ORIGINAL ARTICLE



Informal Europeanization processes and domestic governance networks

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Abstract

The influence of the European Union on national power structures, actors' institutional opportunities, and governance networks is well established in cases of Europeanization processes unfolding in member states or associated countries for which a formal agreement is in place. This article focuses instead on Europeanization processes that are more informal and do not include formal agreements but bottom-up dynamics. Empirically, we analyze the collaboration network in Swiss energy policy with Exponential Random Graph Models and find that actors with EU contacts and those that consider the international process as important are particularly active in the domestic governance network, whereas actors considering the domestic process as strongly Europeanized and those with pro-EU beliefs are particularly inactive. This points towards a complex influence of informal Europeanization on domestic governance networks.

KEYWORDS

energy, Europeanization, governance network, multilevel governance, social network analysis

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1 INTRODUCTION

The multilevel governance literature (Hooghe & Marks, 2003) has shown how arrangements across levels of governance are crucial to reconfigure political institutions and to shape policy outputs (Hampton, 2018; Ingold & Pflieger, 2016; Maggetti & Trein, 2018). The main instance of multilevel governance is the European Union (EU), whose arrangements with member states and associated countries affect the design of policy processes, institutional access opportunities for actors, as well as power relations and patterns of conflict, ultimately shaping domestic governance networks. This phenomenon has traditionally been examined by the scholarship on EU compliance and Europeanization, defined as the studies of how EU politics influence policy and politics in (member) states. The respective literature points to a differentiated impact of Europe, whereby member as well as non-member states participate and implement public policies selectively (Börzel & Risse, 2000; Featherstone & Radaelli, 2003; Fink & Ruffing, 2017; Holzinger & Schimmelfennig, 2012; Leuffen et al., 2012).

Besides clear-cut instances of formal bi- or multilateral negotiations and agreements that give rise to Europeanization, there are many more domestic policy processes that are informally influenced by EU politics. In these cases, aspects of Europeanization, that is, the influence of EU politics on domestic policies and politics, are more difficult to clearly identify. For example, countries that are closely associated to the EU are not legally bound to implement European policies, but they can be practically forced to adapt to EU policies so as to access the common market. Or, countries can learn from successful policies developed at the European level and adapt at the domestic level, following a varying pressure depending on the policy areas at stake (Linder, 2011; Sciarini et al., 2004). Overall, consequences of informal Europeanization processes remain largely unclear, despite their potentially important implications for domestic governance networks. Given this important empirical gap, we examine the following question: *How does informal Europeanization influence domestic governance networks?*

Focusing on the domestic governance network, we study how domestic actors' relations towards EU-level actors, their perceptions of the degree of Europeanization of the domestic policy process, and their positions towards EU policies and development options of Swiss – EU relations affect their positions in the domestic governance network (e.g., Ingold & Pflieger, 2016; Rinscheid, 2015). The analysis relies on data from a survey conducted in 2018 and 2019 with the most relevant actors in Swiss energy policy. We apply Exponential Random Graph Models, specifically designed for analyzing network data that per definition includes non-independent observations, to analyze the domestic governance network. Energy policy is particularly suitable to study the aforementioned question, as it represents a case of interactions within a strongly interdependent policy sector that unfolds in the absence of a formal agreement, given that national energy systems are functionally interdependent and thus require coordination (Ingold & Pflieger, 2016; Rinscheid, 2015).

With this analysis, we make three contributions to the literature. First, when studying multilevel governance in the EU, relatively little attention has been given to the impact of Europeanization on the roles and strategies of specific domestic political actors, and thus to bottom-up dynamics related to national projection (e.g., James, 2010). Existing research has focused mainly on the variation in institutional design of decision making bodies across levels and the influence of a given level on policies at both the upper (mostly in the form of EU policy-making studies) and the lower (mostly in the form of Europeanization and EU implementation and transposition studies) levels (Ansell & Torfing, 2016; Hooghe & Marks, 2001; Ingold & Pflieger, 2016). Our contribution shows how domestic actors relate to EU-level actors, perceive EU influence on policy processes,

and align with EU policy options, and uncovers the influence of these three elements on actors' position in the domestic governance network.

Second, the actor-centered Europeanization literature mainly emphasizes the role of state and administrative actors, whereas non-governmental actors are frequently overlooked (Thomson et al., 2019). This perspective is in line with the Europeanization and EU decision making scholarship typically highlighting top-down decision making and implementation, and the tradition in international relations studies to give priority to governmental bodies (James, 2010). However, the literature on collaborative and network governance (Ansell & Gash, 2008; Emerson et al., 2012; Riche et al., 2020) as well as on EU governance (Kohler-Koch & Rittberger, 2006) has taken up the broader focus on different types of actors, such as political parties, interest groups, business associations, and corporations that contribute to collective decision making through governance networks. Our holistic approach based on a governance network perspective allows for a more complete picture of how Europeanization influences different types of actors.

