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ONE

INTRODUCTION

> *"The large private corporation fits oddly into democratic theory and vision. Indeed, it does not fit."*
>
> – Charles E. Lindblom, *Politics and Markets*[1]

The relationship between business and politics is of pivotal importance for modern democracies. If business interests would have a privileged position in influencing policy outcomes, the legitimacy of democratic decisions would be greatly undermined leading to both political as well as economic inequalities (Hacker and Pierson, 2010; Lindblom, 1977; Dahl, 1989). Considerably influenced by Robert A. Dahl's (1959) seminal paper on "Business and Politics: A Critical Appraisal of Political Science" have researchers started to thoroughly investigate the links between politics and the economy.[2] Criticising the predominant emphasis by political science research on government relations, political institutions and public policies, Dahl (1959) accentuates the importance of studying the influence of business on politics and vice-versa.[3] Supporting his argument, he raises fundamental questions that have guided the research agenda ever since. Inter alia, he asks: (1) what distinctions shall be made among business actors?, (2) what is the basis of business influence?, (3) what techniques are being used to exert influence?, and (4) how successful are the attempts to influence politics?

Recent decades brought about significant advances in understanding the relation-

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[1] Original citation from Lindblom (1977, p. 356).

[2] Admittedly, the political influence of business in legislative processes has been an integral part of political thought for a long period of time (e.g. Machiavelli, 1532).

[3] While Dahl (1959, pp. 2-3) stresses the importance of analysing the role of business in politics, he explicitly does not understate the importance of the existing fields of study in political science.

ship between business and politics. Conceptually, instrumental power describes power that is actively exercised by business actors, e.g. through organisational lobbying or campaign contributions (see Culpepper and Reinke, 2014; Dahl, 1961; Hacker and Pierson, 2010). Significantly influenced by Charles Lindblom (1977; 1982), the literature on structural business power, in comparison, postulates a distinct advantage of business actors in market societies: since states depend on business investments, any new legislation that may cause disinvestment is automatically ruled out (see also Bell and Hindmoor, 2014; Block, 1977; Culpepper, 2015; Fairfield, 2015b; Hacker and Pierson, 2002; Przeworski and Wallerstein, 1998; Swank, 1992). This power is structural since "the pressure to protect business interests is generated automatically and apolitically" (Hacker and Pierson, 2002, p. 281). While the theoretical conceptualisation of structural power is clear, demonstrating its empirical validity has been an enduring problem in the respective literature (see Culpepper, 2015; Hacker and Pierson, 2002; James, 2018).

Similarly, scholars studying instrumental power – i.e. lobbying by business organisations – have had persistent difficulties in demonstrating the success of those lobbying efforts (see Lowery, 2013; McKay, 2018). In fact, another major strand of literature is specifically devoted to analysing the influence of interest groups on policy-making both in the United States (US) (Baumgartner et al., 2009; Gilens and Page, 2014; Kollmann, 1998; Page, Shapiro and Dempsey, 1987; Smith, 2000; Webb Yackee and Webb Yackee, 2006) as well as the European Union (EU) (Bunea, 2013; Dür, 2008b; Dür and Mateo, 2014; Dür, Bernhagen and Marshall, 2015; Klüver, 2009, 2013; Junk, 2019).[4] Lobbying success of large business organisations is frequently discussed in the media (Goodman, 2019; Kang and Vogel, 2019; O'Reilly, 2018; Traynor, 2014) and there is ample evidence of business lobbyists increasing their efforts to gain access and influence in legislative processes. Since 2012, the number of lobbyists in the EU registered in the Transparency Register has more than doubled (see Figure 1.1a). While it is not clear whether those numbers are solely generated by the creation of new lobbying organisations or by late registrations by already established organisations, Figure 1.1a still illustrates the importance lobbyists attribute to the European Union as a political arena. In addition, Figure 1.1b shows the number of registered lobbying organisations in 2019 by group type. Business actors are by far the largest group (52.0 per cent of all registered entities), followed by non-governmental organisations (NGOs) who constitute 26.0 per cent of all registered organisations and by professional consultancies and law firms (9.1 per cent). Academic institutions, public or mixed entities as well

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[4]For a more in-depth discussion of the relevant literature see the subsequent chapter on "Business Power and the State".
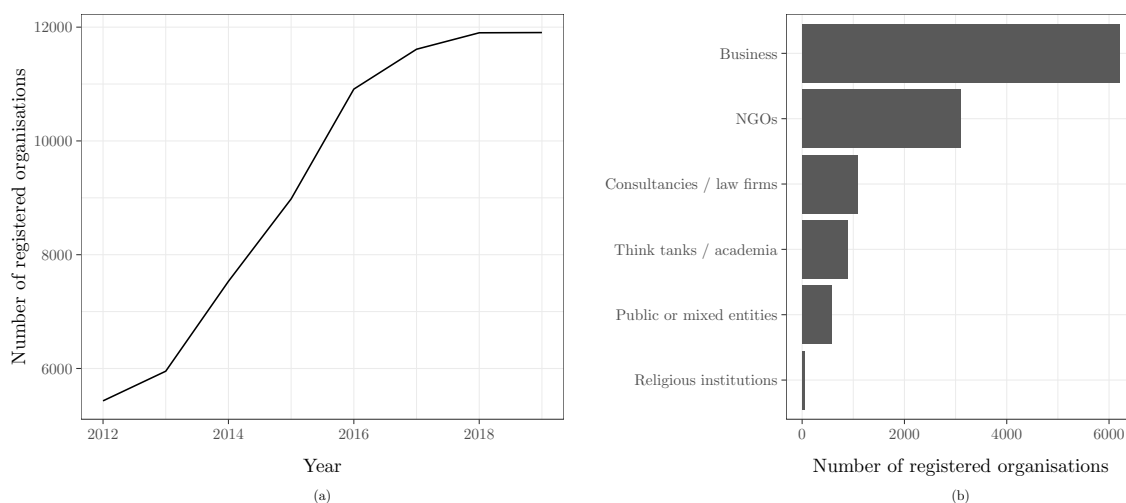
Figure 1.1: Lobbying in the European Union

(a) Shows the number of lobbying organisations registered in the EU (2012-2019). (b) Illustrates the total total number of registered lobbying organisations by group type in 2019. Data source: https://ec.europa.eu/transparencyregister/public/homePage.do (date of access: November 25, 2019).

as religious organisations are less frequently represented. In comparison to the EU, reliable data on the activity of lobbying organisations in the US is much easier to acquire. Supporting the tentative evidence of the EU Transparency Register, data for the US show that, during the last decades, the number of lobbyists in Washington (see Figure 1.2a), as well as the total spending on lobbying by business actors has largely increased (see Figure 1.2b). While the assumption of a strong and increasing influence of business on policy-making processes seems reasonable, the respective literature has had recurrent problems in providing empirically coherent and robust findings. In fact, many studies did either not find any effect of lobbying on policy-making, or featured contradicting results which impede scientific consensus and the development of over-arching theoretical frameworks, as such (see Baumgartner and Leech, 1998; Burstein and Linton, 2002; Dür, 2008b; Lowery, 2013; Smith, 1995).

The aim of this dissertation is to contribute to the respective theoretical literature and to provide empirical insights that help answering the above-mentioned questions. As I am interested in the role of business in politics, I investigate different institutional settings, different stages of the policy-making process as well as different actor configurations to make inferences about the success of business actors in attaining their preferences during legislative processes, as well as its general position in advocacy coalitions. The first and second paper of this dissertation study business groups in the context of the EU. While the first paper primarily investigates the conditions and issue characteristics that can increase or decrease the success of business organisations in

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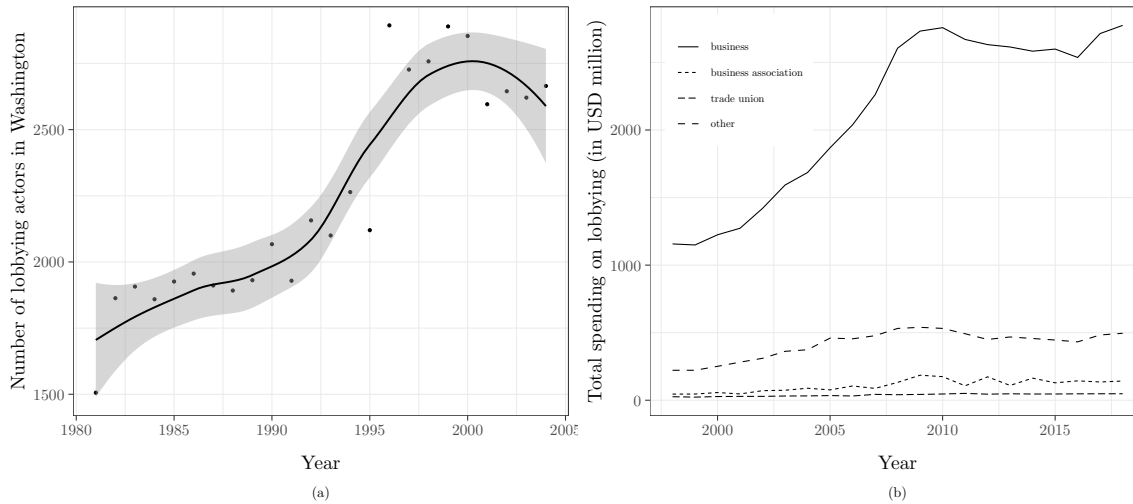
Figure 1.2: Lobbying in the United States

(a) Shows the number of lobbyists active in Washington DC, US (1985-2005). The black line is a LOESS smoothed average, 95% confidence intervals are shown in shaded grey. Data source: Drutman (2015). (b) Illustrates the total spending (in million US-Dollar) of lobbying organisations by group type (1998-2018). Data source: U.S. Senate Office of Public Records.

attaining their preferences during the EU audit market regulation, the second paper analyses the determinants of interest group coalitions during the regulation of the EU Emissions Trading Scheme (EU ETS). The third and last paper features an analysis of the role of business power in the process of local government financialisation in England. Hence, the studies provide insights into the role and influence of business both on the sub-national as well as the supranational level and investigate direct success as well as the formation of lobbying coalitions, which are generally considered to be an important antecedent to political influence (see Baumgartner et al., 2009; Junk, 2019; Klüver, 2013; Leech et al., 2005; Nelson and Yackee, 2012; Rasmussen, Mäder and Reher, 2019).

Another main objective of this dissertation is to pay careful attention to interest heterogeneity across business actors. One major reason for the scholarly difficulties in assessing the success of business in influencing political processes might be the fact that business interests can and should not be universally described as homogeneous. Following Pagliari and Young (2014) and Vogel (1987) who stress the importance of actor plurality in politico-economic processes, all papers comprised in this dissertation make deliberate choices of actor classifications. The first paper (Chapter 2) distinguishes between large firms and small and medium sized enterprises (SMEs), the second paper (Chapter 3) identifies a clear disparity in interests among business actors between energy intensive industries and energy suppliers and the last paper (Chapter 4) solely investigates the power of the financial sector rather than business as a whole.

Next, this dissertation was written with the clear purpose of using methodological innovations to generate relevant theoretical and empirical insights and circumvent some of the problems inherent to the respective literature.[5] Hence, the first paper introduces a more detailed measurement of interest group preference attainment in EU politics, while the second paper uses state of the art approaches to analyse policy networks combined with techniques of quantitative text and mediation analysis to study advocacy coalition formation. The last paper is not only one of the first major large-N studies to study local government financialisation and the role of financial sector power but also implements Cox proportional hazard models with time-varying covariates to shed light on the dynamic nature of financialisation processes over time.

This dissertation is structured as follows: the subsequent chapter in the introduction provides an overview of the definitions of business power, the literature on structural as well as instrumental business power and the use of power concepts in the study of policy networks. Next, I will discuss the methodological approaches used in this dissertation followed by a brief description of each of the included studies. The last two chapters of the introduction will discuss the relevance and the broader implications of the included articles as well as their publication status. Next, the the three main chapters (2, 3, and 4) comprise the main body of this thesis: chapter 2 contains the first paper entitled "Regulating the audit market in the European Union: who dominates, who loses?", chapter 3 includes the second paper ("United in disagreement: analysing policy networks in EU policy-making") and chapter 4 the third paper ("The political economy of local government financialisation and the role of policy diffusion"). The respective appendices to each study are assembled in the concluding chapter.

1.1 Business Power and the State

1.1.1 Defining Business Power

A clear definition of business power is a crucial pre-condition to the study of the relationship between business interests and the state. However, power "is not only one of the most important, but also one of the most contested concepts in the field of political science" (Dür, 2008a). Following Simon (1953), one can broadly distinguish between the exercise of power (when one actor compels another actor to behave in a way she would not otherwise do) and the bases of power (the power resources that allow

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[5]See chapter 1.1 for a discussion of the problems in the literature and chapter 1.2 for a more detailed discussion of the methodological approaches featured in each study of this dissertation.

an actor to exercise its power). While this distinction is agreed upon by most scholars (see Lowery, 2013), one can further differentiate between what is commonly referred to as the *three faces of power*: (1) the first face of power examines who wins and who loses in policy-making processes (coming close to what Simon (1953) describes as the exercise of power) (Dahl, 1957, 1961); (2) the second face focuses on actors' abilities to set the agenda (Bachrach and Baratz, 1962); and (3) the third face of power comprises the capacity to prevent other actors from recognising their genuine interests (Lukes, 1974).

The application of those concepts to study business power can, however, be very challenging. Especially the second and third face of power require the analysis of mostly non-observable phenomena. Given the difficulties in determining actual preferences of an actor, identifying an actor's genuine interest seems unattainable (Dür, 2008*a*, pp. 1220-1221). While many scholars consequently resort to studying the first face of power, here, too, many problems remain. Counting the winners and losers in legislative processes to make inferences about the fact that one actor A compelled another actor B to do something she would not have done otherwise comes with the problem of determining the counterfactual – i.e. was actor B really influenced by actor A or would she have performed his action anyway? (see Lowery, 2013, p. 5; Banfield, 1961)[6]. Second, power can be exercised through different channels, some of which are hard or even impossible to observe directly (e.g. influence that rests upon respect, friendship, or benevolence) (Banfield, 1961, p. 4). Next, the exercise of power from actor A to actor B does not have to be unidirectional (e.g. preferences of business interests can also be manipulated by state actors) (see Loomis, 2007; Peterson, 1992; Simon, 1953; Vogel, 1987). And, finally, the study of power needs to consider anticipated reactions (Simon, 1953). According to Lowery (2013, pp. 6-7), "a lot of what rightfully should be labelled influence probably takes place via [...] shaping of initial bargaining positions by anticipated reactions, but it is essentially invisible to most research on lobbying."[7]

Despite these problems, political science literature has made continuous progress during the last decades in conceptualising the power of business in politics and in providing empirical results that help to better understand the relationship of business actors vis-à-vis the state. The subsequent chapters will provide a brief but thorough

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[6]Klüver (2013, p. 8) argues that influence and luck can be disentangled if there would be a "causal connection between the attributes of this interest group and the political decision." Hence, she postulates that if some property of an actor can be systematically linked to a policy output, one could conclude that this actor "at least exerted some influence" (Klüver, 2013, pp. 8-9). I largely follow this line of argumentation in this dissertation.

