrangements and processes on the macro-level on the one hand, and micro-level individual behavior on the other hand. They are influenced by both the macro- and the micro-level factors (Adam and Kriesi 2007: 143ff., Lubell *et al.* 2012). For example, if the institutions of the decision-making process on the macro-level provide actors with extensive arenas to meet and negotiate, this could increase the level of collaboration in a network. Similarly, institutional requirements for broad coalitions influence the policy network structure. Finally, micro-level behavior, as for example the effort of an actor to initiate negotiations between two actors that had no contact before, influences the structure of the policy network.

The reason to study networks in general and policy networks in particular rests on the assertion that they are somehow consequential: the structure of relations among actors and the location of individual actors in the network have important consequences both for the units and for the system as a whole (Knoke 1990). On the individual level for example, being in a good position within the network increases one's odds of success (Berardo 2009, Provan *et al.* 2009). On the collective level, a densely interconnected network with many consensual relations among actors (or coalitions) might produce better outputs than a network in which actors do not collaborate intensely and fight over diverging preferences. Because policy networks reflect the processes of bargaining and coordination among actors, their structures reflect and affect the potential to produce given outputs (Sandström and Carlsson 2008). Policy networks thereby shape the responses that the political system gives to external factors (Adam and Kriesi 2007: 143ff.). Therefore, the literature often argues that different policy network structures are an element that allows understanding current or future policy outputs

(Knoke *et al.* 1996, Bressers and O'Toole 1998, Howlett and Ramesh 1998, Marsh 1998, Adam and Kriesi 2007). While other factors certainly also influence policy outputs, policy network structures are one crucial element of political systems, and ignoring them at the very least risks missing an important element (Lubell *et al.* 2012). It is assumed that the influence of network characteristics is sufficiently great to explain an empirically significant portion of the instruments selected (Bressers and O'Toole 1998: 214).

Policy change as an aspect of a policy output

Policy outputs have different characteristics. For instance, Klijn et al. (2010) distinguish between content and process outputs. Content output concerns the substantive content of the policy resulting from actors' collective action in a policy network. Possible contents of the policy are its innovative character, the integrative character of the solution, its problem-solving capacity, its stability over time (see also Atkinson and Coleman 1989, Howlett 2002, Adam and Kriesi 2007), or the relation between its costs and benefits. Process outputs concern the type of process leading to the output. Researchers have looked at the level of satisfaction of the actors concerned, their evaluation of the process itself, the type of conflict resolution, or the frequency of policy contacts among actors. Adam and Kriesi (2007), in a similar vein, distinguish between consequences of policy networks in terms of specific policy outputs ("what") and the type of change ("how") (see also Rhodes and Marsh 1992, Howlett 2002). Given the strong interest in the factors behind policy change in public policy research (Sabatier 1987, Baumgartner and Jones 1993, Sabatier and Jenkins-Smith 1993, Dudley and Richardson 1996, Howlett and Ramesh 1998, Weible *et al.* 2011, Baumgartner 2012), this paper focuses on a specific type of *content* output, i.e. policy change. A major policy change is given if a policy brings considerable, paradigmatic changes to the respective policy field. If the solution mainly reiterates existing policies or brings only marginal, incremental changes, it is conceived of as an output close to the status quo (Hall 1993, Howlett and Cashore 2009).[2] As an example, among the cases under study in this paper, the projects of the new fiscal equalization scheme or the education reform brought major policy changes. The first re-organized the financial flows and competence distribution between the Confederation and the cantons as well as among the cantons and is considered a fundamental reform of Swiss

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[2] Focusing on innovation, I concentrate on a *content* output instead of a process output (looking at "what" instead of "how"). *Process* outputs are causally and conceptually much closer to the structure of the policy network itself, and causal relations might therefore be hard to establish.

federalism (Sciarini 2005, Braun 2009). The second introduced important competences for the Confederation in the domain of education policy, which used to be one of the last strongholds of cantonal autonomy (Fischer *et al.* 2010). Both decision-making processes brought major changes to policy domains where earlier attempts for reform failed several times. On the contrary, the program of budget relief 2003 or the pension scheme reform are examples of status quo outputs: while the former merely defined budget cuts, but no substantial policy change, the latter failed in a referendum vote and never came into force.

Conflict, collaboration, and power relations as important elements of policy network structures

Before being able to analyze to what extent policy networks are able to account for policy change, I need to define the essential dimensions of policy networks. First, because no actor alone can decisively influence decision-making processes, I argue – along with others – that coalitions of actors should be the main elements in a policy network (Sabatier 1987, Knoke *et al.* 1996, Heaney 2006, Kriesi *et al.* 2006, Sabatier and Weible 2007). Second, based on an explorative review of the literature dealing with policy networks, three elements appear to be central (for more details see Fischer 2012). Conflict, collaboration, and power are not only the most important elements of policy networks (Rhodes and Marsh 1992, Knoke *et al.* 1996, Bressers and O'Toole 1998, Marsh 1998, Adam and Kriesi 2007), but are also some of the most basic concepts in political science and public policy.

Conflict

Conflict among actors in a political system is mainly due to diverging preferences. Actors may disagree about the need for a regulation or intervention, argue about the causes of a political problem, or have different ideas on how to best solve a problem (e.g. Scharpf 1997). If preferences of coalitions are based on fundamentally different world views, values and problem definitions, conflict is supposed to be more intense. If preferences differ due to material interests or technical details, conflict is lower and actors have an easier time to reach a solution (see Sabatier 1987, Sabatier and Weible 2007).