Third, we examine the dynamics at work in a policy sector where no formal agreement governs the interactions among domestic and EU-level actors. EU-level actors are all actors active on the level of the EU that are relevant in the policy sector in question, but they do not have to formally belong to the EU. We therefore consider our case as being an instance of informal Europeanization. An investigation into these processes allows researchers to examine these more informal cross-level interactions that can nevertheless have potentially important consequences for domestic policy and politics (Graziano & Vink, 2006; Jenni, 2014; Sciarini et al., 2004).

1.1 | Europeanization, multi-level governance, and domestic governance networks

Important strands of research under the label of Europeanization examine how the European level can influence domestic politics and public policies, for example, by altering power structures among domestic actors (Börzel & Risse, 2000; Featherstone & Radaelli, 2003; Fink & Ruffing, 2017; Holzinger & Schimmelfennig, 2012; Leuffen et al., 2012). Contrary to definitions that emphasize the formal Europeanization of policies, institutions and processes, we follow Radaelli's (2003) argument that also informal European logics are important for understanding domestic governance in the respective sectors. We apply this argument to the study of domestic governance networks (Risse et al., 2001) as they are particularly relevant for the inclusion of non-member states in policy dynamics (Leuffen et al., 2012).

According to the governance network perspective adopted to analyze domestic politics (Ansell & Gash, 2008; Emerson et al., 2012), political actors form a network that provides them with information and support, and with opportunities for negotiation and learning (Riche et al., 2020). Centrality in such networks is often associated with importance and influence (Fischer & Sciarini, 2016; Ingold & Leifeld, 2016). Centrality in networks provides actors with access to relevant information, such as e.g., about the technical and political feasibility of proposed solutions, or the potential support and opposition for proposed solutions. In a governance network, actors can be specifically active (corresponding to high out-degree centrality) and refer to many others as collaboration partners, or they can be specifically popular (corresponding to high in-degree centrality) and be referred by many others as collaboration partners. Centrality in governance networks is thus a key indicator for actors' important position and their ability to influence policies.

A major finding of the Europeanization literature is that state executives (the national government and its administration) are strengthened in internationalized policy domains because they are responsible for the international negotiations (Goetz & Meyer-Sahling, 2008; Moravcsik, 1994, 1998). This argument is related to the more general theory of Putnam's (1988) "two-level-games," suggesting that specific domestic constraints can provide actors with international leverage, or, vice versa, that the presence at international negotiations can reinforce actors at the domestic level. More specifically, state actors can take advantage of their presence at both the international and domestic levels and benefit from a reinforced autonomy and information with regard to other domestic actors (Ingold & Pflieger, 2016; Moravcsik, 1994, 1998; Sciarini et al., 2004). State actors can benefit from EU-level opportunity structures and have to strategically adapt to both levels of governance they can participate in (Gross, 2009; James, 2010). Sciarini et al. (2004) have shown that this strengthening of state actors also follows the Europeanization of non-member states, such as Switzerland.

Yet, especially in a situation of informal Europeanization, the picture is likely to be more complex than one where state actors are simply benefitting from Europeanization while non-state actors are losing influence. The existing findings on how informal Europeanization influences domestic politics are inconclusive (Sciarini et al., 2004). Against this background, we develop hypotheses on how domestic actors relate to EU-level actors, how they perceive EU influence on policy processes, and how they align with EU policy options, and how these three elements related to their centrality in the domestic governance network. We take a broad perspective including all types of actors, such as government and public administration, interest groups, political parties, or regulatory bodies (James, 2010).

The first explanation for actors' centrality in domestic governance networks relates to the traditional argument in the literature that state actors can play a "two-level game" (Putnam, 1988) and are thus empowered against actors that are confined to one level (Moravcsik, 1994). Accordingly, we assume that state actors that potentially have contacts to EU-level actors are popular in domestic policy-making processes more than other types of domestic actors. This is even more consistent with research on Switzerland, according to which state actors would be specifically active in Swiss Europeanized processes, given that they need to include some of the most relevant actors in a policy process with comparatively few opportunities for actor participation so as to avoid a popular referendum (Fischer & Sciarini, 2013).

H1 State actors are more central in the domestic governance network than other types of actors.