[7]For excellent reviews on the definitions of power in the study of business influence on policy-making processes see Lowery (2013) and Dür (2008*a*).

overview of the relevant literature discussing the structural and instrumental power of business, the influence of business on policy-making through lobbying, more specifically, as well as the utilisation of power concepts in policy network studies.

1.1.2 The Structural and Instrumental Power of Business

From the late 1950s through the 1980s, the role of business power was of major concern to political scientists (see Hacker and Pierson, 2002, pp. 279-280).[8] Analysing business power derived by "instrumental" means – i.e. staffing government bureaucracies with business supporters, donating to campaigns or directly lobbying government officials – scholars emphasised a pro-business climate and the extensive power of business both from a Marxist (Miliband, 1969) as well as a pluralist (Mills, 1956; Domhoff, 1967) perspective. However, following Dahl (1961), a critical consensus emerged which contested the notion of a paramount influence of business in politics and asserted an equal amount of influence to non-business groups. In addition, "[i]nstrumentalists greatly exaggerated the extent to which business controlled access to high governmental positions [and] glossed over the deep cleavages that divided the business community on many issues" (Hacker and Pierson, 2002, p. 280).

When the debate on instrumental business power eventually came to an intermittent halt, a different conceptualisation of "structural" power emerged which altogether questioned "the approach of assessing influence based on active political participation alone" (Fairfield, 2015*a*, p. 16). Similar to the preceding debate on the instrumental power of business, structural business power was simultaneously discussed among Marxists (Block, 1977, 1981; Poulantzas, 1973) and pluralists (Dahl and Lindblom, 1976; Dahl, 1982; Lindblom, 1977, 1982) alike. Both Block (1977) and Lindblom (1977) argue that structural power arises because market economies depend on private sector investments to generate growth and employment. Since individual investment decisions by business organisations can have profound aggregate economic effects (i.e. unemployment or decreasing economic growth) and firms change their investment decisions based on profit-maximising objectives, policy-makers would face strong incentives to "maintain the profitability of private investment" (Hacker and Pierson, 2002, p. 281). Lindblom (1982, p. 324) thus describes structural business power as "automatic punishment" that "follows from the very act intended to change the system". Since government officials want to prevent a public backlash caused by deteriorating economic conditions, they are obligated to protect business interests and hence are limited in their political

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[8]For in-depth discussions of the most prominent literature on structural and instrumental power see Hacker and Pierson (2002), Culpepper (2015), and Woll (2016).

decisions. According to Lindblom (1982, p. 329), the market can consequentially be characterised as a "prison" for policy-making.

Nevertheless, this structural view on the nature of business influence was not without problems. Among its critics, Vogel (1987), most notably, argued that the general claim by Lindblom with regard to the privileged position of business interests in market economies could not explain the existing variation in the political power of business both over time and across countries. In fact, structural business power might be mediated by the economic cycle and by the different degree to which governments are willing to pass legislation that increases unemployment (Vogel, 1987).[9] In addition, it was argued that business interests should not be viewed as a homogeneous unit. This, in turn, would enable governments to craft sector-specific policy coalitions and hence "play off different segments of business against each other" (Vogel, 1987, p. 395). The "seeming incapacity of structural arguments [. . .] in explaining policy variation" (Hacker and Pierson, 2002, p. 281) and the "unresolved debates on the nature and the extent of business power" (Fairfield, 2015a, p. 17) greatly decreased the interest of political science in concepts of structural business power in the subsequent decades.[10]

While being almost entirely neglected by mainstream political science for more than two decades, the financial crisis of 2008 brought about a "renaissance" of research on structural business power by "simultaneously sh[aking] the foundations of international finance and challeng[ing] the economic and political models political science had used to understand power" (Culpepper, 2015, p. 392).[11] In recent years, an increasing amount of research found both new ways to tackle old criticisms and provide empirical results which help to advance the conceptualisation of business power, as such. In their influential article on structural power and bank bailouts in the UK and the US during the financial crisis of 2008, Culpepper and Reinke (2014) make important contributions to the literature by juxtaposing the different dimensions of structural and instrumental power. Contrasting the common perception of structural power as working automatically and instrumental power solely strategically, they argue that both

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[9]Prominent examples of governments tolerating high levels of unemployment while still being re-elected include the Thatcher administration in the United Kingdom (UK) and the presidency of Ronald Reagan in the US. For a more detailed discussion, see Vogel (1987, pp. 395-396).

[10]Notable exceptions include Swank (1992), who investigates the effects of structural business power on tax policies, Winters (1996), who analyses variation in structural power in Indonesia, and Smith (2000), who explores the relationship between business power and public opinion in the US, finding that unifying policy issues are, in fact, more often than not resolved in favour of public opinion rather than the predominant stance of business. Last, Hacker and Pierson (2002) explain welfare state developments with varying business influences over time, which in turn, is strengthened in federal political systems by giving firms easy exit options.

[11]Especially banks being denoted as "too big to fail" reignited the interest in concepts of structural business power.

dimensions of business power can, in fact, work both ways: while instrumental power can be deployed strategically through organisational lobbying or campaign contributions, it can also work automatically with pro-business policy-makers or the mechanism of public-private revolving doors. At the same time, structural power cannot only function automatically through (perceived) threats of disinvestment but can also be used actively when business has "outside options" – i.e. alternatives to what is offered by the respective government (see Bernhagen and Bräuninger, 2005; Culpepper and Reinke, 2014; Farrell and Newman, 2015). Another advancement in the literature is the notion of the mutual reinforcement of structural and instrumental power (e.g. Culpepper and Tesche, 2019; Fairfield, 2015a,b; James, 2018; Paster, 2018). First, structural power "can be instrumentally enhanced [since] lobbying from a position of strong instrumental power may augment policymakers' concerns over potential disinvestment" (Fairfield, 2015a, p. 274). A high degree of structural power, on the other hand, might incentivise policy-makers to recruit more business personnel into government positions to reduce the likelihood of disinvestment. In a similar manner, James (2018) augments the concept of structural power by an informational component ("structural-informational power") since business needs to have the capacity to credibly convey claims about the economic costs of public policies and Trampusch and Fastenrath (2019) illustrate that structural power can foster instrumental power (augmented power) under certain scope conditions.

Another advancement in the literature describes the role of ideas in mediating the structural power of business – government officials perceive structural power through ideas and ideational processes (Bell, 2012; Bell and Hindmoor, 2014, 2015, 2017; Marsh, Akram and Birkett, 2015; Trampusch, 2019). Business power is not an objective condition but shaped subjectively and inter-subjectively and ultimately comes down to how it is perceived by policy-makers. While structural power was originally conceptualised with a rather one-sided focus on business actors, contemporary literature explicitly emphasises the role of the state and the reciprocal power relationship (mutual interdependence) between business actors and policy-makers (see Bell and Hindmoor, 2015, 2017; Emmenegger, 2015).

The most substantial empirical findings in this strand of literature can be summarised as follows. First, Woll (2014) elucidates that bank bailouts were most profitable for financial institutions when they were not actively involved in the respective legislative process, i.e. when they were collectively inactive. In a later article, Woll (2016) also compares national bank rescues and finds that structural power is, in fact, more helpful to explain variation in bailouts than direct lobbying by financial interests. In terms of scope conditions to business power, Culpepper (2011) made a compelling argument

that business firms are less successful in influencing policies, the more the public cares about an issue (the more salient an issues is). Hacker and Pierson (2002), investigating the formation of the American welfare state, contend that business power is restricted by more centralised political power and by the strength of state capacities, in general. Next, Culpepper and Reinke (2014) find out that structural business is stronger if business has an outside option which is also reflected in the article by Emmenegger (2015) who analyses the regulation of tax evasion by US citizens. Emmenegger (2015) concludes that the structural power of the US state increases substantially when business needs access to the US financial system (i.e. when business has no outside option). In addition, scrutinising tax policies in Latin America, Fairfield (2015a,b) asserts that business firms are most successful in attaining their goals when they have both, a high degree of structural as well as instrumental power. Last studying Brexit, James and Quaglia (2019) discern important scope conditions for structural business power: (1) political statecraft (where the government may downgrade business concerns); (2) the reconfiguration of institutional structures (that might restrict the influence of business); and (3) collective action problems (i.e. heterogeneous business interests) (see also Thompson, 2019).

Methodologically, recent research did almost exclusively draw on single (see Bell and Hindmoor, 2014; Fairfield, 2015b; James and Quaglia, 2019) or comparative case studies where the case selection creates variation in the expected outcome to draw conclusions about the structural (and mutually reinforcing instrumental) power of business (see Culpepper and Reinke, 2014; Woll, 2016). While the literature still lacks large-N studies analysing structural business power on a broader basis, research by Winecoff (2015) and Young (2015) points to possibilities of how large-N studies might be realised: Winecoff (2015) introduces network analysis (with weighted and directed networks) as a new method to the study of structural business power, while Young (2015) proposes a new concept of "structural prominence" to quantitatively measure the structural standing of individual business firms.[12]

1.1.3   The Influence of Lobbying on Policy-Making

Compared to the analysis of structural business power, scholarly attention to the instrumental means of business to influence the process of policy-making – most prominently

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[12]Accorindg to Young (2015), structural prominence is a concept similar to the operationalisation of power in policy network studies – it describes the power position of an actor in relation to other actors.

business lobbying – has never really wavered.[13] Yet, next to the theoretical considerations of power as such, one of the key problems in the respective literature has always been to provide tangible empirical evidence for the influence of lobbying on legislators. As Lowery (2013, p. 1) puts it, "like the now successful hunt for the Higgs Boson [...] we all look for it, but rarely find evidence of it." In fact, studies on the influence of organised interests often bring about mixed results or null findings (see Baumgartner and Leech, 1998; Burstein and Linton, 2002; Dür, 2008b,a; Klüver, 2013; Lowery, 2013; Smith, 1995).

What is more, the most prominent findings in the literature studying both the US as well as the EU as institutional constraints to lobbying success, point in opposite directions. For the US, Kolmann (1998) finds that lobbying vis-à-vis public opinion has little effect, Page, Shapiro and Dempsey (1987) conclude that lobbying via media advocacy often works against your own interests and Smith (2000) actually postulates that business influence is lowest when the interests of business are united. Moreover, Gray et al. (2004) find that the diversity and the absolute number of interest groups lobbying have almost no effect on policy liberalism as well as on the adaptation of favourable health care policies (Gray, Lowery and Godwin, 2007a,b). In their large-N study on lobbying in the US, Baumgartner et al. (2009) show that most lobbyists do not even succeed in getting relevant issues on the agenda in the first place. In contrast, Webb Yackee and Webb Yackee (2006) argue that considerable bias exists towards business interests in US legislative processes, Gilens and Page (2014) demonstrate that economic elites and organised interests representing business have a considerable independent impact on US government policies while average citizens and citizen groups have little or no independent influence, and McKay (2018) provides substantial evidence for direct lobbying influence on legislative amendments in the US. The literature on lobbying in the EU, in comparison, is equally divided in its findings. On the one hand, Dür and Mateo (2014) investigate the case of the EU Counterfeiting Trade Agreement and show that its was actually citizen groups and not business actors that were able to attain their preferences during the policy-making process. This finding is supported by the large-N study on business success in influencing EU legislation by Dür, Bernhagen and Marshall (2015), who demonstrate that business actors are, in fact, less successful compared to citizen groups more often than not. In addition, Junk (2019) finds non-significant effects for the share of business organisations in advocacy coalitions and their success in attaining their preferences in EU politics. On the other hand, Klüver (2013) also analyses a large quantity of EU legislations and argues that

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[13]One exception is a brief period in the late 1970s and early 1980s when the discussion mostly centred around the previously discussed structural power of business (see Hacker and Pierson, 2002).

business interests can be more successful than other interests when they supply more information, have higher economic power, or have more citizen support. Bunea (2013) supports her argument and finds that business actors are more successful than other interest groups in influencing environmental policies in the EU.

Why is the literature so inconclusive? Three main reasons for the contradictory findings can be specified: first, as previously discussed, the confusion about the definition of power might "crippl[e] empirical research on interest group power and influence" (Dür, 2008a). A lack of a clear definition in the respective literature leads to different scholars using different conceptualisations of power and hence to results that cannot directly be compared. Next and linked to the first problem, there still exist considerable differences and difficulties in measuring lobbying success. While recent years brought about some methodological improvements especially with regard to measuring interest group preference attainment (e.g. Dür, Bernhagen and Marshall, 2015; Junk, 2019), major difficulties remain in uncovering the mostly latent influence of lobbying organisations (see Dür, 2008b; Klüver, 2013).[14] Third and last, lobbying success is not a phenomenon that should be observed in isolation but largely depends on other factors such as interest group resources and type, institutional constraints, issue characteristics, lobbying strategies as well as coalition size and composition (Dür, 2008a; Klüver, 2013; Lowery, 2013). The most relevant theoretical considerations and empirical findings on determinants for and constraints of business success are summarised below.

To start with, interest group resources are generally considered to be an important factor determining the capacity to influence policy-making (Gerber, 1999; Hall and Deardorff, 2006; Klüver, 2013). Baumgartner et al. (2009) as well as Mahoney (2008), however, do not find a clear relationship between interest group resources and lobbying success (see also Beyers and Kerremans, 2007; Burstein and Linton, 2002; Mahoney, 2007a). What is more, while Coen and Dannreuther (2003), Eising (2007, 2009) and Klüver (2010) argue that, in the EU, resource endowment has a positive impact on interest group access to EU institutions, Dür and De Bièvre (2007) posit that institutional access cannot be directly linked to influence.

More specifically, the investigation of campaign contributions on voting behaviour in US Congress has been a long lasting endeavour for American interest group scholars (for extended literature reviews see Baumgartner and Leech, 1998; de Figueiredo and Kelleher Richter, 2014 or Smith, 1995). However, scholars mostly do not find a significant

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[14]For a more thorough discussion of problems in measuring lobbying influence see the subsequent chapter on the methodology used in this dissertation.

correlation between monetary resources and policy outcomes (see Baumgartner et al., 2009). While there is some supportive evidence that the size of campaign contributions can, in fact, have an impact on policy outcomes (see Esterling, 2007; Hall and Wayman, 1990; Langbein, 1986; McKay, 2018; Roscoe and Jenkins, 2005; Wawro, 2001), many scholars assert that this is not the case (e.g. Baumgartner et al., 2009; Burstein and Linton, 2002; Hojnacki and Kimball, 2001; McKay, 2012; Stratmann, 2005; Wright, 1990). These contradicting claims can mostly be attributed to differences in issue characteristics that moderate the relative effect of campaign contributions (Fellowes and Wolf, 2004; Witko, 2006). More generally, Klüver (2013, pp. 205-206) illustrates the association between economic power and the success of lobbying coalitions "during the policy formulation and the decision-making stage of the European legislative process." Nevertheless, her findings do not only apply to business organisations as such but to all types of interest groups.