Different authors stress the importance of the influence of preference cohesion among actors in the network on policy outputs (Bressers and O'Toole 1998, Robins *et al.* 2011). More specifically, concerning policy change, two diverging arguments exist. On the one hand, Provan and Kenis (2008) argue that widespread agreement, i.e. low conflict among actors,

facilitates policy change. A widespread agreement on goals and the way a policy output should be designed facilitates the common elaboration of important changes in the respective policy. Converging preferences alone might not be sufficient, but they basically enable policy change. If actors on the contrary are in conflict about the problem definition or the best policy output for the solution of a problem, chances are high that the policy output corresponds to a lowest common denominator solution close to the status quo.

On the other hand, Adam and Kriesi (2007) argue that conflict over policy goals and design stimulates the search for new solutions and therefore enables policy change. According to their reasoning, conflictive policy networks lead to rapid shifts in policy outputs, whereas consensual networks foster the status quo. The reasoning behind this argument is that low conflict means that most actors agree with the existing policy. Chances are therefore high that actors simply renew the existing policy. Following this argument, only conflict, i.e. the presence of diverging ideas on how to best resolve a political problem, can lead to policy change.

Collaboration

Collaboration among political actors interested in a given problem is the basis for negotiations and coordination over policy problems and possible solutions. Rationales for collaboration can be the exchange of information, advice, or resources, mutual learning, compromise seeking, the coordination or work in a coalition, or the search for access to influential actors (Sabatier 1987, Bressers and O'Toole 1998, Sabatier and Weible 2007, Provan and Kenis 2008, Sandström and Carlsson 2008, Robins *et al.* 2011). Intense collaboration, i.e. network closure (Burt 2001, Berardo and Scholz 2010) leads to social capital and norms of generalized reciprocity, encourages the emergence of trust, facilitates coordination and communication, reduces incentives for opportunism, and thus allows dilemmas of collective action to be resolved (e.g. Coleman 1990, Putnam 1995, Lubell *et al.* 2012). It is thus important that actors do not only collaborate within coalitions that defend the same preferences, but that they also have links to other actors across the ideological spectrum.

Again, two diverging arguments for the effects of collaboration on the policy output exist. On the one hand, following the reasoning of the social capital literature cited above, strong collaboration enables policy change because actors can build up trust and reduce incentives for opportunism. Strong collaboration might induce actors to pass from a "bargaining" mode of interaction to a "problem-solving" mode of interaction (Scharpf 1988,

1997, Braun 2009). In a "problem-solving" mode, actors concentrate on long term goals such as the creation of value and/or better projects, which is favorable to policy change.

On the other hand, the famous argument by Granovetter (1985) states that mostly weak ties are responsible for new ideas. According to this argument, only collaboration between actors not connected otherwise allows for the spread of new ideas, which results in policy change. If actors are too closely connected, potential change must be slowly negotiated and existing policies are perpetuated (Adam and Kriesi 2007).

Power

The existence of a dominant coalition points towards a policy monopoly (Baumgartner and Jones 1991, True *et al.* 2007). A policy monopoly is based on given values and a widely accepted perception of the problem at hand. In such situations, the conflict over policy preferences does not need to be solved by negotiation, but the uneven distribution of power among coalitions enables a clear majority decision. The dominant coalition can enforce its preferred solution without much resistance from minority coalitions (Scharpf 1997: 45ff.). On the contrary, if power is distributed among two or more equally strong coalitions representing different perceptions of the problem and different preferences concerning its possible solutions, there is a high probability that coalitions are able to mutually block the decision-making process. A solution can only be achieved either by a marginal majority decision, or by negotiations and compromise seeking.

Again, two diverging arguments concerning the effects of power distribution on the policy output exist. On the one hand, the concentration of power in one coalition is supposed to foster the status quo because of the existence of a policy monopoly (Baumgartner and Jones 1991, Adam and Kriesi 2007, True *et al.* 2007). Based on the assumption that the dominant coalition representing the policy monopoly defends the same preferences over time, it is argued that the status quo is reiterated. Only fragmented power, i.e. the existence of different coalitions, allows challenging an existing solution and can lead to policy change.

On the other hand, policy change can also be fostered by the existence of a dominant coalition. If the actors in the dominant coalition are in favor of change, it will be broadly accepted. On the contrary, the existence of several coalitions with about the same amount of power might impede change because the coalitions are able to block each other mutually and have to find a lowest common denominator solution.

Policy network structures and institutional design

As explained above, there exist two opposing arguments for each of the three dimensions of policy networks with respect to their effect on policy outputs. I argue that the relation between policy network structures and policy change depends on the institutions of the political system. This factor has been widely neglected by the literature on the consequences of policy networks. However, networks are only one element that influence policy outputs (Lubell *et al.* 2012), and the institutional context under which decision-making takes places influences the effect of policy network structures on policy outputs (i.e. Radaelli *et al.* 2012). Institutions refer to the formal and informal norms that both constrain and enable the behavior of political actors (North 1990, Lubell *et al.* 2012). The institutional design of a political system governs decision-making processes. Most importantly, the degree of consensus necessary for policy change varies according to institutional requirements (Sabatier and Weible 2007, Gupta 2012).