The second explanatory factor is directly related to the first one. The argument about state actors strongly relies on the assumption that they have contacts to EU-level actors, whereas other actors do not, or much less so. However, when only assessing the role of state actors, we do not know about their contacts to EU-level actors, and it could be that state actors are central in the domestic network independently of their contacts to EU-level actors. With the second hypothesis, we test the traditional argument about the importance of EU-level contacts more explicitly, without relying on the proxy of state actor versus non-state actor. More specifically, we argue that the actors with more contacts to EU-level actors have an advantage in terms of information they can provide to the EU as well as domestic actors, and have more advantageous institutional participation opportunities (e.g., in international negotiations) (Ingold & Pflieger, 2016). This has also been framed as the "rationalist" mechanism of Europeanization, based on opportunity structures (James, 2010; Knill & Lehmkuhl, 1999). Contacts to EU-level actors may also lead to learning about best practices with respect to domestic co-ordination (James, 2010). Based on these arguments, we expect actors with many EU-level contacts to be highly active and popular also in the domestic governance network.

H 2 Actors with more contacts EU-level actors are more central in the domestic governance network than actors with less contacts to EU-level actors.

We further argue that how actors perceive the EU influence on policy processes matters for understanding their position on the domestic level. Especially in the case of informal Europeanization processes that are not clearly framed by an international negotiation mechanism, the perceptions of actors about how international matters affect domestic processes might differ considerably. Actors' perceptions, then, influence their (network) behavior. For example, the literature has shown that actors in search of information or allies tend to collaborate with alters they perceive as powerful since such contacts appear as the most promising in terms of influence (Fischer & Sciarini, 2016; Leifeld & Schneider, 2012). Also, Herzog and Ingold (2019) examined the role of actors' perception of the seriousness of water pollution problems and their related collaborative activities and find that it is more important how actors perceive a problem than what the actual problem is. Those who perceive a higher influence of European decisions—at least for the specific policy sector—should thus also be especially active in the domestic governance network.

H 3 Actors that perceive an important influence of the EU on the domestic policy process are more central in the domestic governance network than actors who do not perceive such an important influence.

Finally, we relate to arguments about to the ideational alignment between domestic actors and EU policy options. Actors that support EU policies are expected to collaborate with others in the domestic governance network in order to stay informed or even to influence other actors. Existing research mostly focused on the EU spreading ideas towards the domestic level (Goldthau & Sitter, 2015), which has also been framed as the "sociological/ideational" mechanism of Europeanization (Knill & Lehmkuhl, 1999), or "identity reconstruction" (Gross, 2009). We argue that the same effect can be at work concomitantly in the reverse direction: the more an actor sets high priorities for EU integration and aligns with respective policies, the more the actor is active in the respective domestic governance network.

H 4 Domestic actors with preferences for European integration and policies are more central in the domestic governance network than those with different preferences.

2 | THE SWISS ENERGY SECTOR IN THE EUROPEAN MULTILEVEL GOVERNANCE SYSTEM

Swiss energy policy (Fischer, 2015; Kammermann, 2018; Schmid & Bornemann, 2019) constitutes a particularly interesting case because Switzerland is a non-member of the EU, but its economy is deeply intertwined with the EU common market. This makes our case a representative case for the phenomenon under investigation (Gerring, 2007). Europeanization is a pervasive process in Swiss politics, and EU policies can strongly influence Swiss policy-making (Fischer & Sciarini, 2013; Sciarini et al., 2004). Swiss actors are, to some extent, included in EU-level governance, at least as observers, but they have a limited role in the implementation of EU policies (Hofmann et al., 2019).

In the energy sector, Swiss-EU relations are largely informal and officially non-hierarchical as no bilateral agreement exists. However, the EU is in a position of structural power due to its market size and political leadership in this area. Still, the Swiss energy grid is crucial for the functioning of European energy markets, as the Swiss electricity network is strongly integrated into the pan-European system. From this perspective, both actors are functionally dependent on each other. This balanced cooperation is mostly related to technical elements (Hofmann et al., 2019), whereas the EU tends to set the agenda on political and economic issues (cf. Lehmkuhl & Siegrist, 2009 for a similar argument in the transport sector).

Participation in European electricity trading is in the interest of (some) Swiss electricity suppliers to cut energy prices. On the policy level, Switzerland has an interest in ensuring that its own market structures and subsidies for hydropower can remain in place without losing access to European electricity markets, thus ensuring market coupling. Cooperation with neighboring countries recently gained even more importance for Swiss actors, notably for those involved in energy transportation and delivery. In line with a European orientation towards more integration, EU-level actors like the Council of European Energy Regulators (CEER), the European association for the cooperation of transmission system operators (TSOs) for electricity (ENTSO-E), or the Agency for the Cooperation of Energy Regulators (ACER) gained in importance (Maggetti, 2013) in an area in which especially ACER works towards a single European market (Eser et al., 2018). Switzerland is indeed confronted with an increasingly integrated European energy system while Swiss energy policy becomes more and more side-lined and excluded from crucial coordinating platforms, not least also due to national level decisions opposing more EU integration (van Baal & Finger, 2019; Hofmann et al., 2019). With the deepening of EU integration in regard to energy issues (Solorio, 2011), that is, the increasingly important role of the EU in energy matters replacing former rather informal bi- or multi-national cooperation, the participation of Switzerland to EU decision making processes becomes increasingly challenging.