Next to monetary resources, information and knowledge are discussed as important moderators of interest group success in influencing legislative processes (Austen-Smith, 1993; Bernhagen and Bräuninger, 2005; Bernhagen, 2007; Crombez, 2002; Hall and Deardorff, 2006; Hansen, 1991). Since policy-makers are always in demand of policy-specific information, interest groups with the capacity to provide it might have increased chances in influencing the content of the respective policy. Nevertheless, their success also depends on political demand (Kohler-Koch, 1994, p. 170). Especially in recent large-N studies of interest group influence on EU policy-making, the empirical findings seem very straightforward: Klüver (2013) demonstrates that next to economic power and citizen support, information supply is a central factor in determining lobbying success and Dür, Bernhagen and Marshall (2015) find that technical knowledge about an issue has a significantly positive effect on interest group success. Once again, the benefits of information exchange with politicians are not confined solely to business actors. According to Beyers (2008), non-governmental organisations (NGOs) can be equally proficient in supplying relevant information to legislators.

Do business organisations have a general advantage in lobbying, or, more concretely, does group type matter as such? Olson (1965) already pointed out that business interests find it easier to organise as they represent primarily economic interests of a small, concentrated group of actors. Diffuse interests such as NGOs or citizen groups, in comparison, should be less influential as they should find it more difficult to mobilise resources from their members (Dür and De Bièvre, 2007; Schneider and Baltz, 2003). These assumptions are supported by Bunea (2013) who finds that main business actors (i.e. concentrated interests) were, in fact, more successful in preference attainment in EU environmental legislation compared to diffuse interests. In contrast, both Pollack

(1997) as well as Warleigh (2000) illustrate cases where diffuse interests were capable of exerting a considerable amount of influence and Dür, Bernhagen and Marshall (2015) show that, for a large number of EU legislations, business interests were less successful in preference attainment compared to citizen groups (see also Dür and Mateo, 2014). In the studies by Klüver (2013) as well as Mahoney (2008), group type does not matter for lobbying success.

Another important constraint of lobbying activities by business actors are political institutions (Kitschelt, 1986; Mahoney, 2004, 2007a; Marks and McAdam, 1996; Naoi and Krauss, 2009; North, 1990). Since lobbying has to be understood as an exchange relationship between decision-makers and interest groups, specific institutional arrangements can determine which actors can access the policy-making process (see Immergut, 1992; Mahoney, 2004) and how the supply and demand of goods is organised (Bouwen, 2002; Hall and Deardorff, 2006; Michalowitz, 2004; Pappi and Henning, 1999). More specifically, Mahoney (2007a) stresses the importance of policy-makers' accountability for lobbying success, Naoi and Krauss (2009) illustrate that the electoral system can determine who gets lobbied in the first place (politicians vs. bureaucrats) and Kitschelt (1986) argues that the degree of interest group mobilisation depends on domestic opportunity structures. For the case of the EU, Marshall (2010) investigates how the institutional structure of the European Parliament shapes interest group strategies.[15]

Lobbying strategies can constitute another factor determining interest group success in influencing policy-making processes. When lobbying on a policy issue, actors can choose between "inside strategies" by establishing direct contacts with decision-makers to exchange information and "outside lobbying", by utilising demonstrations or protests to put decision-makers under pressure by increasing the awareness of the general public (see Beyers, 2004, 2008; Kolmann, 1998). In terms of lobbying success, the literature, again, provides contradicting results: on the one hand, Beyers (2004) and Chalmers (2013) find that outside strategies are positively related to access to EU institutions, Mahoney (2007a, 2008) on the other hand argues that outside lobbying actually decreases the influence of interest groups. Interestingly, most interest groups use both outside as well as inside lobbying strategies (see Binderkrantz, 2005). Another important strategical consideration is whom to lobby: according to Binderkrantz and Krøyer (2012), groups pursuing general interests mainly lobby parliaments and the media, while groups with technically sophisticated goals lobby bureaucrats more intensively (see also Naoi and Krauss, 2009). Last, interest groups who employ collec-

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[15]Marshall (2010) highlights the importance of an informal and influential committee elite and of the open amendment phase. For a general comparison of lobbying in the political systems of the EU and the US, respectively, see Mahoney (2007a) and Mahoney (2008).

tive compared to individual framing can be more successful in EU policy-making (Junk and Rasmussen, 2019).

Whether an issue is of regulatory, distributive or re-distributive kind (see Lowi, 1964, 1972) might also play a role in determining the lobbying success of interest groups. According to Dür (2008a), distributive policies lead to benefits that are concentrated on a specific group as well as dispersed costs. This, in turn, would enable concentrated interests to win over diffuse interests. Interest group influence on re-distributive policies should be comparatively small as they produce diffuse costs and benefits (see Dür, 2008a and also Dür and De Bièvre, 2007). However, there is still no systematic evidence on this assumption. The role of salience, on the other hand, which decreases the likelihood of interest groups and most importantly business actors to influence policy-making processes, is undisputed among interest groups scholars: business groups are less successful in achieving favourable policy outcomes on highly salient issues both when lobbying individually (Culpepper, 2011; Klüver, 2011; Mahoney, 2007a, 2008) as well as collectively (Beyers and De Bruycker, 2018; Junk, 2019).[16] In addition to salience, the degree of conflict on an issue (Dür, Bernhagen and Marshall, 2015; Mahoney, 2007a, 2008; Mahoney and Baumgartner, 2015) as well as the scope of a policy (Mahoney, 2007a, 2008) can moderate (mostly decrease) the success of interest groups in EU policy-making. According to Beyers (2008), Greenwood (2003), Smith (2000) and Woll (2007), business interests are most successful on technical issues.

Last, interest group coalitions can be a major advantage for business actors and other interest groups to get what they want. While the importance of advocacy coalitions has long been discussed by political science scholars (see e.g. Sabatier, 1987, 1988), most research sought to explain coalition formation rather then their success in influencing policy-making (Gray and Lowery, 1998; Hojnacki, 1997, 1998; Holyoke, 2009; Hula, 1999; Mahoney, 2007b; Pijnenburg, 1998; Salisbury et al., 1987). The analysis of coalition success was taken up only recently. Most studies agree on the importance of coalition size: the more members join a coalition and lobby for the same policy outcome, the more successful is their endeavour (Baumgartner et al., 2009; Klüver, 2011, 2013; Leech et al., 2005; Nelson and Yackee, 2012; Rasmussen, Mäder and Reher, 2019). In addition to group size, Nelson and Yackee (2012) stress the importance of group consensus and group composition that condition coalition success in influencing regulations on the federal level in the US. Analysing the interaction of coalition homogeneity with issue salience, Junk (2019) finds that while homogeneous coalitions

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[16]See Warntjen (2012) for a more detailed discussion on the different kinds of salience in EU politics, and Keller (2018) for a case where business actors intentionally caused "noisy politics" to successfully influence policy-making.

are more successful on general issues, their influence decreases as policies become more salient. Diverse coalitions, in turn, are more successful on highly salient issues. More recently, interest group scholars started to notice the importance of so-called "strange bedfellow" coalitions, i.e. coalitions of actors that typically would not work together (Junk, 2019). Strange bedfellow coalitions were analysed both in the political system of the US (Holyoke, 2009; Phinney, 2017) as well as the EU (Beyers and De Bruycker, 2018; Mahoney, 2007a). Scholars generally agree that coalitions consisting of different types of interest groups can be very successful in influencing policy-making since they can reach a large number of legislators through informational and strategical diversity (Phinney, 2017) and through signalling a potentially broad support among diverse actors in the electorate (Mahoney, 2007a). Again, interacting with issue salience, strange bedfellow coalitions occur more frequently on highly salient issues (see Beyers and De Bruycker, 2018; Phinney, 2017) and are more successful on salient issues (Junk, 2019).[17]

1.1.4   Conceptualising Power in Policy Networks

In addition to the literature on business power and interest group lobbying, policy networks scholars use concepts of power to explain the formation of networks (e.g. advocacy coalitions) and their influence on policy processes (Choi and Robertson, 2014; Gerber, Henry and Lubell, 2013; Ingold and Leifeld, 2016; Ingold, Fischer and Cairney, 2017; König and Bräuninger, 1998; Leifeld and Schneider, 2012; Zafonte and Sabatier, 1998). In this strand of literature, the *perceived* power of an actor plays a crucial role in determining its position in a policy network. Drawing on the "positional method" developed by Mills (1956), actors are deemed to be powerful or influential if others rate them as being influential. Powerful actors, in turn, tend to be seen as attractive partners for collaboration as they appear as promising in terms of overall policy impact in their respective network (see Fischer and Sciarini, 2016; Henry, 2011; Leifeld and Schneider, 2012). According to Ingold and Leifeld (2016), there are two main factors determining whether an actor is perceived as influential by other actors: (1) their institutional role and (2) their structural position in a network. Similarly, Huxham and Beech (2008) differentiate between varying levels of informal and formal power that are based on the structural position (e.g. formal authority) of an actor as well as its resources (e.g. information or economic power) (see also Huxham and Vangen, 2005). The need for information, in particular, is regarded as a central component giving

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[17]In addition, Phinney (2017) posits that strange bedfellow coalitions can be observed more frequently on policy debates with a strong opposition and when the outcome of and the support for a policy proposal is uncertain. Both assumptions, however, still lack empirical support.

powerful actors a favourable position within a network, as smaller and less resourceful actors might turn towards those powerful actors to profit from their resources (Calanni et al., 2015; Ingold, Fischer and Cairney, 2017).

Empirically, Henry (2011) investigates the explanatory power of both Resource Dependency Theory (RDT), which suggests that power-seeking and perceived power are the most important drivers of network formation, as well as the Advocacy Coalition Framework (ACF), which argues that shared policy-relevant beliefs are central to this process.[18] He finds that belief similarity is more important in explaining the endogenous formation of policy networks compared to factors related to the power of an actor. Nevertheless, he argues that power-seeking may still be important in driving collaboration between ideologically similar actors (Henry, 2011). In line with this finding, Ingold and Fischer (2014) find a negatively significant effect for network ties of powerful actors in Swiss climate policy networks. They do, however, find that powerful actors "are active and keen to engage in collaboration relations with others" during the decision-making phase (Ingold and Fischer, 2014, p. 96). In a later study, Ingold, Fischer and Cairney (2017, p. 457) confirm that powerful actors "seem to act as opinion leaders" in two out of the three cases under investigation. This sentiment is also shared by Calanni et al. (2015) who find that trust and power resources provide better explanations of policy networks in the US compared to shared policy beliefs. Fischer and Sciarini (2016) demonstrate that both perceived power as well as preference similarity can effectively lead to policy collaboration.

1.2 Methodological Approaches

As the analysis of business relations vis-à-vis the state still lacks large-N, empirical investigations, this chapter discusses the diversified methodological approaches used in this dissertation. Each of the individual papers were designed to tackle a particular methodological challenge and to theoretically improve the respective literature.[19]

One key aspect in the first paper of this dissertation on lobbying and the regulation of the audit market in the European Union (see chapter 2) are innovations in operationalisation. First, following scholars who argue that EU policy proposals consist of many sub-issues that do not necessarily closely relate to one another (see Bunea and Ibenskas, 2015), I make a case for measuring lobbying success on those sub-issues rather than on a whole legislation as a single unit. Compared to contemporary literature

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[18]For a more detailed review on the ACF framework, see chapter 3.
[19]For an overview of the theoretical innovations generated in this dissertation see chapter 1.3.

that approximates actor preferences for whole policy proposals (see Dür, Bernhagen and Marshall, 2015; Klüver, 2013), this approach of measuring lobbying success offers much more precision. In addition, coming back to Dahl's (1959) question on what distinctions should be made between business actors, I argue that business should not be studied as a homogeneous entity, which is generally done in the respective literature (see Pagliari and Young, 2014; Vogel, 1987). I propose that the case under investigation requires the differentiation between large firms SMEs. Descriptive statistics reveal that both types of business actors did, in fact, formalise different preferences regarding most of the issues discussed in the legislation on audit market regulation. To account for the data structure given by the differentiation between sub-issues and different types of interest groups, interest group-issue dyads are used as unit of analysis and mixed-effects regression models are calculated (specifying random effects both at the issue as well as the interest group level) to estimate interest group success in preference attainment. In terms of power conceptualisation, this paper investigates the so-called "first face of power" in measuring who wins and who loses in the policy-making process.

The second paper on the formation of interest group coalitions during the EU Emissions Trading Scheme regulation (see chapter 3) introduces methods of natural language processing (NLP) to identify actors' policy core beliefs. More specifically, following Garrett and Jansa (2015) and Linder et al. (2018), cosine similarity algorithms on pre-processed text vectors are utilised to calculate the distances of policy belief for all possible combinations of interest groups (modelled as dyads). In a second step, a newly introduced approach to analyse network structures is used to detect factors leading to different types of interest group coalitions — additive and multiplicative effects models (AME) (see Minhas, Hoff and Ward, 2019). Despite their advantages in modelling statistical dependencies, network models are still only rarely used in research studying interest group coalitions and business power (see Culpepper, 2015) but are state of the art in policy networks studies (see Cranmer et al., 2017; Heany, 2014; Robins, Lewis and Wang, 2012; Scott, 2016; Ward and Sacks, 2011). As I believe that network approaches can be very beneficial for the analysis of lobbying and business power, its usefulness is demonstrated in this analysis. Given the theoretical considerations on the relationship of policy core beliefs as a mediator between the organisational affiliation of interest groups and their propensity to form ally networks, the network approach is combined with statistical mediation analysis (Baron and Kenny, 1986; Imai et al., 2011). In addition, as policy core beliefs are also measured with methods of quantitative text analysis (i.e. cosine similarity scores), this paper innovates the current methodological status quo in combining network science with text analysis. Last, similar to the previous article, we also differentiate between business interests and distinguish between

the preferences of energy-intensive industries as well as energy producers within the encompassing classification of business actors.

In the last paper of this dissertation (see chapter 4), the focus on business power shifts from the supranational to the local level: analysing which factors determine the use of risky financial innovations by English municipalities over time, event history analysis (EHA) models are calculated. More specifically, since assumptions about the effects of time on the baseline hazard rate (i.e. the probability rate of event occurrence) cannot be made, Cox proportional hazard models with time-varying covariates are used (see Allison, 2014). The additional implementation of time-interactions (Licht, 2011) and the introduction of interaction effects between local finance power and the population size of the respective municipalities allows for a unique angle of analysing business power on the local level over time. Lastly, this study is among the first to quantitatively investigate the role of the local political economy on the diffusion of financialisation as such and to directly measure the structural and instrumental power of the financial sector on the local level, more specifically.

In sum, all papers comprised in this dissertation employ different quantitative methods and innovative operationalisations to shed light on the relationship between business and the state from different points of view. This not only advances the respective theoretical literature by providing relevant insights and theoretical improvements (see the next chapter providing an overview of the included studies) but also enables other researchers to employ and improve the respective methods and, hence, further the scientific knowledge on business-state relations.