Switzerland is known as the paradigmatic case of a consensus democracy (Lijphart 1999, Kriesi and Trechsel 2008, Vatter 2009). A political system like the Swiss one with a high number of veto-points grants opponents with several opportunities to block policy changes and thereby promote the status quo (Immergut 1990). Because of institutions such as the referendum or federalism (Kriesi and Trechsel 2008), policy change can only be successful if the decision-making process includes a broad range of actors, and the policy favors or at least does not harm actors who have the power to activate veto-points during the decision-making process (Tsebelis 2002). This is why consensus democracies are famous for their broad integration and political stability, but also for their low innovation capacity (Lijphart 1999). Switzerland is no exception, as decision-making processes are generally slow and policy change is often only minor and incremental (Sciarini 2006, Kriesi and Trechsel 2008, Linder 2009).

Given the institutional design of the political system under study, I expect that either the presence of a dominant coalition or a combination of low conflict and strong collaboration can lead to policy change. In the first situation, minority coalitions are unable to impede policy change favored by the dominant coalition, independently of the collaboration and conflict patterns between them. In the second situation of low conflict and strong collaboration, actors might be able to find a solution that represents policy change, even if various coalitions exist. Status quo outputs, on the contrary, are expected in situations of high conflict and low collaboration among competing coalitions.

Note that I explicitly refrain from making hypothetical claims about necessity and sufficiency, as the structure of policy networks is only one factor that influences policy outputs (Lubell *et al.* 2012). Further, observing only one type of political system, i.e. a consensual one, I am of course unable to systematically test the joint influence of network structures and institutions on policy change. In this paper, the consensual political system is simply treated as a scope condition (e.g., Goertz 2006) for the hypotheses formulated above.

Data and methods

Data on the 11 most important decision-making processes
This paper compares the 11 most important decision-making processes in Switzerland between 2001 and 2006.[3] Such a cross-sector comparison within one country has the advantage of keeping macro-level variables like the institutional design of the political system constant. The cases are the 11th pension reform, the program of budget relief 2003, the extension of the bilateral agreement on the free movement of persons and flanking measures, the bilateral agreement on the taxation of savings, the bilateral agreement on Schengen/Dublin, the law on nuclear energy, the law on the infrastructure fund, the new law on foreigners, the reform of fiscal equalization and tasks distribution, the new constitutional articles on education and the law on telecommunication. These 11 processes cover a wide range of different policy domains and can therefore inform us about Swiss politics in general. On the other hand, admittedly, these most important processes may not be representative for the whole population of decision-making processes in Switzerland. They mainly inform us about the outputs with the most important consequences on the functioning of the state and society, i.e. the cases of major policy change.[4] Indeed, given that the Swiss political system is prone to the status quo, the fact that 8 out of 11 projects under study are considered to have led to more than only minor policy changes indicates a certain selection bias. My analysis is

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[3] The importance of the decision-making processes is based on a written expert survey among approximately 80 experts of Swiss politics conducted in 2007. The number of 11 cases (and not more or less) is given by comparability issues of the overarching research project with another research project.

[4] Note that interview partners might have considered the policy changes under study as major in the context of Swiss politics. However, given the fact that major policy change is rare due to the strong veto points existing in the consensual political system of Switzerland, these changes might not be major when compared to policy changes in other political systems.

thus able to identify conditions that lead to major policy change, but might be less suited to identify conditions leading to status quo outputs.

Data on the 11 processes was gathered through approximately 250 semi-structured interviews with individual representatives of collective actors involved in the decision-making processes. Based on positional, decisional, and reputational approaches (see e.g. Knoke 1993: 30), 20 to 30 organizational actors per process were identified and interviewed.[5] Besides the answers to the pre-structured questions, additional information from the interview partners was noted in an interview protocol and proved useful for the interpretation of the data and the in-depth knowledge of the cases. Additionally, official documents provided me with supplementary information on the 11 decision-making processes.

Social Network Analysis and Qualitative Comparative Analysis

Methodologically, I rely on an innovative combination of two approaches (for more details, see Fischer 2011). In a first step, Social Network Analysis (SNA) tools are applied to describe the coalitions and the power distribution among them. In a second step, the 11 cases are compared by a Qualitative Comparative Analysis (QCA).

The focus of Social Network Analysis (for an introduction, see Wasserman and Faust 1994) is, as its name suggests, on networks, i.e. relations between entities. The central assumption underlying the focus on networks and network relations is that these relations and the interdependencies that come with them matter for the explanation of individual or collective behaviour. In the context of the empirical application in this paper, the nodes of the network are collective political organisations such as political parties, interest groups, or agencies of the state administration. These actors are linked by ties of convergence or divergence of preferences on a specific policy project, as well as by ties of collaboration. Both types of relational information are used for the reconstruction of actors' coalitions, which are the basic units of analysis of network structures (for similar approaches, see Knoke *et al.* 1996, Adam and Kriesi 2007, Ingold 2011).