Swiss-EU energy policy relations are deeply intertwined with overall Swiss-EU relations. These mainly consist of two sets of formal bilateral agreements on issues such as free movement of persons, transport, finances, or research. While a bilateral Swiss-EU agreement is one option for the energy sector, related discussions are happening within a context of conflict between the Swiss preference for gradual and selective integration and the EU preference for relations regulated by a framework agreement (Afonso & Maggetti, 2007).

Similar cases of demand-side EU integration in the absence of a formal hierarchy and an overarching framework (such as an EU directive or a bilateral agreement) are also particularly relevant with regards to third countries where similar patterns apply, such as Norway (Larsson & Trondal, 2005), the UK after Brexit (e.g., Copeland, 2016; Dardanelli & Mazzoleni, 2021), or other neighboring countries (Hix, 2016; Knill & Tosun, 2009). Another example, although more hierarchical, concerns the relations between the EU and candidate countries (Lavenex, 2004; Lavenex et al., 2009; Schimmelfennig & Sedelmeier, 2020).

3 DATA AND METHODS

Our analysis relies on social network analysis (SNA, Wasserman & Faust, 1994) to operationalize the governance network. SNA is often used to analyze multi-level governance settings or policy-making in the energy sector (Fischer, 2015; Kriesi & Jegen, 2001; Rinscheid, 2015) and previous studies have shown that networks are particularly important for lower levels that try to influence EU legislation in the energy sector (Ydersbond, 2018).

As a first step, the main actors in the Swiss energy sector were identified using a combination of the decisional, positional, and reputational approaches (Knoke, 1993). We follow the perspective that collective actors are more central than individuals for policy questions (Fischer & Sciarini, 2013; Ingold & Leifeld, 2016; Sciarini et al., 2004). In accordance with the decisional approach, actors that frequently took part in consultation procedures on energy-related topics, as well as actors mentioned in parliamentary proceedings concerning the energy sector over the last 5 years, were selected. This process resulted in a list of 62 actors. Following the positional approach, Swiss actors that hold key positions were identified. Those actors were mentioned in other academic publications on Swiss energy policy topics and official documents, such as strategy papers and reports. Finally, with regard to the reputational approach, experts were consulted during survey development and seven additional actors were added. In addition, the actors participating in the interviews and surveys were able to add other actors to the list if any were missed on the original list. The number of relevant actors totaled 78 Swiss actors.²

The 78 actors were invited to participate in either an online or a paper survey. The 10 most active actors in consultations were contacted for interviews. Interviews followed the survey structure. The actors who did not respond after 1 month were contacted by phone to solicit participation. 60 actors responded: nine on paper, 12 via interviews (two actors with whom we planned a survey requested an interview), and 39 online. The actors who did not participate mentioned missing expertise or missing resources. For example, the energy company Axpo answered that their expertise vanished with the end of Swisselectric, and the energy company CKW answered that they had no resources. The Federal Department of the Environment, Transport, Energy and Communications did not participate because the Swiss Federal Office for Energy already contributed on their behalf. We hence decided to merge both actors based on the answers of the office. Incomplete surveys were used if actors provided at least partial answers. This results in a response rate of 77% (60 out of 78 actors).

The dependent variable of this analysis is the governance network among Swiss actors, wherein a network tie represents a collaboration relation between two actors. Collaboration relations are a key relation in governance and often used to represent governance networks (e.g., Fischer & Sciarini, 2013, 2016; Knoke, 1993). To gather information about actors' collaboration with others, the survey instrument asked respondents to indicate, based on a list of relevant actors in Swiss energy policy (see above), those actors with whom they collaborated in the last years, related to Swiss energy politics. Whenever an actor indicated collaboration with another actor, this results in a directed network tie from the first to the second actor. The collaboration network is thus a dichotomized (ties are either present or absent) and directed (ties can go in both directions) network.

Independent variables are based on the following information. For the first hypothesis, we attribute an actor type variable to actors (H1) based on case knowledge and document analysis about their self-declared identity. We distinguish state actors (public administration on different levels) from non-state actors. With respect to contacts to EU-level actors (H2), we rely on the same question as the one that is behind our collaboration network. Besides indicating collaboration with other Swiss actors (which resulted in the domestic governance network), survey respondents were able to indicate collaboration with 19 relevant EU-level actors. Importantly, this information about contacts of Swiss actors with EU-level actors is based on the perception of Swiss actors only given the survey population and is—the survey population being limited to Swiss actors—not confirmed by the respective EU-level actors. We sum up the number of indicated contacts towards EU-level actors for each actor and use this variable to test H2.