1.3   Overview of the Included Studies

As the previous chapter first and foremost discussed methodological aspects of the distinct studies included in this dissertation, this chapter intends to give a brief overview on the theoretical framework and the empirical results of each study. While this chapter will discuss the implications of each paper's results in isolation, the subsequent chapter will discuss the combined relevance of the findings generated by this dissertation and its broader implications.

1.3.1   Chapter 2

Chapter 2 presents the first paper of this dissertation entitled "Regulating the audit market in the European Union: who dominates, who loses?". Empirically, this paper

investigates one of the key questions raised in this thesis: how successful are business interests in getting what they want? More specifically, I analyse the regulatory processes surrounding the audit market in the European Union in 2010 in the aftermath of the global financial crisis. As this legislative process can be characterised as a typical case of financial market regulation after the financial crisis – similar to the regulation of credit rating agencies or hedge funds (see Dorn, 2012 and Moschella, 2011) – it has relevant implications for the broader literature on interest group influence in EU policy-making (e.g. Dür, Bernhagen and Marshall, 2015; Klüver, 2013).[20]

Theoretically, I contribute to the literature on interest group influence in the EU (Bunea and Baumgartner, 2014; Dür, 2008a; Dür, Bernhagen and Marshall, 2015; Klüver, 2013) that typically estimates the success of business and non-business actors in influencing policy-outcomes. I challenge this rough classification and argue that business interests cannot be assumed to be homogeneous in the case under investigation. I build on recent studies that make a case for differentiating between business interests as such (Pagliari and Young, 2014) or, more specifically, the interests of large business corporations on the one hand and SMEs on the other hand (see Keller, 2018). Following Hansen and Mitchell (2000), Drope and Hansen (2006) and Klüver (2013), I hypothesise that large business firms should be most successful in attaining their preferences during the EU market regulation compared to other types of actors as they have considerable advantages in terms of economic power, interest group concentration and political activity.

Next, I assume that in relation to other interest groups, the success of large firms should be reinforced within larger interest group coalitions (see Bernhagen, Dür and Marshall, 2015; Klüver, 2013) and that large firms should be less successful, the more salient the policy issue they intend to influence (Culpepper, 2011; Mahoney, 2007a). Given the previously discussed distinction between the different sub-issues of a whole EU legislative proposal (see discussion on page 17), I expect differences in the size of issue-specific coalitions as well as the public salience of these sub-issues.

The descriptive analysis indicates that the theoretical differentiation between large firms and SMEs makes sense, as large firms, on average, tend to favour the status quo while SMEs prioritise a more regulated market. The results of the mixed-effects regression make it clear that a general statement regarding the success of large firms in attaining their preferences is difficult to make: their success depends heavily on issue

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[20]In addition, the EU Commission initiated a so-called consultation procedure to gather information from a wide range of affected stakeholders. As consultation procedures are indicative of a broader relevance and salience of the respective legislation, the EU audit market regulation can be compared to legislative proposals that are typically investigated in the respective literature (e.g. Klüver, 2013).

salience and the size of issue-specific coalitions. Relative to other interest groups, large firms tend to be more successful in larger coalitions but higher issue salience significantly decreases their success. Hence, this chapter makes a theoretical contribution to the literature by highlighting the contextual nature of interest group success and the importance of issue characteristics. Moreover, I make a case for paying closer attention to the heterogeneity of business interests. In fact, assuming homogeneous business interests might be one of the reasons of the contradictory findings in the literature on interest group lobbying in the EU.

1.3.2 Chapter 3

This chapter features the second paper of this dissertation with the title "United in Disagreement: Analysing Policy Networks in EU Policy-making". Moving away from the direct assessment of interest group success, this paper focuses on the process of coalition formation in EU politics. As it has been previously established that larger coalitions are an important contributing factor to interest group success in influencing policy-making processes, this paper investigates the conditions for advocacy coalition formation. More specifically, we are interested in so-called "strange bedfellow coalitions", i.e. coalitions between actors that typically would not work together. Given that previous literature has identified strange bedfellow coalitions to be very effective in influencing policy-makers (see Beyers and De Bruycker, 2018; Junk, 2019; Mahoney, 2007b), we scrutinise their emergence during the regulation of the EU ETS.[21]

Chapter 3, as described above, features methodological innovations in combining state of the art network science approaches with text analysis techniques, which are utilised to test the validity and the scope of theoretical assumptions developed within the Advocacy Coalition Framework (ACF). The ACF was originally developed to study policy change (Sabatier, 1987, 1988; Weible and Sabatier, 2005) but can also be used to investigate coalition formation in local and national policy subsystems (see Berardo and Scholz, 2010; Feiock et al., 2014; Ingold, 2011; Ingold, Fischer and Cairney, 2017) as well as the EU (Rozbicka, 2013). We apply the framework to explain interest group coalition formation during the regulation of the EU ETS. The goal of this chapter is two-fold: (1) to test the basic ACF assumption that interest groups with the same organisational type are more likely to share similar policy core beliefs and hence are more likely to engage in advocacy coalition formation and (2) to test whether the ACF can also be applied to strange bedfellow coalitions.

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[21]For a more detailed description of the EU ETS see chapter 3.3.

To advance the respective theoretical literature, we test three hypotheses: first, we build on the ACF and its basic assumption that actors with similar policy core beliefs (i.e. normative assumptions about the design of a specific policy subsystem) are more likely to engage in coalition formation (see Gerber, Henry and Lubell, 2013; Heikkila, 2016; Ingold, Fischer and Cairney, 2017). While shared organisational affiliations (e.g. two NGOs) are often used as a proxy for shared policy core beliefs (see Heikkila, 2016; Ingold and Fischer, 2014), this relationship is rarely tested directly. We specify this assumed relationship in our first hypothesis and test it using a mediation analysis setup. Second, we apply the same logic to strange bedfellow coalitions. However, we do not expect the assumptions of the ACF to hold in this case and assume that strange bedfellow coalitions can emerge without the foundation of shared policy core beliefs. Third and last, as we do not expect the ACF framework to be useful for explaining strange bedfellow coalitions, we scrutinise the conditions under which such coalitions are more likely to emerge. Building on the existing literature that identified issue salience as a major contributing factor to the formation of strange bedfellow coalitions (Beyers and De Bruycker, 2018; Junk, 2019; Phinney, 2017), we assume the level of conflict to be another important condition: issues with low levels of inter-group conflict increase the likelihood of strange bedfellow coalitions.

Our results indicate that policy core beliefs are, in fact, a strong mediator for network formation between actors of the same type. Using AME models, we demonstrate that within-group network ties between energy-intensive industries (business actors) and NGOs are more likely when they have homogeneous beliefs. We also show that strange bedfellow coalitions between both types of actors do only occur on issues with low levels of conflict and that these coalitions are not based on shared policy core beliefs. In addition, we compare the explanatory capacity of power concepts as put forward by Resource Dependence Theory (see Calanni et al., 2015) with the assumptions of the ACF. It shows that powerful actors are actually less successful in creating network ties compared to the average interest group. Hence, we demonstrate that shared beliefs might actually be more important in coalition formation compared to being perceived as powerful by other actors.

1.3.3 Chapter 4

Chapter 4 introduces the last paper comprised in this dissertation entitled "The Political Economy of Local Government Financialisation and the Role of Policy Diffusion". In contrast to the focus on the EU in the preceding papers, this study analyses the role of business power in driving processes of financialisation at the local level in England.

More generally, we investigate the factors contributing to state financialisation at the sub-national level. As the use of derivatives is an indicator for financialisation, we analyse the use of risk-prone market loans – so called "lender option borrower option" (Lobo) loans – by local governments using a comprehensive, large-N panel data set.

Since this is one of the first quantitative studies investigating local government financialisation, we test a broad range of indicators to better understand why public authorities use derivatives. First, building on the well-established literature of partisan politics (see Bräuninger, 2005; Cusack, 1997; Cusack and Beramendi, 2006; Hibbs, 1977), we examine the party composition in local governments. We assume that the left-leaning Labour Party has a greater incentive to use complex financial instruments to follow its voters' demand for service provision and infrastructure financing (Blom-Hansen, Monkerud and Sorensen, 2006; Boyne et al., 2012; Tickell, 1998). In addition, the well-documented "pro-finance, pro-innovation bent" by New Labour (Fuller, 2016, 91) leads to our first hypothesis: local governments with a Labour majority are more likely to use Lobo loans.

Next, we assume that the level of public debt (see Fastenrath, Orban and Trampusch, 2018; Hendrikse and Sidaway, 2014; Kirkpatrick, 2016; Lagna, 2015) as well as a higher degree of economic deprivation (Hendrikse and Sidaway, 2014; Strickland, 2013) increase the likelihood of local governments to use Lobo loans. As described above, we also consider the power of the local financial sector to be an important driver of financialisation processes. Since financial sector institutions are key actors in facilitating the use of derivatives, we argue that a stronger financial sector increases the likelihood of revolving doors (see Sbragia, 1986) and the number and intensity of interactions between local officials and financial sector personnel. Given that structural and instrumental power can work mutually reinforcing (Fairfield, 2015b; Hindmoor and McGeechan, 2013; James and Quaglia, 2019), we assume that local governments use Lobo loans more frequently where the overall power of the financial sector is strong. In addition, considering the potential asymmetries in expertise between the financial sector and public officials (see Culpepper, 2011, 178), we also consider the conditional effect of local government size, i.e. that the power of the financial sector is stronger vis-à-vis smaller local governments with less financial expertise (see also Tickell, 1998; Weber and O'Neill-Kohl, 2013).

Last, we scrutinise patterns of geographical dependencies as put forward by scholars of policy diffusion (Berry and Berry, 1990; Gilardi, 2016; Graham, Shipan and Volden, 2013; Shipan and Volden, 2008). As information regarding the use and the potential advantages of Lobo loans is likely to diffuse across regional communication networks,

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we hypothesise that the use of Lobo loans in a local government is positively related to the percentage of bordering municipalities that have previously used a similar kind of loan.

First descriptive statistics provide evidence in favour of our partisan politics hypothesis (local government with a Labour majority did, in fact, issue the highest number of Lobo loans) as well as the diffusion assumption. Mapping the use of derivatives by English local authorities reveals distinct geographical clusters of neighbouring local governments using Lobo loans. Our event history analysis confirms those intuitions: we find a significantly positive association between a Labour majority as well as the previous Lobo use by neighbouring local authorities and increasing levels of financialisation. Due to violations of statistical assumptions, the indicators for public debt as well as economic deprivation had to be interacted with time. Interestingly, the results show that while public debt decreases the likelihood of Lobo use in the early years of the diffusion process but increases it in its later stages, the effect works the other way round for economic deprivation.[22] Last, the impact of financial sector power on local government financialisation is also more complicated than anticipated. A stronger financial sector actually decreases the likelihood of Lobo use in smaller local authorities and has a statistically significant positive effect only for very large municipalities. This effect might be explained by the fact that larger local governments get lobbied more frequently (see Sørensen, 1998) or that the phenomenon of public-private revolving doors might be more pronounced in larger municipalities (Sbragia, 1986).[23] Because of these effects, this paper provides crucial insights into the role of business power, party politics and fiscal and economic conditions in the diffusion dynamics of local government financialisation and provides ample avenues for further research.

1.4   Relevance and Broader Implications

This dissertation is guided by a general interest in the organisation of business interests and their power and success in achieving optimal outcomes in policy-making processes. The theoretical, empirical and methodological contributions speak to various literatures. Hence, I briefly discuss the most important implications of this thesis as well as their overall relevance in this section.

One of the main results of this dissertation is that business interests should not be studied as a homogeneous unit. Challenging contemporary quantitative research on

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[22]For a more detailed discussion of this effect see chapter 4.6

[23]Again, for a more extensive discussion of this effect see chapter 4.6

interest group lobbying that usually treats business actors as uniformly lobbying for the same policy outcome (see Baumgartner et al., 2009; Dür and Mateo, 2014; Dür, Bernhagen and Marshall, 2015; Klüver, 2009, 2013), the findings in both chapter 2 and chapter 3 indicate that it makes sense to contextually differentiate between different kinds of business actors. The research design in chapter 4 also takes this fact into account and only includes the relevant power of the financial sector into account, rather than using all business actors. Even though it is understandable that large-N studies of lobbying success and coalition formation attempt to utilise the broadest possible classification of interest group types, the results of this thesis suggest that the strongest conflict often occurs in-between different types of business: chapter 2 indicates that the preferences of large corporations (who favour the status quo) can be very different from those of SMEs (who prefer a more regulated market) and chapter 3 reveals a cleavage between the energy intensive industry on the one hand and energy producers (who even occasionally join forces with NGOs) on the other hand. Hence, in line with previous research that stresses the importance of preference plurality among business actors (see Keller, 2018; Pagliari and Young, 2014), I make a case for paying more careful attention to the distribution of preferences among business actors. In the end, the inaccurate measurement of business preferences might contribute to contradictory findings in the respective literature.

Another main result which is featured in all chapters of this dissertation is the highly contextual nature of business success in influencing policy processes. While researchers try to make their findings as general as possible, the literature review as well the findings in this dissertation make it clear that it is incredibly difficult to generalise across a wider range of cases. The findings in chapter 2 and chapter 4 point to the importance of contextual factors that constrain the success of business actors in attaining their preferences. Chapter 2 investigates issue characteristics and illustrates the importance of issue salience as well as coalition size in moderating the chances of various actors to get what they want: while large firms are more successful on issues with lower salience, SMEs and public authorities are more influential on highly salient issues. In contrast, a higher number of coalition partners increases the likelihood of preference attainment for large firms vis-à-vis public authorities but not compared to SMEs. Likewise, chapter 4 demonstrates the moderating effect of the financial expertise of the respective local government (measured with population size as a proxy) on financial sector power and the likelihood of using financial innovations by local authorities. Interestingly, higher financial sector power actually decreases the use of financial derivatives in smaller governments and increases it only in very large local governments. In sum, the success of business actors in attaining their preferences

is highly contextual and further research is necessary to aquire more robust and more generalisable findings.

The previous paragraph implicates another important finding of this dissertation that echoes previous studies on interest group influence in policy-making processes (see Dür, Bernhagen and Marshall, 2015; Dür and Mateo, 2014; Junk, 2019; Pollack, 1997; Warleigh, 2000): large business organisations do not always win and, in fact, often have considerable difficulties and constraints in attaining their preferences and in creating large coalitions of actors lobbying for the same outcome. Hence, the results of this thesis counter the often repeated arguments of a bias towards business interests in legislative processes (Scharpf, 2002; Schneider and Baltz, 2003; Streeck and Schmitter, 1991). Similarly, chapter 3 illustrates that powerful actors, as such, are not particularly successful in mobilising larger coalitions and chapter 2 demonstrates that even if large firms are a member of larger lobbying coalitions, they are not more successful in attaining their preferences compared to SMEs. These findings support research that stresses the opportunities less powerful actors (e.g. NGOs or citizen groups) have in the institutional context of the European Union (Dür, Bernhagen and Marshall, 2015; Geddes, 2000). While business actors mostly prefer the status quo and the status quo is the "dominant output of political struggles" in the United States (Dür, Bernhagen and Marshall, 2015, 975; Baumgartner et al., 2009), business actors have a much harder time in attaining their preferences in the EU. Again, future research is necessary to further our understanding of business power and success in influencing policy-making processes.