Qualitative Comparative Analysis (Ragin 1987, 2008, Rihoux and Ragin 2009) is a method for the systematic comparison of usually a medium (5-50) number of cases. It is based on the assumption that causality in the social reality is complex, i.e. that different combinations of causal conditions can lead to an outcome and that the effect of a condition is

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[5] Most of the interviews were conducted between February and July 2008 by the author of this paper and four specifically trained colleagues.

dependent on its combination with other conditions.[6] The method formally presents the values for the outcomes and the conditions in a so-called "truth table". This table is then reduced by eliminating redundant conditions and finally identifies necessary and sufficient conditions or combinations of conditions that lead to an outcome. In order to do this, QCA identifies set relationships between the outcome and the conditions. These set relationships indicate the presence of necessary or sufficient (combinations of) conditions for a particular outcome. The goal is to be able to explain a maximum of the cases under study, and the method emphasises the best possible case knowledge and the repeated dialogue between theory and evidence. The basic form of QCA is crisp-set QCA, in which the variables measuring conditions and outcome are dichotomous (0 or 1). Fuzzy-set QCA (fsQCA) allows overcoming the inherent limitation of dichotomization and works with fuzzy set membership scores that take on values between 0 and 1 (Ragin 2008, Rihoux and Ragin 2009).

SNA and QCA are highly compatible and complementary (Fischer 2011). On the one hand, QCA allows for a systematic comparison of network structures. While SNA is often only used in a descriptive manner, QCA offers one way of identifying potential causal paths involving networks. On the other hand, a formal quantitative tool like SNA allows the researcher to systematically apply the same criteria as a basis for the calibration of variables in QCA. Systematic calibration is an important criterion for a good QCA, especially when one compares more than only a handful of cases.

Calibration of the outcome

Measuring outputs is a difficult task because of the many elements a policy comprises (Howlett and Cashore 2009) and a general lack of agreement on how to evaluate them (Provan *et al.* 2009). Ideas on policy change can largely diverge among political actors, according to their different points of view. Working with actors' perceptions is one possibility to overcome this problem (Klijn *et al.* 2010). We thus asked our interview partners to indicate, on a scale from 1 (output close to the status quo) to 5 (major policy change), whether they considered the output of the decision-making process as a major policy change or being close to the status quo. The average perception of the actors involved in the decision-making process was then transformed into a fuzzy-value based on the direct method of calibration for interval variables (Ragin 2008). The crossover point is defined at 3, which lies exactly between the theoretical minimum value of 1 and the theoretical maximum value of 5 and

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[6] In the language of QCA, the outcome is the phenomenon to be explained, and the conditions are the potential causal factors included in the analysis.

represents outputs corresponding to minor policy change. Table A1 in the appendix gives an overview over the calibration of the outcome. The output closest to a major policy change was achieved in the decision-making process leading to the new fiscal equalization scheme (fuzzy-value 0.83). This process is considered one of the most important reforms in the last decades in Switzerland, as it re-organizes the competences and financial flows among the Confederation and cantons. On the contrary, the output from the decision-making process on the law on nuclear energy stayed close to the status quo, as it mainly extended existing regulation to the future (0.31).

Calibration of conditions

Before being able to asses conflict, collaboration, and power among coalitions of actors, actors need to be aggregated into coalitions. Actors in a coalition do not only have similar preferences, but also need to coordinate their activities (Schlager 1995, Weible and Sabatier 2005, Henry 2011). Therefore, coalitions are identified with a two-step procedure. In a first step, actors are regrouped into blocks according to their profile of convergence and divergence of preferences.[7] These subjective perceptions of actors' agreement with other actors are a good proxy for their joint preferences (Ingold 2011). Blocks are identified with the "balance"-procedure in Pajek (Batagelj and Mrvar 1996). This procedure continuously rearranges the matrix of actors until reaching an arrangement that is closest to a pre-defined structure with only positive within-block-ties and negative between-block-ties (Nooy *et al.* 2005). Deviations from this ideal arrangement are indicated with an error term that varies according to the number of blocks (Doreian and Mrvar 2009). I selected the block structure with the lowest error term. Depending on the case, this procedure results in 2 to 5 blocks. Actors within one block have convergent beliefs, while actors from different blocks have divergent beliefs. Because having the same beliefs is not enough for actors to form a coalition, the second step identifies actors within each block that cooperate at least indirectly. Based on the cooperation network[8] among the actors within each block, I identified 2-cliques

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[7] Based on a list comprising all actors participating in the process, interview partners were asked to select the actors with which their organization had mainly convergent or divergent beliefs concerning the project. This results in a directed matrix with positive values indicating convergence and negative values indicating divergence of beliefs.

[8] Based on a list comprising all actors participating in the process, interview partners were asked to select the actors with which their organization was cooperating closely, i.e. had frequent contacts during the decision-making process. As cooperation always needs two actors, only reciprocated cooperation ties were used for the analysis.

(Wasserman and Faust 1994) in UCINET (Borgatti *et al.* 2002). This allows eliminating actors from blocks that have similar beliefs as the other actors, but are not well integrated in the cooperation structure within the block.[9] An alternative criterion, i.e. direct cooperation, is too strict. For example, a coalition might be composed of some important, leading actors and some less important actors. These do not need to cooperate directly as long as they all cooperate with the leading actors (Hojnacki 1998). Thus, actors sharing similar beliefs (step 1) and cooperating with each other at least indirectly (step 2) form a coalition. Similar beliefs are analyzed before cooperation because it is the more important criterion for the identification of a coalition. I rely on a broad and neutral definition of cooperation, so that the fact that political actors cooperate closely does not necessarily mean that they agree on the substantive policy issue at stake. While internal cooperation is important for a coalition, cooperation also occurs across coalitions. The information on cooperation is therefore less adapted for the first step of the identification of coalitions.