Third, for H3, we rely on two types of information on how actors perceive the phases of the policy process. On the one hand, we assess how strongly survey respondents perceive each phase of the Swiss energy policy process as being Europeanized. More specifically, based on a list with 25 phases starting in 1998 with the energy market law until 2017 when started the total revision of the CO2 legislation, we asked survey respondents to indicate those phases of the policy process where they considered that the European context has had an influence on decisions taken in this phase. We then summed up the number of phases an actor mentioned in order to have an indicator for the perceived EU influence in the Swiss energy policy-making process. On the other hand, survey participants indicated for each of the phases whether they were—according to their organization—perceived as important for the development of Swiss energy policy. For each actor, we summed up the mentions of importance of each of the EU-level phases on the list (from the 25 phases, we consider five as EU-level phases: ad hoc working group Switzerland—EU on the reinforcement of cross-border electricity trading in 2003, signature of second package of bilateral agreements in 2004, foundation of the European Nuclear Security Regulators Association (ENSRA) in 2005, Swiss-EU negotiations about a bilateral agreement on energy from 2007 onwards, and signature of the Paris climate agreement in 2017). This provides us with an indicator of how important actors perceive formal EU-related phases of the policy-making process.

Finally, for H4, we rely on survey answers that asked respondents to indicate their position concerning a set of potential policy options to regulate Swiss–EU relations in the domain of energy policy. More specifically, we use five EU-related items (liberalization of the Swiss market, market coupling, participation in ACER, participation in network codes, and the framework agreement) where responding organizations could attribute values between 5 (high priority) and 1 (low priority). We then calculated the average score attributed across the five items for each actor.

3.1 | Exponential Random Graph Models

Exponential Random Graph Models (ERGM, Robins et al., 2007) allow for statistical inference on network data (for applications in political science, see e.g., Cranmer & Desmarais, 2011; Leifeld & Schneider, 2012). Standard regression models cannot take the inherent non-independency of network data into account and would erroneously attribute explanatory power to exogenous variables (Cranmer & Desmarais, 2011). ERGMs, by contrast, model the probability of observing a given network configuration as compared to all other possible network configurations of the same size and density (Cranmer & Desmarais, 2011). Due to the very high number of possible network configurations, computing the exact maximum likelihood is computationally too demanding. These models are therefore estimated using Markov Chain Monte Carlo Maximum Likelihood (MCMC-MLE), which approximates the exact likelihood based on a sample from the range of possible networks to estimate the parameters (Cranmer & Desmarais, 2011).

The structure of the network is made dependent on variables representing endogenous network structures, actor-level variables (node covariates) and dyadic variables (edge covariates). Endogenous network structures relate to effects of the network structure on the probability of a network tie, such as actors' tendency to reciprocate ties. We assess our hypotheses based on node covariates of whether an actor is a state actor or not (H1), the number of EU-level contacts of an actor (H2), an actor's perception of EU influence on the policy process and the importance of Europeanized phases (H3), and an actor's alignment with EU policy options (H4). The model



provides a good fit to the data, as shown by the respective figures in Appendix 1, where the observed network (blue dots) lies within the space of the simulated networks.

4 RESULTS

As regards our first hypothesis, our empirical results (see Table 1) show that state actors are less active in the domestic network than what we would expect from a random network. That is, their out-degree centrality (which can be interpreted as activity in the network) is lower than expected by chance. Yet, in line with our hypothesis (which does not imply a difference between in- and outgoing centralities), state actors are more popular than in a random network (positive "in" parameter). Results related to our second hypothesis indicate that EU-level contacts lead actors to be more central in the domestic governance network, at least with respect to their activity in the network, that is, when establishing network ties to others. However, those actors with many EU-level contacts are not approached by others more than what we would expect by chance.

We operationalize our third hypothesis in two ways, yielding different results. On the one hand, actors that perceive the entire policy process as rather strongly Europeanized are less active in the domestic governance network. These actors are not specifically popular or unpopular in the network. On the other hand, we operationalize this hypothesis also by a count variable of how many of the formal EU phases are perceived as important by actors. Results suggest that those who perceive these EU-related phases as important are more active in the network than what we would expect by chance. Results related to our fourth hypothesis show that actors aligning with EU policy options are less likely to collaborate with others in the domestic network. Again, those aligning with EU policy options are not more popular in the network than others.

Control variables point to effects that are well known from the respective literature and therefore do not warrant further discussion (e.g., Fischer & Sciarini, 2013, 2015; Leifeld & Schneider, 2012): actors of same type collaborate more (acttype⁶), actors who agree with each other collaborate more (agreedisagree⁷), actors who are seen as powerful (reputational power⁸) are more active and more popular (higher in- and out-degree than others), and actors tend to collaborate with those they perceive as powerful (reputmatrix⁹). Controlling for actors' reputational power is especially important related to H2: it suggests that the relation between having contacts to EU-level actors and centrality in the domestic governance network is independent of more general assessments of actors' power. Furthermore, we observe homophily effects for the independent variables related to actors' relations to EU-level actors (H2), perceptions of EU importance in the policy process (H3), and alignment with EU positions (H4). Finally, in terms of endogenous network structures, we also see reciprocity (mutual) and triangular collaboration structures (GWESP and GWDSP).