One area of future research that is also a caveat of this dissertation is the fact that business actors can exert their influence in various stages of the legislative process. Especially the agenda-setting stage might be one of the most important arenas for business influence (see Lowery, 2013). Since the analyses in chapter 2 and 3 focus exclusively on the decision-making phase of the policy cycle, a more encompassing research design that incorporates all stages of the policy-making process could provide pivotal insights to the study of business power and success. While the analysis of business power in fostering local government financialisation in chapter 4 is agnostic to the policy cycle and uses a very general proxy that should capture business influence as such, the measure and the research design prohibits concrete inferences about the causal mechanism. Nevertheless, as discussed above, all papers included in this dissertation provide important insights into the role of business actors in political decision-making processes and improve the theoretical literature in its cumulative effort to better understand the relationship between business actors vis-à-vis the state and in finding generalisable insights.

1.5 Publication Status of the Articles

1. Mertens, Armin (2018) "Regulating the audit market in the European Union: who dominates, who loses?", *Journal of European Public Policy*, 26(12), pp. 1818-1835.

The first article with the title "Regulating the audit market in the European Union: who dominates, who loses?" (see Chapter 2) is a single-authored paper and has been published by the *Journal of European Public Policy* online first on December 4, 2018 and in print on November 6, 2019. It has been presented at the 29th SASE Annual Meeting in Lyon, France on July 1, 2017 and at the Cologne Center for Comparative Politics (CCCP) research seminar, Cologne on May 29, 2017.

2. Mertens, Armin and Dennis Abel (2019) "United in disagreement: Analysing policy networks in EU policy-making". Under review: *Policy Studies Journal.*

The second article entitled "United in disagreement: Analysing policy networks in EU policy-making" (see Chapter 3) is co-authored work together with Dennis Abel and has been submitted to *Policy Studies Journal*. As of November 27, 2019, the article is still under review. Both authors contributed equally to the study. The paper has been presented at the ECPR Joint Sessions in Mons, Belgium on April 10, 2019 and at the International PhD Workshop on Advances in Comparative Politics at the CCCP, Cologne on September 24, 2019.

3. Mertens, Armin, Christine Trampusch, Florian Fastenrath and Rebecca Wangemann (2019) "The Political Economy of Local Goverment Finacialisation and the Role of Policy Diffusion", *Regulation & Governance*, online first: https://doi.org/10.1111/rego.12285.

The third article with the title "The Political Economy of Local Government Financialisation and the Role of Policy Diffusion" (see Chapter 4) is co-authored work together with Christine Trampusch, Florian Fastenrath and Rebecca Wangemann. The article has been published by *Regulation & Governance* online first on October 10, 2019. I have been the lead author of this article and contributed to all stages of the research process. As such, together with Christine Trampusch and Florian Fastenrath, I contributed to the framing of the article, the literature review and the development of the theoretical argument. Furthermore, I collected the relevant data together with Rebecca Wangemann (who also conducted the expert interviews) and was responsible for carrying out the statistical analysis. The paper has been presented at the 25th Council

for European Studies Conference on March 29, 2018 in Chicago, US and the Futures of Finance and Society Conference on December 6, 2018 in Edinburgh, UK.[24]

Notes

For the sake of uniformity, the entire document follows British English grammar rules. Punctuation and orthography might differ in the original publications due to respective journal guidelines. In a similar manner, citations, annotations, and references to the supplementary material were adjusted uniformly in style and format.

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[24]See the 2018 journal impact factors (JIF), 5-year journal impact factors (5-Year JIF) and h-indices of the relevant journals below:

	JIF	5-Year JIF	h-index
Journal of European Public Policy	3.457	3.974	92
Policy Studies Journal	3.917	4.758	57
Regulation & Governance	2.792	4.193	35

REGULATING THE AUDIT MARKET IN THE EUROPEAN UNION: WHO DOMINATES, WHO LOSES?

Abstract

This paper examines the role of interest groups in the regulation of the European audit market, clarifying patterns of business influence in European Union policy-making. Building on recent innovations in measuring policy preferences, the conditions are analysed under which interest groups were most successful in attaining their preferences during the policy-making process. Existing methods for measuring interest group influence are refined by disaggregating the unit of analysis from the level of a unitary policy dimension to distinct issues featured in a single legislation and by differentiating between large firms and SMEs rather than assuming homogeneous business interests. The results indicate that issue dynamics are central factors in determining interest group success: while larger coalitions seem to be more advantageous to large firms compared to SMEs and public authorities, high issue salience decreases the success of large business.

2.1 Introduction

While the effects of the global financial crisis were still unravelling in 2008, various actors were quickly identified as main culprits of the developments: the blame was essentially put on credit rating agencies, banks, hedge funds and financial regulators. Despite being frequently indicted after major corporate failures, the audit profession, by comparison, managed to almost entirely avoid public scrutiny (Humphrey et al., 2011). This situation changed drastically, however, when the European Commission issued a Green Paper in October 2010 to address the role of auditors in the making of the financial crisis. The draft proposal questioned the behaviour of audit firms and suggested radical reforms of the audit market (Commission, 2010).

But despite the Commission's high ambitions, the European Union (EU) audit market legislation of 2014 left most observers unsatisfied. While proponents of the new rules postulated a weakened dominance by the big audit firms, a consensus emerged among critical journalists, politicians and academics alike that the final legislation failed to effectively regulate the market (Gros and Worret, 2016). Most observers agreed that this outcome resembled a clear example of the lobbying power of influential financial market actors. Given that a large number of interest groups were trying to influence European decision-makers, this paper investigates which interest groups – and under which conditions – were most successful in attaining their preferences during the regulation of the EU audit market.

The theoretical literature on business interests in EU policy-making, in general, contains different perceptions on the predominance of business interests. While some scholars argue that business interest groups are more influential than other types of actors in the EU (Dür and De Bièvre, 2007; Klüver, 2013) or even postulate an "institutional bias" in favour of market-friendly legislation (Scharpf, 2002), other researchers claim that citizen groups are, in fact, not systematically underprivileged (Dür and Mateo, 2014; Geddes, 2000). Dür, Bernhagen and Marshall (2015) even find that business actors are less successful than other interest groups in shaping EU policy-making.

Considering the deviating results in determining the success of business interests in EU legislative processes, this paper contributes to the respective literature by analysing *specific issues* within a *single* EU legislation rather than whole legislative acts. In recent studies that aimed at uncovering the success of interest group influence on EU policy-making, actors' preferences were approximated for whole legislative proposals (e.g. Klüver, 2013; Dür, Bernhagen and Marshall, 2015). However, following Bunea and Ibenskas (2015, p. 433) who find that previous research identified "between 14 and 24

issues per policy proposal", it can be argued that interest groups may have very different preferences on specific issues *within* single legislative proposals. Moreover, in line with Pagliari and Young (2014), business actors are not assumed to have homogeneous interests. Given the disparity in economic power and lobbying activities (Drope and Hansen, 2006) large firms and small and medium-sized enterprises (SME) are treated as different interest group types in the analysis.

The results indicate that large firms and SMEs do, in fact, have different preferences regarding the EU audit market regulation and that issue characteristics are important drivers of interest group success in preference attainment. While more sizeable coalitions seem to be advantageous for large firms compared to SMEs and public authorities, increasing issue salience diminishes the influence of the most powerful business groups. Conclusively, this paper provides important insights into the political process and power relationships that preclude the creation of regulatory arrangements in audit and accounting markets, as well as processes of EU policy-making, in general.

The article is structured as follows: the subsequent section briefly elaborates on the EU audit market and its regulation. After theoretical considerations, official comment letters to the Commission's Green Paper are analysed to determine actors' policy preferences for each issue. A measure of success will be estimated when comparing the final legislative outcome with the preference of each actor. The formulated hypotheses are tested in a mixed-effect ordered logistic regression analysis to determine which group of actors (and under which conditions) was most successful in shaping the audit reform according to its preferences. The final section discusses the results.

2.2   The EU Audit Market Regulation

The Green Paper "Audit policy: Lessons from the Crisis" was issued by the Commission on October 13, 2010 as a direct response to the alleged role of auditors in the developments of the global financial crisis. According to the Commission (2010, p. 3), the role of auditors has been largely underexplored compared to other essential financial market actors (i.e. banks, hedge funds, rating agencies and central banks). The delayed investigation on the auditing and accounting profession is surprising, given their pivotal role in the functioning of modern capital markets and economies: auditors secure the accuracy and transparency of an organisation's financial statements, giving investors the possibility to make informed decisions in capital allocation. Hence, auditors are supposed to decrease the information asymmetry and agency conflicts between an organisation's executives and its investors to prevent frauds and deliberate misin-

formation (Abad, Sánchez-Ballesta and Yagüe, 2017). In the Commission's (2010, p. 3) point of view, this function was not adequately executed by the audit profession before and during the financial crisis.

Consequently, the Commission drove the Green Paper on audit policy forward to fundamentally address a large variety of problems, many of which were already discussed in the preceding decades. These issues included the potential role of auditors in ensuring the reliability of information in the field of "Corporate Social and Environmental Responsibility" (CSR) or the supranational supervision of auditors on EU level. Other policy proposals, however, were far more fundamental: first, the Commission stated that the mechanism of intra-organisational appointment and remuneration of auditors was likely to weaken auditor independence and hence proposed the appointment of auditors by a third party. Second, to tackle the high levels of market concentration with a de-facto oligopoly by the "Big Four" audit firms (Ernst and Young, Deloitte, KPMG, and PricewaterhouseCoopers), mandatory joint audits were suggested – an audit would have to be performed by at least two firms including at least one smaller firm. Lastly, the Commission criticised the simultaneous provision of audit and non-audit services (e.g. advisory tasks) by statutory audit firms. Tackling allegations of a lack of auditor independence, the Commission discussed the prohibition of non-audit services for statutory audit firms and even considered the creation of 'pure audit firms', effectively breaking up multi-billion-dollar enterprises (Commission, 2010, pp. 9-10).

Given the importance and the scope of the proposed regulation, it is not surprising that a large number of stakeholders participated in the public consultation that opened on October 13, 2010 and ended on December 8, 2010. In total, 701 submissions were received by the Commission. The most important groups of stakeholders were large organisations (mostly banks and corporations), SMEs, audit firms (the Big Four, medium sized and many smaller audit firms), and public authorities (i.e. national governments and public institutions).

After taking the submissions into account, it took three years until an agreement was reached between the EU Member States and the European Parliament. In the end, the proposed regulations were split in an amending Directive and a new Regulation published on May 27, 2014.[1] The final legislative outcome was partially consistent with the policy proposals set out in the Green Paper. Some proposals, however, have been

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[1]Directive 2014/56/EU of the European Parliament and the Council of 16 April 2014, *Official Journal of the European Union*, L 158/196, Vol. 57, 27.05.2014; Regulation (EU) 537/2014 of the European Parliament and the Council of 16 April 2014, *Official Journal of the European Union*, L 158/77, Vol 57, 27.05.2014.

largely moderated or were dropped entirely.[2]

2.3 Interest Group Preference Attainment: Who Prevails and Why?

The notion of interest group influence on EU policy-making has received considerable attention from political science scholars (see Bunea and Baumgartner, 2014; Dür, 2008*b*). While interest groups from different sectors should, in principle, have equal opportunities of representation and influence through different institutional access points, Klüver (2013) postulates a bias in favour of business associations and individual companies in the EU policy-making process. She further concludes that certain interest group characteristics – the provision of policy-relevant information, the degree of economic power, and the number of citizens represented – have a systemic positive effect on the groups' ability to influence EU policy-making. Dür, Bernhagen and Marshall (2015), on the other hand, find that business actors are on the losing end of the policy-making process more often than not. Hence, the literature on business group influence in the EU is rather undecided in its conclusions.

However, the respective literature on interest group influence in the EU generally assumes unified business interests across the complete range of policy issues (see Bernhagen, Dür and Marshall, 2015; Dür, Bernhagen and Marshall, 2015; Klüver, 2013). While this assumption may be useful when studying a large number of policy proposals, it does not hold for the given case. In fact, several proposals were intended to strengthen and safeguard the interests of SMEs, which were, according to the Commission, heavily disadvantaged in the accounting and audit market (Commission, 2010). Large firms, by comparison, were the regulators' clear target and thus predominantly lobbied against the proposed provisions. The notion of a necessary distinction between large firms and SMEs is also supported by Keller (2018), who discusses different preferences and lobbying strategies for SMEs and large firms in the process of regulating the European banking sector after the financial crisis. For the issue domain of financial market regulation, in particular, Pagliari and Young (2014) criticise the general tendency by scholars to assume preference homogeneity across financial market actors. They argue that interest group plurality within the group of all business actors is not only prevalent when scrutinising financial services regulation but also matters for policy outcomes (Pagliari and Young, 2014, p. 599). Hence, it is crucial to pay careful

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[2]For a complete description of the proposals that have been adopted, moderated or discarded see Tables SM1.6 and SM1.7 in the supplementary material.

attention to the specific actor configurations in the process of regulating the European audit market.

The relevant actors in audit and accounting regulation are prominently discussed in the accounting literature. Cooper and Robson (2006) argue that the multinational service and audit firms are the major actors in shaping global regulations. In addition, Humphrey, Loft and Woods (2009) delineate the audit profession's capacity to shape a desired policy consensus among other influential financial market actors. Since the biggest audit firms audit the vast majority of the world's largest companies, they have direct channels for communication and influence. Given the benefits that large companies gain from their involvement with those firms (tax and advisory functions) as well as the firms' ability to mobilise large policy coalitions Humphrey, Loft and Woods (2009) it is very likely that most large companies and business associations would oppose the Commission's regulatory attempts. In the context of the European Union, however, other influential actors (i.e. the EUs' major institutions) might be able to defy the profession's influence. The case of the Commission's attempt to regulate the audit market thus provides an opportunity to test the abiding claim of business interest group success – the audit profession and its alliance with other influential financial market actors – in EU policy-making.

Considering the literature on interest group lobbying in the EU (e.g. Klüver, 2013) and business interest representation (Hansen and Mitchell, 2000; Drope and Hansen, 2006), it can be assumed that large enterprises were most influential during the regulatory process of the EU audit market. According to Klüver (2013, p. 216), business interests would "have a good chance to influence policy-making in the European Union if they dispose of a high degree of economic power and provide a lot of information". This notion is supported by Hansen and Mitchell (2000) who argue that the larger the size of a firm, the larger its amount of political activity, as well as Drope and Hansen (2006) who illustrate that large firms have considerable advantages in terms of lobbying activity, revenue, concentration, and visibility compared to randomly sampled groups of all business actors.