Based on this, I assessed conflict, collaboration, and power among coalitions. First, the assessment of conflict is based on interview data. From a list comprising all actors participating in the given process, interview partners were asked to select the actors with which their organization had mainly convergent or divergent preferences during the decision-making process. This results in a directed network where 0 indicaates perfect convergence and 1 indicates perfect divergence of preferences. Conflict between coalitions is measured as the average of convergence/divergence relations between the coalitions identified before. This means that the convergence/divergence relations *within* a coalition are not taken into account, but only the convergence/divergence relations between actors belonging to different coalitions. Given the lack of theoretical minimum and maximum values, the upper and lower bounds are defined by the maximum and minimum observed values, the crossover-point is defined by the median observed value (fuzzy-values are again based on the direct method of calibration for interval variables (Ragin 2008), see table A2 in the appendix). Second, information on actors' collaboration stems from interview data too. Based on a list comprising all actors participating in a given process, interview partners were asked to select the actors with which their organization strongly collaborated during the decision-making process. Collaboration among coalitions is measured as the average of between-coalitions' collaboration ties. This again means that only relations among actors belonging to different coalitions are taken into account. Again, given the lack of theoretical minimum and maximum values, the upper and lower bounds are defined by the maximum and minimum observed

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[9] Within each block identified before, the 2-cliques with the highest internal cooperation density was selected.

values, the crossover-point is defined by the median observed value (fuzzy-value are again based on the direct method of calibration for interval variables (Ragin 2008), see table A3 in the appendix). Third, actors' power is measured by reputational power. Based on a list comprising all actors participating in a given process, interview partners were asked to indicate those actors that, in their view, had been very influential. Based on these answers, I calculated the score of reputational power of each actor, which corresponds to the mean of all the judgments of the interview partners. The power of each coalition is calculated by aggregating the reputational power of each actor in a coalition. The aggregation is computed as the mean between the "part-of-the-sum" and the average score of the reputation of each coalition.[10] The transformation from the indicator for power of the most powerful coalition to fuzzy-values is again based on the direct method of calibration for interval variables (Ragin 2008). The crossover point is defined at 50, i.e. if (in the presence of at least 3 coalitions) one coalition has 50% of power (see table A4 in the appendix).

Table 1 presents the fuzzy-values for the outcome (CHANGE), as well as for the three conditions (POWER, CONFL, COLLAB).

Table 1: Fuzzy-values of outcome and conditions

	CHANGE	POWER	CONFLICT	COLLAB
Nuclear	0.31	0.26	0.76	0.500001
Pension	0.44	0.08	0.79	0.83
Fiscal equal.	0.83	0.70	0.71	0.44
Budget	0.36	0.82	0.87	0.80
Persons	0.60	0.83	0.65	0.05
Savings	0.70	0.85	0.05	0.67
Schengen	0.77	0.73	0.95	0.44
Foreigners	0.53	0.81	0.91	0.09
Education	0.69	0.91	0.18	0.89
Telecom	0.53	0.37	0.38	0.95
Infrastructure	0.77	0.62	0.06	0.500001

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[10] The first, the "part-of-the-sum" measure (summing up the reputational power of each actor in the coalition and expressing the sum as the part of the total power of all coalitions), tends to overestimate the power of coalitions that contain a lot of actors with little power. The second, the average measure (calculating the average reputational power of all actors in a coalition), on the other hand, tends to underestimate the power of these coalitions. Using the mean of the two measures enables us to control for these potential biases.

Analysis

Necessary conditions

The analysis of necessity reveals that none of the conditions is necessary for either of the outcomes. The respective table can be found in the appendix (table A5). No claim of necessity is consistent with the empirical observation to at least 90% (Schneider and Wagemann 2007), but two conditions come close to this threshold. On the one hand, the presence of a dominant coalition is almost necessary for achieving policy change. On the other hand, strong conflict comes close to being a necessary condition for a status quo output. Both results go in the direction of my expectations.

Sufficient conditions for major policy change

The truth table for the analysis of sufficient conditions for major policy change appears in table 2. The combination of three conditions results in 8 possible configurations. The cases listed in the last column of each row are its strong members, which are more inside than outside the relevant set. Rows with combinations of conditions without strong members in the empirical data are not directly relevant and do not appear in the truth table. These are so-called logical remainders, which are (partly) included in the minimization procedure as simplifying assumptions. The 11 cases have strong members in 7 of the 8 possible combinations of conditions; there is thus only 1 logical remainder. Therefore, I present only the complex solution, obtained by minimizing the truth table without the inclusion of the logical remainders. Such a solution is only based on the empirical observations, and not on prior theoretical knowledge (Ragin 2008: 160ff.). All analyses are conducted with the computer program fsQCA (Ragin *et al.* 2009).

Table 2: Truth table for the analysis of policy change

POWER	CONFL	COLLAB	Consistency	CHANGE	Strong members
1	0	1	0.96	1	Education, Savings, Infra
0	0	1	0.96	1	Telecom
1	1	0	0.90	1	Foreigners, Persons, Fiscal equal., Schengen
1	1	1	0.84	0	Budget
0	1	1	0.80	0	Pension, Nuclear

In the truth table, there appears a natural gap in the consistency scores between 0.90 and 0.84, which is used as a threshold for coding the row as consistently sufficient for the outcome "major policy change". 8 of the 11 cases are part of the solution term. The complex solution is presented in table 3.