5 DISCUSSION

Given the scarcity of scholarly knowledge on how informal Europeanization dynamics influence domestic actors' governance networks (e.g., Sciarini et al., 2004), we have formulated four complementary hypotheses on factors influencing actors' centrality in domestic governance networks. Importantly, while our hypotheses are formulated simply in terms of higher or lower centrality of actors, the model differentiates between in- and out-centrality. In-centrality refers to the number of network ties that an actor "receives" and can thus be interpreted as an actor's



TABLE 1 Exponential random graph models results

1 0 1	
H1: State actor, out	-0.70 (0.18)
H1: State actor, in	0.59 (0.13)
H2: Contacts EU, out	0.28 (0.06)
H2: Contacts EU, in	0.08 (0.05)
Difference in EU contacts	-0.16 (0.06)
H3: Perceived EU influence, out	-1.11 (0.27)
H3: Perceived EU influence, in	-0.06 (0.28)
Difference in perceived EU influence	-0.46 (0.26)
H3: Perceived EU importance, out	0.98 (0.21)
H3: Perceived EU importance, in	-0.29 (0.21)
Difference in perceived EU importance	0.00 (0.20)
H4: Pro-EU beliefs, out	-0.18 (0.04)
H4: Pro-EU beliefs, in	0.08 (0.05)
Difference in pro-EU beliefs	-0.14 (0.05)
Control variables	
Actor type homophily	0.69 (0.11)
Belief homophily	1.25 (0.07)
Reputational power, out	1.06 (0.25)
Reputational power, in	1.55 (0.25)
Perceived reputation of alter	1.64 (0.10)
Edges/density	-5.62 (0.35)
Reciprocity	0.90 (0.14)
GWESP (triadic closure, 0.5)	1.63 (0.18)
GWDSP (triadic closure, 0.5)	-0.05 (0.01)
AIC	3105
BIC	3259

Note: Results with conventional significance levels of p < 0.01 are given in bold.

popularity as a collaboration partner. Out-centrality represents the number of ties an actor "sends" to others, and is thus a sign of the actors' activity in terms of collaboration.

Our first hypothesis is based on the classical assumption that state actors take a prominent stance in domestic governance networks in the context of Europeanization, as opposed to non-state actors (Moravcsik, 1994; Putnam, 1988). Accordingly, they should achieve more central positions than others, as it has been shown in previous studies (e.g., Fischer & Sciarini, 2013; Sciarini et al., 2004). Our results however suggest that mechanisms of Europeanization are more complex in informal processes of Europeanization as compared to cases of formal agreements (e.g., Fischer & Sciarini, 2013). State actors are less active (out-degree) but more popular (in-degree) than what could be expected from a random network. With respect to their low activity, the potential empowerment of state actors does either not translate in higher network activity in the domestic network, or the hypothesis does not apply to all state actors. Furthermore, it might be that the power of state actors does not translate into them being active in terms of searching

for collaboration partners on the domestic level. Indeed, being explicitly passive at the domestic level during international negotiations might be part of a negotiation strategy (see, however, Fischer & Sciarini, 2013). The high popularity of state actors indicates that other actors aim at collaborating with state actors, given their potentially crucial role in policy-making, especially in a Europeanized context. It could be that the formal status as a state actor acts as a cue to other actors that are trying to get in touch with the most relevant actors in Europeanized policy processes. Interestingly, among the four hypotheses, the variable of state actors related to H1 presents the only significant in-centrality effect. Indeed, it is easy for other actors to recognize the formal status of an actor as a state actor—and thus to use this information as a cue for establishing collaboration—while it might be more complicated for actors to know about other actors' contacts to EU-level actors, their perceptions of the policy process, or their alignment with EU policies.

Our second hypothesis is complementary to the first one (i.e., both could potentially find empirical support), but it also takes up the underlying argument of the first hypothesis and assesses it more precisely. The hypothesis states that those actors with contacts to EU-level actors are more central on the domestic level. Results suggest that those with contacts to EU-level actors are more active establishing collaboration ties also at the domestic level, but they are not more popular as collaboration partners for other actors. While other actors strongly approach state actors for collaboration (H1), they seem to have more difficulties finding out who among state and other actors have contacts to EU-level actors, and would thus be worth approaching. This indicates that actors, while commonly seen as resource-dependent (Fischer & Sciarini, 2016; Leifeld & Schneider, 2012; Stokman & Zeggelink, 1996), trying to establish collaboration with resourceful others, might not always be able to identify those potential collaboration partners that actually have the relevant resources for the policy sector in question. Alternatively, actors might not perceive their peers with contacts to EU-level actors as the most valuable collaboration partners because they do not consider the EU level as crucially important in this sector. As a related control variable, the significant and positive result on the differences in contacts to EU-level actors suggests that actors having these contacts tend to collaborate among themselves more often than expected by chance. 10 Also, note that an alternative variable, taking only actors' contacts to formal EU institutions (instead of all EU-level actors) into account, yields the same substantive results.