In addition, the literature on interest group representation in the EU (see Berkhout, 2015; Lowery, Poppelaars and Berkhout, 2008; Messer, Berkhout and Lowery, 2011) suggests that higher economic resources of an interest group type increase the density of the involved interest organisations. Interest group density can broadly be defined as the number of organisations representing interests before the relevant legislator in relation to the total number of organisations (see Gray and Lowery, 1994, p. 6). Given that less than one per cent of all firms in the EU can be classified as large firms while

the overwhelming majority are SMEs, the relative number of large firms disclosing their preferences during the audit market regulation and hence the density of large firms is exceptionally high (see Table SM1.2 in the supplementary material). Since higher interest group density, in turn, can increase political influence (see Berkhout, 2015; Beyers and Kerremans, 2007; Messer, Berkhout and Lowery, 2011), it can be assumed that large firms are most successful in attaining their preference compared to other interest groups.

H1: *Large enterprises were most successful in attaining their preferences during the EU audit market regulation.*

However, the size of an interest group coalition may moderate a single group's success in attaining its preferences. An interest group coalition is defined as a group of actors who share the same policy goal and hence lobby for the same policy outcome (Baumgartner et al., 2009, p. 6; Dür, Bernhagen and Marshall, 2015, pp. 964-965). These coalitions can differ between distinct policy issues since the "preferences of interest groups concerning specific policy issues determine whether they pull decision-makers in the same direction" (Klüver, 2013, p. 55). Hence, coalitions are assumed to be volatile and based on issue-specific preferences rather than formal, long-term relations. It is furthermore argued that these issues are not limited to whole legislations but also differ within those legislations. Previous research suggests that larger coalitions are more successful than smaller coalitions since they provide more information and have higher relative economic power (Bernhagen, Dür and Marshall, 2015; Klüver, 2013). While scholars generally assume that coalition size increases the likelihood of successful preference attainment equally for all types of interest groups (see Dür, Bernhagen and Marshall, 2015; Klüver, 2013) following the theoretical considerations of hypothesis H1, large firms should, on average, be more successful in attaining their preferences in larger coalitions compared to other interest groups since the advantages of single interest groups (i.e. higher economic power, information supply, political activity, and visibility) should also increase in interest group coalitions. Hence, larger interest group coalitions are not assumed to be equally beneficial to all types of groups.

H2: *In relation to other interest groups, large enterprises are more successful in attaining their preferences within larger interest group coalitions.*

Lastly, the salience of an issue might constitute another moderating factor for successful preference attainment. Salience is broadly defined as the importance of an issue to the average voter, relative to other political issues (e.g. Warntjen, 2012, p. 169). According to Culpepper (2011, p. 177), "the more the public cares about an issue, the less managerial organisations will be able to exercise disproportionate influence over the

rules governing that issue". When issue salience is high, policy-makers will more likely develop their own, alternative sources of information, which makes them less dependent on managerial organisations (Culpepper, 2011, p. 178). Additionally, highly salient issues force legislators to take public opinion into consideration and, in turn, listen to multiple advocates (Mahoney, 2007*a*, p. 40). This decreases policy-makers' dependence on large business actors as main source for policy relevant information, which undercuts "one great advantage of managers under low salience politics" (Culpepper, 2011, p. 179). Hence, the success of large firms should decrease as issue salience increases.

H3: Large enterprises are less successful in attaining their preferences, the higher the salience of an issue.

2.4 Data and Methods

2.4.1 Case Selection

In recent analyses of lobbying in the European Union, scholars mostly resorted to large-N studies analysing the success of interest groups across many legislative proposals. In contrast, this paper intentionally introduces a research design with only one legislation (N=1) that allows breaking up a proposal in its smaller parts (issues). Hence, a much greater level of detail is provided compared to large-N studies, facilitating possibilities for a more precise measurement of interest group success and for the analysis of concrete issue characteristics within one policy proposal.

In terms of generalisation, the case of the regulation of the European audit market can be described as a typical case of financial market regulation after the financial crisis. It can be compared to other regulatory initiatives formulated in response to the crisis like the regulations of credit rating agencies (Dorn, 2012) or hedge funds (Moschella, 2011). Next to the fact that the EU attempted to overcome crisis-induced pressures by readjusting the capacities of financial market actors, regulators were confronted with oligarchical market structures and the sensitive matter of regulating entities critical for the functioning of financial markets as such. Furthermore, the legislation on audit market regulation includes a consultation procedure that is only initiated by the European Commission for proposals that are highly relevant for different stakeholders and are large in scope. Thus, it can be compared to the proposals analysed in the mainstream interest group literature (Dür, Bernhagen and Marshall, 2015; Klüver, 2013) that also resort to legislative procedures with preceding public consultations and is

representative for EU legislative procedures as such.[3]

2.4.2 Measuring Success

Various improvements were made in recent years to enhance the measurement of interest group success in lobbying EU legislations.[4] A major approach that developed in the respective literature assesses the degree of interest groups' *preference attainment* (Dür, Bernhagen and Marshall, 2015; Bernhagen, 2012). In its most simple form, the approach models the preferences of the involved actors on a pre-defined policy scale and compares the final policy outcome with these preferences to "draw conclusions about the winners and losers of the decision-making process" (Klüver, 2013, p. 62).

Accordingly, to estimate actor preferences, a scale of agreement with the Commission proposal is constructed (similar to Baumgartner et al., 2009; Bernhagen, 2012). Interest groups' preferences are acquired from comment letters that were sent in response to the Commission's Green Paper. These so-called "open public consultations" where interest groups can give written input on pending proposals, directives, as well as green and white papers provide a rich data source that has been used by scholars ever more frequently in recent years (Dür, Bernhagen and Marshall, 2015; Klüver, 2013; Klüver and Mahoney, 2015). In total, 837 documents were uploaded to the European Commission's consultation website. Since this data includes cover letters, duplicates (with different languages), as well as one identical position paper handed in individually by 212 German SMEs, the final number of distinct interest group comment letters is reduced to $N = 402$.[5] For every interest group it is coded whether they prefer the status quo, are neutral, or support the proposed regulation. It is coded "1" when the actor fully opposes the proposed regulation (and hence prefers the status quo), "2" if the regulation is partially opposed (qualified opposition), "3" when the actor is neutral (undecided, or has no specific preference), "4" when there is partial agreement (agreement with qualifications), and "5" when the regulation is fully supported.

This method allows for the measurement of actors' preferences for each of the distinct issues in the Commission proposal. The final success score for each actor on each single issue is attained when comparing the actor's preference with the final policy outcome.

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[3]The number of interest group submissions during the consultation period of the EU audit market regulation ($N = 402$) is comparably high. In her analysis, Klüver (2013, pp. 105-106) reports an average number of 87 submissions per policy proposal. Hence, the proposal as a whole can be seen as rather salient.

[4]For excellent summaries and discussions of the most important studies on the subject see Dür (2008*b*) and Klüver (2013).

[5]For a detailed description of the elimination process see Table SM1.1 in the supplementary material.

Similar to Bernhagen (2012) and Baumgartner et al. (2009), scores of success are coded as "1" if the preferred legislative outcome of the actor can be found in the final legislation and "0.5" if their preferences were partially attained (if only some of their preferences can be found in the final legislative document). If the final outcome is not compatible with an actor's preferences, it is coded as "0".[6] As an example, actors who vehemently opposed the introduction of auditor appointment by a third party in the consultation process will receive a score of "1", since the proposal was discarded during the legislative process and did not make it into the final legislation. Considering validation of the coded dataset, a random sample of all interest groups and issues were re-coded by another coder (correlation = 0.91). Additionally, the coded results were cross-checked with the results by Gros and Worret (2016), who analysed a subset of issues of the same legislation and with the data gathered by the Commission to evaluate the comment letters.

2.4.3   Independent and Control Variables

This paper distinguishes between four types of interest groups: large firms, SMEs, public authorities (national governments and public institutions) and others (including academics, individuals, and citizen groups). The differentiation between large enterprises and SMEs will be made according to EU recommendation 2003/361 that defines an SME as having a staff headcount of < 250 and an annual turnover of ≤ 50 million US\$. If both criteria are met, the actor is coded as an SME, else it is considered a large firm, given that it has been classified as a company. Since there are also many associations lobbying the legislation, they are coded as an SME when their members are solely SMEs or when they explicitly claim to solely represent the interests of SMEs in their comment letters and vice versa for large enterprises. If no criteria are met, they are coded as "other". The variable "coalition size" is operationalised as the number of actors within the same positional group as the actor. In line with Baumgartner et al. (2009, p. 6) and Klüver (2013), interest group coalitions are defined as "a set of actors who share the same policy goal". Hence, this study focuses on issue-specific rather than formal, long-term coalitions. Lastly, "salience" is measured as the number of interest group positions submitted per issue. In line with Klüver (2013) as well as Mahoney (2007a) it is assumed that the more salient an issue, the more actors are active on this issue and the more attentive is the general public. Since the impact of each actor involved in the policy-debate on increasing public visibility of an issue

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[6]The success scores and the coding decisions for each issue are shown in Table SM1.7 in the supplementary material.

is expected to decrease as the number of actors increases (see Klüver, 2013, p. 120), salience is operationalised as the logarithm of the number of actors who responded to each issue.[7]

For control variables, the "level of conflict" is operationalised as the standard deviation of interest group positions for each issue. It is included in the analysis because a higher degree of conflict between interest group coalitions might influence the respective rates of success (see Dür, Bernhagen and Marshall, 2015; Klüver, 2013). Furthermore, "information supply" is measured as the number of words used on each issue by the respective actors. While this measure only captures the quantity of information rather than its quality, there is "no objective measure that one can rely on in order to measure the quality of information" that is not inherently subjective (Klüver, 2013, pp. 106-107). Hence, it has to be resorted to information quantity as a proxy. The variable "number of responses" is included since there is a large variance in the number of issues that interest groups were active on and it may de- or increase their overall success rate whether they were active on only 2 issues or on 25. Lastly, "EU-level" interest groups (compared to national groups) are included as control, since interest groups active on EU-level might be more networked and hence more efficient in influencing EU policy-makers (see Binderkrantz and Rasmussen, 2015). The variable is coded as "1" if the interest group is organised at the European level and "0" if it is domestically organised.

2.5   Results

2.5.1   Descriptive Results

When examining the preferences of different interest group types, a clear variation can be observed between large firms and SMEs as well as public authorities (see Figure 2.1). As expected, large firms, on average, oppose the Commission's proposals (mean preference of 2.33), while public authorities (3.2) and SMEs (3.3) are slightly in favour

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[7]The operationalisation of salience has provoked an extensive scholarly debate during the last decade (see Warntjen, 2012). While expert interviews ought to provide the "most fine-grained and least ambiguous" measure of salience, they are rather costly (Warntjen, 2012, p. 180). Nevertheless, operationalisations based on the number of actors responding to each legislative proposal (Klüver, 2013) or media coverage (Baumgartner et al., 2009; Warntjen, 2012) can be seen as viable alternatives and are inexpensive in nature. While there was only a small number of citizen groups active during the EU legislative process, there was still considerable news coverage. Issues covered in newspaper articles correlate highly with the number of actors lobbying on the respective issues. Since the number of responding actors gives a more nuanced picture of the remaining issues, however, it is used in this paper's analysis.
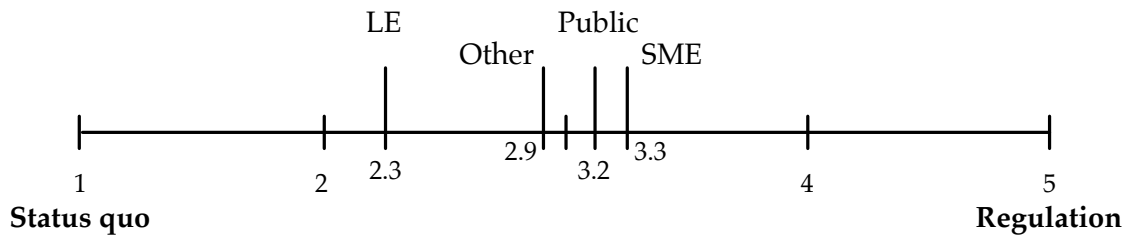
Figure 2.1: Mean interest group preference by group type

LE = large enterprises; SME = small and medium sized enterprises; public = public authorities; Other = other interest group types.

of more regulation. Other interest groups (including academics, individuals and NGOs) have a rather neutral position which might be explained with group heterogeneity. Most importantly, however, there is a large discrepancy between large firms and SMEs.

In addition, different preferences are not only prevalent between distinct types of interest groups but also between different issues featured in the Commission proposal. In fact, the distribution of preferences varies greatly in between the issues (see Figure SM1.1 in the supplementary material). The number of issues and the variance in actor preferences across those issues support the critique by Bunea and Ibenskas (2015, p. 433) regarding the use of single policy dimensions for the measurement of interest group preferences and success. Given the complexity of the regulation and the number of distinct policy issues, it is highly unlikely that it can be narrowed down to only one dimension of conflict. Hence, the measure of success proposed above offers much more precision than approximating the rate of success for a whole legislation on a single dimension of conflict.

2.5.2 Multivariable Analysis

To analyse patterns of interest group success, differently specified mixed-effect ordered logistic regression models are computed. Since interest group-issue dyads are used as units of analysis (where individual interest groups and issues are treated as levels of analysis) observations cannot be assumed to be independent of each other. Hence, hierarchical models with random effects at the interest group as well as the issue level are estimated.

The results of the main analysis are reported in Table 2.1 . Four different models are calculated to test the formulated hypotheses. Model 1 – the base model – contains the different types of interest groups, all control variables and the variables for salience and coalition size. Since interaction effects are included in models 2, 3, and 4,

Table 2.1: Mixed-effects ordered logistic regression models (base group: SME)

	Model 1	Model 2	Model 3	Model 4
IG: Large firms	−0.15	0.25	0.48***	0.55***
	(0.09)	(0.17)	(0.17)	(0.19)
IG: Public authorities	0.07	0.37**	0.04	0.28
	(0.08)	(0.15)	(0.16)	(0.19)
IG: Other	−0.04	0.16	0.25*	0.33*
	(0.08)	(0.14)	(0.15)	(0.17)
Coalition size	5.79***	6.58***	5.96***	6.45***
	(0.18)	(0.36)	(0.18)	(0.38)
Salience	−2.06***	−2.04***	−1.51*	−1.62**
	(0.75)	(0.75)	(0.79)	(0.79)
Large firms x Coalition size	—	−1.23***	—	−0.24
		(0.42)		(0.49)
Public authorities x Coalition size	—	−1.00**	—	−1.12***
		(0.42)		(0.45)
Other x Coalition size	—	−0.70*	—	-0.40
		(0.40)		(0.42)
Large firms x Salience	—	—	−1.44***	−1.48***
			(0.33)	(0.39)
Public authorities x Salience	—	—	0.06	0.32
			(0.33)	(0.34)
Other x Salience	—	—	−0.71**	−0.63*
			(0.30)	(0.32)
Conflict	1.91**	1.90***	1.99***	1.97***
	(0.85)	(0.84)	(0.85)	(0.85)
Number of responses	−0.08	−0.09	−0.13	−0.13
	(0.11)	(0.11)	(0.11)	(0.11)
Information supply	−0.03	−0.04	−0.02	−0.03
	(0.44)	(0.44)	(0.45)	(0.45)
EU-level	0.09	0.10	0.11	0.11
	(0.11)	(0.11)	(0.11)	(0.11)
Constant	2.30***	2.52***	2.58***	2.66***
	(0.72)	(0.72)	(0.73)	(0.73)
Constant 2	3.27***	3.49***	3.55***	3.63***
	(0.72)	(0.72)	(0.73)	(0.73)
Log likelihood	−5305.43	−5300.71	−5289.57	−5285.50
AIC	10636.86	10633.43	10611.13	10609.01
Observations	6116	6116	6116	6116
n Interest groups	402	402	402	402
n Issues	25	25	25	25
Variance (Interest groups)	0.00	0.00	0.00	0.00
Variance (Issues)	0.97	0.97	0.99	0.98

Levels of significance: ***$p < 0.01$; **$p < 0.05$; *$p < 0.01$.