Table 3: Complex solution for the outcome „policy change"

	Consistency	Raw coverage	Unique coverage	Cases covered
confl*COLLAB	0.94	0.53	0.34	Savings, Telecom, Education, Infra
POWER*CONFL*collab	0.90	0.47	0.28	Fiscal, Schengen, Persons, Foreigners
Solution:	**confl*COLLAB + POWER*CONFL*collab**			
Total consistency	0.91			
Total coverage	0.81			

Two alternative combinations of conditions are sufficient for a policy network to produce major policy change.[11] A first solution, in agreement with my expectations, is given by a policy network with a low conflict and strong collaboration between coalitions. Independently of the distribution of power among coalitions, if different coalitions are separated by only weak conflict and collaborate intensely, they are able to achieve major policy change. Low conflict indicates only minor differences of preferences, which can then be overcome by collaboration among coalitions. A second solution is given by policy networks with a dominant coalition, strong conflict, and weak collaboration. Thus, in a situation opposed to the one represented by the first solution, i.e. in a policy network with strong conflict and only weak collaboration among coalitions, policy change can only be achieved in the presence of a dominant coalition. This result gives support to the "inverse" policy monopoly argument, i.e. the argument that if a dominant coalition favors change, it can indeed achieve major policy change. In the consensus-oriented institutional context of Switzerland with its veto-points, only a dominant coalition is able to produce major policy change when coalitions are in strong

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[11] The parsimonious solution is collab + conflict, the intermediate solution is POWER*collab + COLLAB*confl.

conflict. The fact that a situation with a dominant coalition and conflict among coalitions has to be combined with weak collaboration is interesting. A dominant coalition can only produce major policy change if it does not need to collaborate with minority coalitions. Strong collaboration between coalitions is a sign that preferences of the minority coalitions are partly integrated into the policy output. This however most probably weakens the innovative character of the policy.

Overall, results from the analysis of sufficient conditions for major policy change go in the direction of my expectations, but suggest that the story is more complicated than expected. Most importantly, and contrary to my expectations, a dominant coalition is not individually sufficient for policy change, but needs to be combined with low collaboration and strong conflict. However, note that conflict might not be the main element in this explanation, but the fact that I do not observe a situation with a dominant coalition, low conflict, and weak collaboration impedes the program to eliminate this factor from the solution. Based on theoretical reasoning (see intermediate solution) and on the observation of a case that comes very close to such a situation (the infrastructure funds, which led to policy change), I suggest that dominant coalitions with weak collaboration do allow for policy change independently of the level of conflict.

Sufficient conditions for status quo outputs

Table 4 presents the truth table for status quo outputs. Only one combination can be regarded as sufficient for a status quo output, as its consistency value is higher than 0.83 (i.e. the consistency threshold used for the analysis of policy change). All the other rows are coded as 0.

Table 4: Truth table for the analysis of status quo

POWER	CONFL	COLLAB	Consistency	change	Strong members
0	1	1	0.85	1	Pension, Nuclear
0	0	1	0.82	0	Telecom
1	1	1	0.77	0	Budget
1	1	0	0.61	0	Foreigners, Fiscal equal., Persons, Schengen
1	0	1	0.61	0	Education, Savings, Infra

Only one specific combination of conditions, i.e. policy networks with strong conflict, strong collaboration and competing coalitions, led to policy outputs close to the status quo.[12] This solution is to 85% consistent with the empirical observations, but covers only 53% of the outcome to be explained. Power distribution among different coalitions leads to a situation where coalitions are able to mutually block each other, thus impeding policy change. This risk is even stronger if conflict among coalitions is strong. The fact that strong collaboration is the third condition to be combined for a sufficient solution for status quo policy outputs might sound surprising at first glance. However, strong collaboration together with strong conflict indicates a situation of negotiation (see Adam and Kriesi 2007), which is supposed to result in a lowest common denominator result close to the status quo.

Note that the solution for sufficient conditions for status quo outputs covers only two out of three cases with status quo outputs. As can be grasped from the truth table, only one combination of conditions achieves the consistency score of 0.85. The other combinations do not consistently lead to status quo outputs. Additionally, with only one combination, the complexity of the solution term cannot be reduced.[13] Yet, the finding supports the hypothesis that high conflict and competing coalitions lead to status quo outputs. Strong collaboration, contrary to my expectations, can also contribute to the fact that a policy network breeds an output that comes close to the status quo.

Discussion: back to the cases

The following few examples shall illustrate how the results of the QCA can help us to understand the policy outputs in the 11 cases. 8 out of the 11 cases are considered by our interview partners as having outputs that bring major policy change. Three of these cases are explained by the first combination of conditions, i.e. by the absence of conflict and strong collaboration among coalitions. In these three cases, conflict among coalitions was rather low. In such a situation, strong collaboration enables major policy change. In the cases of the education reform as well as the treaty on the taxation of savings, the minority coalitions did

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[12] The parsimonious and intermediate solutions are CONFL*power.