Still, results related to H1 and H2 need to be considered in conjunction. More than half of the state actors indicated contacts to EU-level actors, whereas among the non-state actors, less than 20% of actors indicated collaboration with at least one EU-level actor. Non-state actors with contacts to EU-level actors include large energy companies, the grid managing company and different business associations, as well as specific energy policy organizations. Political parties, environmental protection organizations and sub-state actors did not indicate contacts to EU-level actors.

The third hypothesis suggests that those actors that perceive the domestic policy process as being influenced by the EU should be more central in the domestic governance network. We rely on two indicators to test this hypothesis, and the related results are mixed. Whereas actors that perceive the entire policy process as rather strongly Europeanized are less active in the domestic governance network, actors that only perceive the formal EU phases within the policy process as important are particularly active in the network. Both indicators do not seem to be related to the popularity of actors, again suggesting that actors are unable to build their networks based on how others perceive the specific situation. One ad-hoc explanation for this mixed result could be that those actors who perceive the entire energy policy sector and related policy process as strongly

Europeanized reduce their collaboration efforts in the domestic governance network, given that the key decisions might be taken at the European level anyhow, and not at the domestic level. By contrast, those who perceive the specific, formal EU-level phases of the policy process as important might at the same time also consider some domestic phases as equally important, and might thus be active in the domestic network. Yet, how the detailed perceptions of policy processes across different levels and the importance of related phases influences actor behavior needs further investigation.

According to our fourth hypothesis, we expect actors with preferences aligned with EU policy options develop more collaboration ties to other actors at the domestic level than those with preferences against European integration. Results show that the contrary is true, at least with respect to network activity. Actors with pro-European positions are less active in the domestic network. It could be that these actors focus their activities on the EU level, or that they are simply less active as they feel that the policy sector is developing in the direction of their interests, that is, in the direction of a Europeanized Swiss energy policy. By contrast, actors that oppose EU integration might be especially active on the domestic level so as to oppose to further European integration, in this case of the Swiss energy policy. Indeed, additional analyses show that the preferences for EU policies are most strongly defended by energy intensive companies that favor simpler access to the European energy market. In fact, many companies agree with European level policies because of their highly connected markets, albeit no or only few contacts to EU-level actors are established. These results corroborate the domestic-level cleavage in the Swiss energy sector that has been previously identified (Fischer, 2015; Jegen, 2009; Kriesi & Jegen, 2001), but they add the crucial information of who is more strongly seeking for collaboration on the domestic level.

6 | CONCLUSIONS

This article provides a mixed picture of the configuration of the domestic governance network under the influence of multi-level governance and informal Europeanization. Our results provide interesting starting points towards more research attention to informal Europeanization dynamics and their consequences on domestic politics. Dynamics and processes related to informal Europeanization are more difficult to detect and to study than formal Europeanization mechanisms, but they might be as important in terms of their effects (Graziano & Vink, 2006; Jenni, 2014; Sciarini et al., 2004). Beyond the specific focus on Europeanization, these informal dynamics represent an important but likely under-recognized phenomenon of multilevel governance (Hampton, 2018; Hooghe & Marks, 2003; Ingold & Pflieger, 2016; Maggetti & Trein, 2018). Based on our findings, we suggest that examining the dynamics of informal Europeanization requires to broaden the analytical focus to take into account a variety of actors, and specifically non-state actors as well, instead of centering the analysis on formal institutions, policies, and state actors (James, 2010; Kohler-Koch & Rittberger, 2006; Thomson et al., 2020).

Our arguments and findings have a relevance well beyond Switzerland. Although with important nuances, other countries are in a similar situation, such as candidate states or new members (e.g., Schimmelfennig & Sedelmeier, 2020), neighbor states in the East and the South, member states of the European Economic Area (EEA), or former members of the EU, such as the UK. These countries are subject to Europeanization since the EU informally influences their public policies and political system: their political representatives must deal with a situation in which decisions in Brussels affect their own policies, but they cannot directly shape those decisions from the inside; so they must develop and entertain mechanisms and relationships to obtain



information on new developments at the EU level and potentially provide inputs to relevant policy-making processes at the EU level. In this regard, Dyson and Sepos (2010) underscore that integration, cooperation, and Europeanization are intertwined. This is especially true in cases where integration is a response to functional interdependencies specific to the policy sector, such as in infrastructure or energy sectors (Rinscheid, 2015).