IG = Interest group. Standard errors in parentheses.
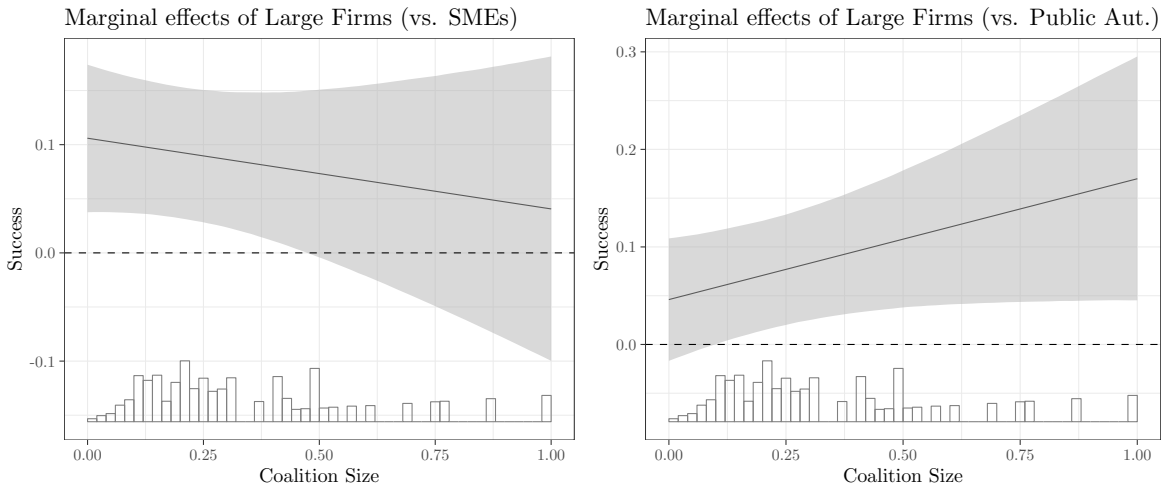
Figure 2.2: Marginal effects of large firms on success by coalition size

95% confidence intervals in shaded grey. Plots based on models including both interaction effects (coalition size and salience).

respectively, model 1 serves as a baseline for model comparison and to assess in how far the introduction of interaction terms changes the remaining coefficients. To test hypotheses 2 and 3, model 2 includes the interaction term between interest group type and coalition size, while model 3 accounts for the interaction between group type and issue salience. Model 4 contains both interaction terms to check the robustness of the results.

In model 1, the coefficient of large firms is negative albeit statistically insignificant. While the effect size is substantively different to the coefficient of public authorities, there is no clear evidence that large enterprises are, in fact, least successful in attaining their preferences during the EU audit market regulation. Compared to public authorities directly (see model 1 in Table SM1.8 in the supplementary material) the coefficient is actually significantly ($p < 0.01$) negative. When looking at models 2-4, however, it becomes clear that the success of large firms actually varies with different values of coalition size and issue salience and hence cannot be estimated by looking at model 1 in isolation.

Considering the moderating variables *coalition size* and *salience*, both variables are statistically significant and robust across all four models: while coalition size has a large positive effect on interest group success in preference attainment ($p < 0.01$ in model 4), salience, by comparison, seems to reduce interest groups' chances at successfully achieving their desired policy outcomes ($p < 0.05$ in model 4). In model 2, the interaction effect between interest group type and coalition size is introduced. The coefficient for large firms vis-à-vis SMEs is significantly negative. Since the interpretation

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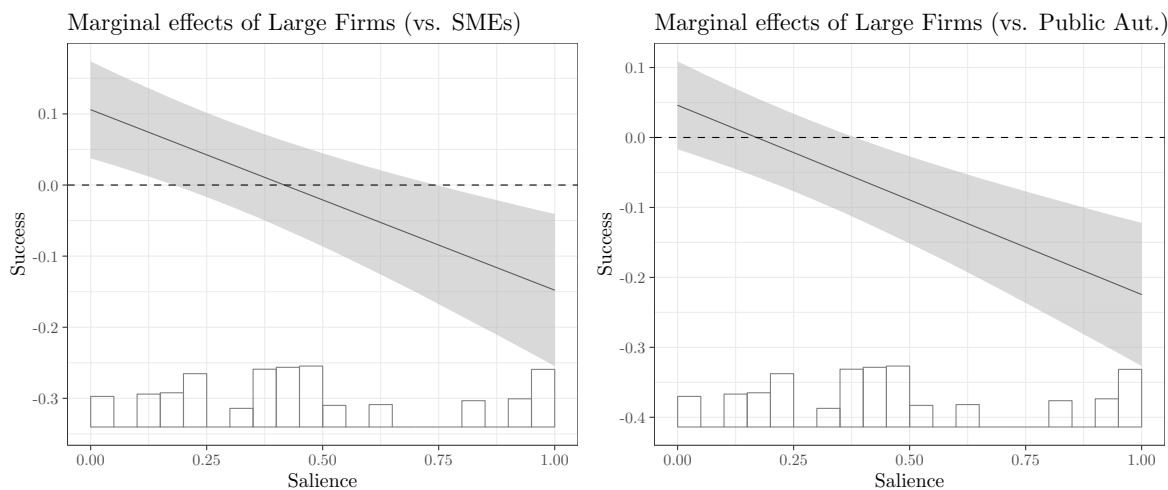
Figure 2.3: Marginal effects of large firms on success by salience

95% confidence intervals in shaded grey. Plots based on models including both interaction effects (coalition size and salience).

of interaction effects solely with regression output is not feasible since the conditional effect should be observed on the marginal effect of every observed value of Z (see Berry, Golder and Milton, 2012; Brambor, Clark and Golder, 2006), the marginal effects of large firms on success by coalition size are plotted in Figure 2.2, both in comparison to SMEs (left) as well as to public authorities (right). Considering the relative success in preference attainment compared to SMEs, large firms are significantly more successful up to a coalition size of 91 interest groups (71.7 per cent of the data). While the magnitude of the effect decreases across the entire range values of coalition size, it stays positive. Compared to public authorities (Figure 2.2 on the right), the effect of large firms on success in preference attainment increases with higher values of coalition size and is significant for almost all sizes of interest group coalitions: the effect is significantly positive for interest group coalitions larger than 28 members, which represents 89.1 per cent of the data. Hence, with respect to hypothesis 2, there is some supporting evidence that the assumed advantages of large firms increase in larger interest group coalitions.

The hypothesised interaction effect of salience and interest group type on success is included in models 3 and 4, respectively. Compared to SMEs as well as public authorities, the coefficients for large enterprises are significantly negative in both models. The effects are plotted in Figure 2.3. In contrast to the effect of coalition size, a much clearer picture emerges for issue salience: large firms are less successful in preference attainment on highly salient issues. Compared to SMEs, the effect is actually significantly positive for issues with very low salience but turns significantly negative for issues with

higher salience scores (22.2 per cent of the data). In relation to public authorities, large enterprises are less successful in the majority of the issues with moderate to high salience (66.3 per cent of the data). Hence, the results offer supportive evidence for hypothesis 3 and the theoretical claims by Culpepper (2011) that the more salient an issue, the less successful are business actors lobbying against it.

Considering hypothesis 1 which postulated a general tendency of large firms to be more successful in attaining their preferences during the regulation of the EU audit market due to advantages in economic power and information supply (Klüver, 2013; Drope and Hansen, 2006), political and lobbying activities (Hansen and Mitchell, 2000) as well as interest group density (Berkhout, 2015; Messer, Berkhout and Lowery, 2011), it becomes clear that a broader statement is difficult to make: the success of different interest groups depends heavily on issue salience and the size of issue-specific interest group coalitions. While larger coalitions do, on average, increase the probability of successful preference attainment for all interest groups, large firms tend to be more successful in larger coalitions relative to other interest groups. However, compared to SMEs, the positive effect disappears for medium to large interest group coalitions. The moderating effect of salience, in comparison, is much clearer. In line with Culpepper (2011), the empirical findings indicate that large firms are significantly less successful on issues with high salience.

2.5.3   Robustness Checks

To test the robustness of the results, first, the analysis was re-run with an alternative specification of success. The dependent variable of interest group success in preference attainment was coded as "1" if the preference (based on a scale with five categories) matches the final outcome, and "0.5" if it partially matches the outcome. However, the score of "0.5" was given based on a qualitative assessment of which adjacent preference is closer to the final outcome. As an example, if the final policy outcome was coded as "4", interest groups with the same preference score received a success score of "1", but only groups with a preference score of "5" or "3" received a score of "0.5". Hence, to account for possible ramifications of this coding choice, the analysis was re-run with partial preference attainment coded as "0.5" for both adjacent preferences. The results are almost identical (see Table SM1.9 in the supplementary material). Second, to account for the choice of the statistical model, the full model with both interaction effects was also run using linear mixed-effects models with both coding variants for success and a generalised linear mixed-effects model (where success was coded as "1" where it was previously coded as "1" or "0.5" and "0" where it was previously "0").

The results are very similar to the models used in the main analysis (see Table SM1.10 in the supplementary material).

2.6   Discussion

The findings of this study have various implications for the theoretical literature on business lobbying in the EU. Concerning the overarching claim of highly successful lobbying efforts of business actors, this study, first, shows that a differentiation between large firms and SMEs is viable if not necessary. While scholars studying interest-group lobbying in the EU tend to assume homogeneous business interests in order to make more general claims (see Bernhagen, Dür and Marshall, 2015; Dür, Bernhagen and Marshall, 2015; Klüver, 2013) the distribution of preferences in the analysis and the different patterns of success illustrate that there can be huge differences between large firms and SMEs that cannot be neglected.

Considering the success of large firms in attaining their preferences during the legislative process, the results of the analysis convey a mixed picture. Most importantly, a general statement about the success of specific interest groups across all issues is difficult to make: interest group success in preference attainment depends heavily on issue salience and the size of issue-specific policy coalitions. As assumed in the theory section, large firms seem to be more successful in larger interest group coalitions compared to SMEs and public authorities. This finding has important implications for the respective literature on interest group lobbying during EU policy-making which generally assumes that coalition size is equally beneficial to all interest groups. However, the advantages of large enterprises (see Klüver, 2013; Drope and Hansen, 2006) seem to increase in more sizeable interest group coalitions. Nevertheless, compared to SMEs, the positive effect of coalition size for large firms on success becomes insignificant for very large interest group coalitions (see Figure 2.2). This might imply that coalition size can function as a "catch-up mechanism" for SMEs when they manage to mobilise very large alliances of actors lobbying for the same outcome. It also has to be noted that the effect is less pronounced in the full model including the interaction effect of interest group type and salience. Hence, further research should investigate possible (three-way) interactions between interest group type, coalition size, and salience since it is plausible that the size of interest group coalitions varies on issues with high and low salience. Lastly, it might also be worthwhile for further research to analyse how the homogeneity of interest groups (see Baumgartner et al., 2009) affects the groups' success in preference attainment and hence pay more careful attention to the actual

internal composition of interest group coalitions.

The effect of issue salience, by comparison, is very pronounced and robust across all models. In line with the theoretical assumptions by Culpepper (2011) and Mahoney (2007*a*) it can be observed that large companies are least successful on issues with the highest salience. This has important implications not only for the literature on auditing and accounting that postulates the dominance of large accounting firms and corporations on regulatory matters (Samsonova-Taddei and Humphrey, 2015), but also for scholars investigating the influence of interest groups on EU policy-making (Bunea and Baumgartner, 2014; Dür, 2008*b*; Dür, Bernhagen and Marshall, 2015; Klüver, 2013).

In addition to the theoretical implications, this study also makes a strong case for refining the measurement of interest group success. Taking the critique by Bunea and Ibenskas (2015) seriously, a reduction of a complex legislation to only one dimension of conflict is questionable given the number of actual issues within those legislations. The method proposed in this paper – to estimate the success of actors on each issue featured in a specific legislation – offers much more precision compared to studies that approximate the success for whole legislations. Further research should extend the analysis to a larger number of legislations while keeping the same level of precision.

THREE

UNITED IN DISAGREEMENT: ANALYSING POLICY NETWORKS IN EU POLICY-MAKING

(co-authored with Dennis Abel)

Abstract

Shared belief systems are generally assumed to forge policy networks. Based on a novel inferential network approach in combination with mediation analysis, this study investigates the role of belief systems as a link between organisational affiliation and policy networks in the European Union. In order to measure the intervening effect of belief systems, automated text analysis is used. Our results suggest that shared belief systems are a strong mediator for members of the same organisational type. In addition, "strange bedfellow" networks between NGOs and businesses do, in fact, lack belief congruence and emerge on issues with low potential for inter-group conflict. This paper makes a contribution to our understanding of advocacy coalition formation and adds to the emerging line of research which combines quantitative text with inferential network analysis.

3.1 Introduction

This paper examines the role of belief systems as a link between shared organisational affiliations and policy networks in the European Union. In the theoretical literature, it is generally assumed that similarities in belief systems are the foundation of policy networks: if actors share similar normative assumptions about the design of a policy subsystem, they are more likely to engage in coordinated efforts to ensure that these are echoed in public policies (Sabatier, 1988; Weible and Sabatier, 2005). Moreover, belief systems are considered to be homogeneous among members of the same organisational type which, in turn, foster the formation of policy networks (Berardo and Scholz, 2010; Feiock et al., 2014; Ingold, Fischer and Cairney, 2017). Numerous studies on environmental policy, in particular, have analysed a typical business-NGO cleavage of conflicting preferences between economic competitiveness and stricter regulation (Ingold, Fischer and Cairney, 2017; Ingold and Fischer, 2014; Ingold, 2011). Research on interest group coalitions concerned with European Union (EU) policy-making, however, also stresses the importance of so-called "strange bedfellow" coalitions – i.e. coalitions of actors who typically would not work together (Beyers and De Bruycker, 2018; Junk, 2019; Phinney, 2017). We argue that it is crucial to understand the emergence of these unconventional but potentially very successful coalition types (see Junk, 2019). By definition, these cross-type networks do not rely on shared beliefs. Empirical evidence on this assumption, however, is rare.[1] Based on a novel inferential network approach – a so-called additive and multiplicative effects (AME) model (Minhas, Hoff and Ward, 2019) – in combination with mediation analysis, we study how shared policy core beliefs mediate preference congruence between various combinations of actor types. Hence, we test whether the assumptions of the ACF also hold for the case of strange bedfellow coalitions in EU politics.