[13] Note that a different calibration of the outcome does not lead to a better explanation for status quo outcomes. If the crossover point is defined at an average innovation value of 3.5, six of the 11 cases belong more to the set of status quo outputs than the set of innovative outputs. This calibration produces two configurations that lead to status quo outputs, i.e. competing coalitions and strong collaboration or high conflict and strong collaboration. This solution covers 60% of the outcome, and only three of six cases are strong members in the outcome sets. Yet, the substantive result is similar: given combinations of high conflict, strong collaboration, and competing coalitions are elements of policy networks that lead to status quo outputs.

not strongly oppose the solution defended by the dominant coalition. The policy output in both cases was mainly a result of strong collaboration of experts and specialists, and representatives of the minority coalition were also included in the elaboration of the solution. In the case of the telecommunications reform, conflict among the three coalitions was clearly more intense than in the education reform and the taxation of savings agreement, but still quite low compared to other cases under study. The most important actors in this process were private firms, associations, and administrative agencies from the telecommunication domain, while political parties played a less important role due to the technical complexity of the domain. In such a setting, actors collaborated strongly and were able to elaborate a compromise solution. As such, it is not surprising that the output in this case was not considered a major, but still a minor policy change.

Five of the cases (infrastructure funds, law on foreigners, free movement of persons, new fiscal equalization scheme, Schengen/Dublin) are explained by the second path to major policy change, i.e. the combination of a dominant coalition, strong conflict and weak collaboration among coalitions. As explained above, this solution probably means that even in a context of strong conflict, major policy change can be achieved in the presence of a dominant coalition that avoids collaborating with minority coalitions. The new fiscal equalization scheme is the case that represents the strongest policy change. The reform tackled the very distribution of competences and financial flows between the central state and the federal units, i.e. the cantons. The main stakeholders, i.e. the agencies of the Federal Finance Administration and the cantons, were able to create a dominant coalition together with the center-right parties and the most important economic interest groups. Given the institutional context of federalism, such a dominant coalition including representatives from both levels of the federal state was absolutely crucial for the reform to be successful. A minor opposition coalition was composed of the left parties and trade unions. These actors were against the reform because they feared potential negative consequences of competence redistribution from the Confederation to the cantons in the domain of social policy and health care. While a couple of amendments were introduced into the reform in order to counter the criticisms, the collaboration with the minor coalition was rather weak, and the innovative character of the reform was not put into question by these minor amendments. By not collaborating strongly with the challengers, the dominant coalition took the risk of a defeat in a popular vote. A majority of the population however voted for the reform, and the dominant coalition was able to introduce the major policy change.

The story for the free movement of persons and the treaty on Schengen/Dublin is similar. In these cases, state actors responsible for international negotiations with the European Union (EU) made specific efforts to build up a dominant coalition (including with the Left for the case of the free movement of persons, see Fischer and Sciarini 2013). Collaboration with the minority coalition composed of the conservative Right was weak and not successful. The dominant coalition made only minor concessions, such as transition periods in the case of the free movement of persons. It then took the risk of a popular vote, and was compensated for it by being able to introduce major policy change.

In the case of the infrastructure funds and the law on foreigners, dominant coalitions were formed very early in the process. In the case of the law on foreigners, a center-right coalition supported a more restrictive policy towards foreigners. In the case of the infrastructure funds, a center-left coalition was responsible for setting up a project that allowed resolving the most pressing traffic infrastructure problems in Switzerland. In both cases collaboration with minority coalitions was weak, which means that only minor concessions were made and the respective policies kept their innovative character. In the case of the law on foreigners, the project was attacked by referendum. Given the dominant coalition favoring policy change, the Left however failed to get the policy voted down by the population.

Three of the 11 policy outputs are considered as being much closer to the status quo than to major policy change (pension scheme reform, law on nuclear energy, program of budget relief). The QCA allowed identifying a sufficient combination of conditions for two of the cases, i.e. the pension scheme reform and the law on nuclear energy. In both cases, three competing coalitions were opposed by conflictive relations, and still collaborated among each other. In such situations of negotiation between about equally powerful coalitions, major policy change is difficult to achieve. The result of the decision-making process on the pension scheme reform is telling in this respect: while the Right won the final vote in parliament, the Left won the popular vote, and no result at all came out of the decision-making process.

Conclusions

The literature argues that different policy network structures allow understanding current or future policy outputs. The exact relation between policy networks and policy outputs is however not well assessed (Thatcher 1998, Schneider *et al.* 2003). Against this background, the goal of this paper was to contribute to the understanding of the link between policy network structures and policy outputs. First, the analysis concentrates on one important aspect of policy outputs, i.e. policy change. Second, it focuses on three of the most important aspects of policy networks, i.e. conflict, collaboration, and power relations. Third, I focus on coalitions of actors rather than network structures among single actors. Fourth, the paper introduces the institutional context as an important scope condition influencing the relation between policy network structures and policy change. I argue that in consensus democracies, either structures with a dominant coalition or structures with low conflict and strong collaboration are needed in order to achieve major policy change. I empirically test my arguments in an institutional context supposed to favor solutions close to the status quo, i.e. Switzerland.