Finally, some caveats are necessary. First, we only have data about Swiss actors, so we are unable to check whether the indicated contacts at the EU level, important in our test of H2, are also confirmed by EU-level actors. This additional data could allow for a better understanding of informal collaboration from a top-down perspective, but it would need a complementary research design. An additional limitation of our data is that collaboration ties among actors are only binary, whereas in reality the general category of collaboration can include many different aspects and intensities. Second, whereas boundary definition is a relevant challenge in any analysis of sectoral governance networks (Berardo et al., 2020), this problem is even more challenging for an analysis accounting for multi-level dynamics. We have thus limited our focus to the domestic governance network, while taking the multi-level dynamics of Europeanization into account as a crucial contextual variable. Third, while 60 of the 77 relevant actors participated, information is missing for the remaining 17 actors. We verified that the missing responses are not distributed on a specific actor group and do not observe a systematic bias, but we cannot completely eliminate the possibility that other actors are among the 17 that do hold contacts towards EU-level actors or hold particularly positive preferences for EU policies. Missing data, especially in a network setting, can indeed influence results (Berardo et al., 2020).

CONFLICT OF INTEREST

No conflict of interest

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ENDNOTES

Consultations include motions, postulates, and businesses of the Federal Council, cantonal initiatives, and parliamentary initiatives. Since over 800 actors participated in the consultations, a minimum number of consultations in which an actor must have participated in order to be on the list of actors had to be established. The participation in a consultation on a law, strategy, Federal decree, constitutional provision, or parliamentary initiative was weighted twice the participation in a consultation on ordinances. In total, nine consultations on the higher weighted categories and 27 consultations on ordinances have taken place over the last 5 years on energy related topics. The actors had to achieve a score of at least 7.5, with at least 0.5 points for participation in a consultation on an ordinance and one point for participation in a consultation on a decision of greater scope (so, for example, at least four major consultations and seven minor ones). In addition, parliamentary proceedings have been included. As a gap at six mentions in proceedings has been noticed on a data level, only those with more than six mentions were included. Five actors (mainly Federal Offices) that did not participate in the respective number of consultations were added to the list because they were mentioned at least six times in parliamentary proceedings.

- ² The federal level takes a key role in the policy design in the Swiss energy sector, but cantons are responsible for implementation (Kammermann, 2018). In our study, we decided to focus on the national level actors because preliminary research showed that they were the most influential when it comes to influencing legislation in the energy sector. This outcome also means that cantonal actors are only represented by cantonal energy companies (such as BKW) as well as via compound actors that represent cantons (such as the conference of energy directors or the conference of energy directors of the mountain cantons).
- ³ Interviews were conducted with the following organizations: Schweizerischer Gewerbeverband, Social Democratic Party, Swiss People's Party, swissmem, WWF, Swiss Association of Cities, economiesuisse, Verband Schweizerischer Elektrizitätsunternehmen, ECO SWISS, Centre Patronal, Swiss Mission to the EU, and sciencesindustries. The last two additional interviews were with organizations that explicitly requested an interview instead of the questionnaire.
- ⁴ Exact survey question: Please indicate all organizations with which your organization has collaborated closely in the last 5 years on the issue of Swiss energy policy. Close collaboration can include regular contacts where information is discussed, policy options are elaborated, positions are exchanged, and policy alternatives are valued (independently of whether your organization and the other organization share a substantive agreement on the policy issues).
- ⁵ In addition to the pre-defined list of actors, survey respondents indicated further seven EU-level actors in the survey like the Council of the EU, the Intergovernmental Panel on Climate Change, Solar Power Europe, or the BEUC (consumer rights umbrella organization).
- Actors are categorized into seven different actor categories, based on case knowledge and document analysis about their self-declared identity: state actors (see H1), political party, private firms and electricity providers, energy-related interest groups, general economic interest groups, environmental interest groups, intercantional/regional associations.
- ⁷ This variable corresponds to a matrix wherein intersections between each actor pair represent agreement (1), neutral relations (0), or disagreement (-1). This information is based on a survey question asking respondents to indicate—based on the same list of actors as for the collaboration question—with which of them they tend to agree or disagree on positions with respect to the development of Swiss energy policy (independently of whether they collaborated with this actor).
- ⁸ The reputational power is an attribute of an actor. It is calculated as the % of survey respondents who considered the actor in question as very influential for the development of Swiss energy policy in the last 5 years (see Fischer and Sciarini, 2015).
- ⁹ This variable corresponds to a matrix of influence attribution between actors, based on the survey question underlying the calculation of reputational power.
- ¹⁰ Table 1 shows negative parameter because the effect captures difference, not similarity of the variable.

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APPENDIX 1

Goodness of fit plots