Results mostly confirm my expectations. Without taking into account the power of coalitions, low conflict with strong collaboration among coalitions facilitates major policy change. In situations of strong conflict, policy change is still possible if a dominant coalition defends a solution of major policy change and does not collaborate with minority coalitions. Regarding collaboration, results are mixed and depend on the power of coalitions , too. While strong collaboration among coalitions is beneficial to major policy change in the absence of conflict (and independently of coalition power), it favors a policy output close to the status quo when competing coalitions are separated by strong conflict. The absence of collaboration can even be beneficial for policy change: a dominant coalition defending policy change and collaborating only weakly with minority coalitions is less susceptible of making concessions to minority coalitions and thereby to reduce the innovative character of the output. Concerning power, results show that the existence of a dominant coalition favors major policy change – if collaboration with minority coalitions is weak. A situation with competing coalitions, on the contrary, much rather leads to status quo outputs – especially if conflict is strong and collaboration weak.

The analysis in this paper is based on the 11 most important decision-making processes in Swiss politics between 2001 and 2006. These 11 processes cover practically all of the different policy domains in Swiss politics, therefore the analysis can be supposed to represent the political system of Switzerland as a whole. However, one should be careful with

generalizing the results from this analysis. The most important decision-making processes mostly inform us about the outputs that are supposed to have the most important consequences on the functioning of the state and society – i.e. processes leading to major policy change. Thus, analyzing the most important policy network structures combined with a given institutional context allowed me to explain situations of major policy change. The explanation of policy outputs close to the status quo, however, was less successful. Given the bias in case selection, I refrain from making strong conclusions about conditions leading to status quo outputs.

When considering the results, it is important to keep in mind that they are based on the scope condition of a consensual democracy. There is nothing I can conclude about other institutional contexts. It is for example possible that in more majoritarian types of political systems, network structures with competing coalitions and strong conflict enable policy change, but I am unable to test it in the absence of empirical observations from such systems. An additional caveat is given by the fact that major policy change is rare in Switzerland due to the strong veto points existing in its consensual political system. The major policy changes might thus correspond to only minor policy changes when compared to other political systems.

Further studies certainly need to take into account the institutional context and, more specifically, might want to study what policy network structures lead to major policy change in a different institutional setting, such as a majoritarian democracy. Also, other researchers might want to take into account other aspects of policy network structures and other, non-network factors when explaining policy change.

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Appendix

Table A1: Calibration of the outcome

Policy change	Cases (average policy change in brackets)	Fuzzy-value
Major policy change (4.95):		*0.95*
	Fiscal equal. (4.05)	0.83
	Infrastructure (3.79)	0.77
	Schengen (3.78)	0.77
	Savings (3.54)	0.70
	Education (3.52)	0.69
	Persons (3.26)	0.60
	Foreigners (3.09)	0.53
	Telecom (3.07)	0.53
Crossover point: minor policy change (mean theoretical value, 3.00):		*0.5*
	Pension (2.84)	0.44
	Budget (2.64)	0.36
	Nuclear (2.47)	0.31
Status quo (1.05):		*0.05*

Table A2: Calibration of conflict among coalitions

Conflict	Cases (average conflict in brackets)	Fuzzy-value
Strong conflict (0.79):		*0.95*
	Schengen (0.79)	0.95
	Foreigners (0.75)	0.91
	Budget (0.73)	0.87
	Pension (0.70)	0.79
	Nuclear (0.69)	0.76
	Fiscal equal. (0.68)	0.71
	Persons (0.66)	0.65
Crossover point: medium conflict (median collaboration, 0.63):		*0.50*
	Telecom (0.60)	0.38
	Education (0.55)	0.18
	Infrastructure (0.48)	0.06
	Savings (0.47)	0.05
Low conflict (0.47):		*0.05*

Table A3: Calibration of collaboration among coalitions

Collaboration	Cases (average collaboration in brackets)	Fuzzy-value
Strong collaboration (0.27):		*0.95*
	Telecom (0.27)	0.95
	Education (0.23)	0.89
	Pension (0.21)	0.83
	Budget (0.20)	0.80
	Savings (0.17)	0.67
	Infrastructure (0.14)	0.51
	Nuclear (0.14)	0.51
Crossover point: medium collaboration (median collaboration, 0.14):		*0.5*
	Schengen (0.13)	0.44
	Fiscal equal. (0.13)	0.44
	Foreigners (0.04)	0.09
	Persons (0.01)	0.05
Very weak collaboration (0.01):		*0.05*

Table A4. Calibration of power relations between coalitions

Power distribution	Cases (power per coalition in brackets)	Fuzzy-value
Dominant coalition (one coalition with 100% power):		*0.95*
	Education (89/11)	0.91
	Savings (79/21)	0.85
	Persons (77/21/2)	0.83
	Budget (75/16/8)	0.82
	Foreigners (74/26)	0.81
	Schengen (67/33)	0.73
	Fiscal equal. (64/36)	0.70
	Infra (58/15/14/12)	0.62
Crossover point: One coalition with 50% of power (with at least 3 coalitions):		*0.5*
	Telecom (47/31/22)	0.37
	Nuclear (44/28/27)	0.26
	Pension (36/33/31)	0.08
Competing coalitions (three coalitions with 33% power):		*0.05*

Table A5: Necessary conditions

	Policy change		Status quo	
	Consistency	*Coverage*	*Consistency*	*Coverage*
Strong conflict	0.67	n.r.	0.86	n.r.
Weak conflict	0.62	n.r.	0.57	n.r.
Strong collaboration	0.69	n.r.	0.79	n.r.
Weak collaboration	0.60	n.r.	0.63	n.r.
Dominant coalitions	0.86	n.r.	0.77	n.r.
Competing coalitions	0.46	n.r.	0.70	n.r.