To understand the role of shared beliefs in the formation of policy networks, we analyse a consultation on the EU's flagship climate policy, the "European Union Emissions Trading Scheme" (EU ETS). EU consultations are important forms of "informational lobbying" (Broscheid and Coen, 2007). In the context of EU politics, this is particularly relevant for advocacy groups as in "Brussels, the key to successful lobbying is not political patronage or campaign contributions, but the provision of information" (Broscheid and Coen, 2003, p. 170) or as Chalmers (2011) puts it, information is the currency for lobbying in the EU. Since the inception of the EU ETS in 2005, this policy

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[1] Also note the study by Weible and Sabatier (2005) who investigate the formation of different types of policy networks. They find that policy core beliefs can, in fact, "overlook alliances within advocacy coalitions and some cross-coalition interactions" (Weible and Sabatier, 2005, p. 182).

instrument was characterised by a typical business-NGO cleavage. Previous research has shown, however, that this issue area is also shaped by a within-business cleavage between energy producers and energy-intensive industries due to differentiated regulatory standards (Fitch-Roy, Fairbrass and Benson, 2019; Jevnaker and Wettestad, 2017). The likely emergence of strange bedfellow constellations between energy producers and NGOs makes this policy area an ideal case for studying the mediating role of policy beliefs on network formation.

In practice, identifying actor's belief systems is often costly since it involves the use of questionnaires, in-depth interviews or hand-coding of written statements using content analysis. Many studies rely on closed multiple choice questions (Calanni et al., 2015; Heany and Leifeld, 2018; Ingold and Fischer, 2014; Ingold, Fischer and Cairney, 2017; Weible and Sabatier, 2009). This study, in contrast, uses automated text analysis in order to measure similarities in belief systems. Analysing responses to the EU public consultation with the use of text similarity scores, we employ a simple alternative to hand-coding that has already been successfully implemented in the literature on text reuse in US legislative politics (Linder et al., 2018; Wilkerson, Smith and Stramp, 2015).

Our results suggest that shared belief systems are a strong mediator for network formation among members of the same type of organisation. We show that environmental NGOs and energy-intensive industries form separate networks based on homogeneous belief systems despite their beliefs often being diametrically opposed. In addition, our results reveal a strange bedfellow network between NGOs and energy producers on issues with low potential for inter-group conflict. The mediation analysis indicates that these ally networks do, in fact, lack belief congruence. In summary, this paper advances our understanding of the formation of advocacy coalitions in EU policy-making and follows recent calls to identify the settings in which coalitions form around shared policy core beliefs (Weible et al., 2019, p. 20). Methodologically, it adds to the emerging line of research which combines quantitative text and inferential network analysis in social science (Bail, 2016; Rule, Cointet and Bearman, 2015).

The paper is structured as follows. The subsequent section outlines our theoretical expectations about the relationship between belief systems and the formation of policy networks. Next, we briefly describe our case – the EU ETS and consultation process on carbon leakage provisions. In the section on our estimation strategy, we explain the measurement of networks based on additive and multiplicative effects models, our data, as well as our algorithm for the quantitative text analysis. Our main results and a discussion of the findings are presented in the subsequent sections. Lastly, we

conclude and discuss avenues for further research.

3.2   Policy Networks and Shared Belief Systems

The advocacy coalition framework (ACF) is a major approach to conceptualising cleavages between interest groups and analysing their efforts to influence policy-making (Sabatier, 1988, 2007). The effect of belief systems on coalition formation is an integral part of the ACF. The ACF, as well as policy network studies more generally, assume that similar policy beliefs are more likely to increase interaction in advocacy coalitions — policy beliefs provide the "glue" for the structure of advocacy coalitions (Carpenter, Esterling and Lazer, 2004; Weible, 2005). In contrast to direct policy preferences, policy beliefs constitute normative assumptions how a policy subsystem should work, in general, rather than specific preferences for political decisions.[2]

Actors who share the same policy beliefs see the challenges in a policy subsystem through the same lens. Sabatier and Jenkins-Smith (1993) argue that this belief similarity is a major driver of the coordination of action in order to translate beliefs into policy. This translation of shared policy beliefs into joint preferences, i.e. instrumental decisions, is a crucial step in the ACF framework (Bouwen, 1993; Sabatier and Jenkins-Smith, 1993).

Moreover, Weible and Sabatier (2005) differentiate between different types of advocacy networks: in contrast to coordination and advice/information networks, ally networks are the loosest form of coalitions which do not necessitate direct interaction. Two actors who see each other as allies because they work towards the same policy goal, might never exchange information or coordinate their actions. The defining element of ally networks are shared policy preferences. The authors argue that policy beliefs strongly predict ally networks since those who share common normative values and problem definitions see the world through the same lens. Several studies show that ally networks are formed by those who share common policy core beliefs in a policy subsystem (Salisbury et al., 1987; Zafonte and Sabatier, 1998). Because functional in-

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[2]The ACF describes a three-tiered structure in beliefs: deep core beliefs which cut through most policy subsystems and involve general normative assumptions about human nature and fundamental values, policy core beliefs, which constitute applications of deep core beliefs to specific policy subsystems, and secondary aspects which are relatively narrow in scope and address detailed questions of instrument choice and calibration thereof. While it makes sense to conceptually distinguish between differences in beliefs, they are often hard to disentangle in practice. This study focuses on the general impact of belief systems on ally networks and therefore does not differentiate between the individual layers. Empirically, however, it does discriminate between normative policy beliefs and "instrumental" policy preferences. Throughout the paper, we use the term "policy beliefs" in order to emphasise the focus on policy core beliefs but taking into account potential spill-overs from the other two layers.

terdependence and resource dependency is missing, Weible and Sabatier (2005) argue that this form of coalition is the most homogeneous. Their results indicate that policy core beliefs are a good predictor for ally networks and that ally networks, as such, represent a good proxy for advocacy coalitions in the absence of information on actual coordination.

How can we conceptualise ally networks which deviate from the idea of shared policy beliefs? While the policy network literature primarily focuses on belief homophily, recent literature on interest group coalitions in the US (Holyoke, 2009; Phinney, 2017) and the EU (Beyers and De Bruycker, 2018; Fitch-Roy, Fairbrass and Benson, 2019; Junk, 2019; Mahoney, 2007b) explicitly discusses the existence of so called strange bedfellow coalitions, i.e. preference alignment and coalition formation between actors who typically do not work together. By definition, these coalitions are composed of actors with different policy beliefs and a higher degree of ideological distance than traditional coalitions (see Junk, 2019, p. 4; Holyoke, 2009). The ACF, in contrast, defines coalitions as a "set of actors who share a belief in the first stage" (Ingold and Fischer, 2014, p. 89), which basically dismisses the conceptual possibility of coalitions without a shared belief system. Instead of conceptualising these networks as coalitions, they are seen as cross-coalition interaction (Weible, 2005). This divergent understanding of coalition formation could be explained by the ACF's inflexibility to account for – in the case of the EU very relevant – ad hoc coalitions (Pijnenburg, 1998). Warleigh (2000) has discussed this discrepancy in one of the earliest applications of the ACF to EU politics, stressing issue-specific coalition formation. Although any deviations from "monolithic" coalitions so far are undertheorised, the problem has been recognised in the ACF literature. In a recent ACF "stocktaking", Weible, Sabatier and McQueen (2009, p. 130) stress that "the coalition concept should not lead researchers to assume homogeneity among group members either in beliefs or in coordination patterns" and encourage studies of sub-coalitions and "defections". Yet again, this perspective highlights a pre-determined perspective on coalitions.

While strange bedfellow coalition networks can be mostly observed in rare cases and for issues that enjoy high salience among the general public (see Beyers and De Bruycker, 2018), they can have a large influence on policy outcomes (Junk, 2019). According to Phinney (2017), diverse coalitions can reach a larger number of legislators through their informational and tactical diversity. In addition, Mahoney (2007b, p. 375) stresses the importance of strange bedfellow coalitions in signalling to "elected policy-makers that a large majority of the electorate will likely support" the legislation under consideration. Given that strange bedfellow coalitions were previously observed between business and the environmental community in the US (Mahoney, 2007b) as

well as in previous phases of the EU ETS negotiations (see Fitch-Roy, Fairbrass and Benson, 2019; Jevnaker and Wettestad, 2017), in particular, we theorise about the relationship between policy beliefs and the emergence of ally networks, as well as the occurrence of strange bedfellow networks, in the following sections.

3.2.1 Belief Homophily and Ally Networks

First, policy network scholars strongly agree on the importance of homophily, i.e. that two actors who have similar core beliefs are more likely to share the same policy preferences (Gerber, Henry and Lubell, 2013; Heikkila, 2016; Ingold, Fischer and Cairney, 2017). As described above, this research is strongly influenced by the ACF which argues that actors are more likely to accept information that aligns with their pre-existing beliefs (see Sabatier, 1987; Sabatier and Jenkins-Smith, 1993). Policy beliefs, in particular, are the foundation of forming coalitions and establishing alliances. Several studies have demonstrated a strong association between belief or ideological congruence and network ties (see Henry et al., 2014; Ingold and Fischer, 2014; Ingold, Fischer and Cairney, 2017; Weible, 2005). More specifically, the underlying causal mechanism implies that similar types of actors share the same beliefs (ideological homophily) that, in turn, influence their preferences for specific policy outcomes. Since similar individuals should be equally affected by new legislation they "see the policy problem through the same lens" and "tend to develop a common understanding of the problem" (Ingold, Fischer and Cairney, 2017, p. 447, Berardo and Scholz, 2010, Feiock et al., 2014). Hence, policy preferences can be linked to shared organisational affiliations (Heikkila, 2016).

We illustrate the hypothesised link with a shared organisational type (type match), policy beliefs and a strong likelihood for forming ally networks in Figure 3.1. Whereas the research on policy networks focuses mostly on local or national policy subsystems, similar notions of organisational preference alignment can also be found in the literature on interest groups in the EU (see Coen and Richardson, 2009; Dür, Bernhagen and Marshall, 2015; Klüver, 2013). Business groups in many EU policy fields "tend to support the status quo with no or only very low regulatory standards at the EU level", while non-business groups (NGOs), by comparison, "often seek policy change with the aim of harmonising regulatory standards across Europe" (Dür, Bernhagen and Marshall, 2015, p. 957). With respect to environmental policies in particular, Ingold, Fischer and Cairney (2017, p. 447) argue that "issues of environmental and energy policy [...] mostly pitch actors with right-wing and economy-friendly core beliefs against left-wing environmental actors". Hence, we expect actors of the same organisational type to share similar policy beliefs and, in turn, agree on specific policy designs within

the EU ETS regulation:

H1: *The likelihood of ally networks between two actors of the same organisational type is mediated by shared policy beliefs.*

3.2.2 Ally Networks Between Strange Bedfellows

While scholars studying policy networks generally assume that the policy goals of businesses and NGOs are diametrically opposed (see Box-Steffensmeier and Christenson, 2015; Ingold and Fischer, 2014), recent literature on interest group lobbying in the US (Holyoke, 2009; Phinney, 2017) and the EU (Beyers and De Bruycker, 2018; Fitch-Roy, Fairbrass and Benson, 2019; Junk, 2019; Mahoney, 2007b) suggests that strange bedfellow arrangements have to be considered when analszing the formation of ally networks. As mentioned above, strange bedfellows are defined as actors with different organisational affiliations (e.g. businesses or NGOs) who typically would not work together but still share the same policy preference or lobby for the same outcome. Hence, strange bedfellow networks can be described as ally networks that exist without the foundation of shared policy beliefs (see Figure 3.2). Scrutinising the compatibility between the ACF and studies on EU policy-making, in particular, Rozbicka (2013, p. 849) argues that the ACF "can be considered one of the most promising frameworks to explain the EU policy processes", but does not consider that in the fast-moving political system of the EU, "actors are building coalitions based not only on their beliefs but also shared interests and owing to their interdependencies". More generally, this claim is also substantiated by Weible and Sabatier (2005), who find that the ACF tends to overlook some alliances and cross-coalition interactions.

We formalise our theoretical assumptions on the missing link between shared policy beliefs and the emergence of strange bedfellow networks in hypothesis 2:

H2: *The occurrence of strange bedfellow networks is unaffected by the absence of shared policy beliefs.*
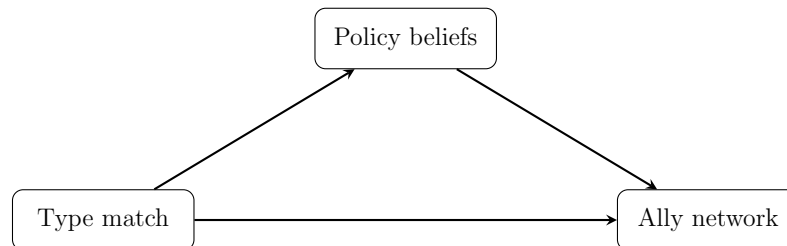
Figure 3.1: Belief systems as mediators of ally network formation

When do ally networks between strange bedfellows emerge, in general? Although evidence is still rare, previous research has shown that issue characteristics can be a central factor in determining the likelihood of policy networks between strange bedfellows. According to Phinney (2017) as well as Beyers and De Bruycker (2018), strange bedfellow coalitions, while being comparably rare, tend to develop more frequently when the policy under consideration is highly salient to organisations, to the general public and in the media. Moreover, Junk (2019) finds that strange bedfellow coalitions are actually more successful in attaining their preferences on issues with high advocacy salience. In addition to salience, we introduce another contextual factor that helps to explain the emerge of strange bedfellow networks – the level of inter-group conflict of an issue. Weible and Sabatier (2005, p. 184) argue that interactions between different groups become increasingly less likely with higher levels of conflict on a specific policy. The ACF describes variations in levels of conflict on the basis of differences in policy subsystem characteristics (Weible, Sabatier and McQueen, 2009). Whereas adversarial policy subsystems are characterised by competitive coalitions with polarised beliefs and fewer cross-coalition interactions, collaborative subsystems allow stronger levels of belief convergence across coalitions. That is why we propose that policy types and their potential for inter-group conflict can be crucial for the formation of strange bedfellow coalitions. We argue, however, that variation in levels of conflict is not just possible on the sub-system level but also on the sub-issue level.

What drives these levels of conflict? We assume that high stakes and zero-sum games are major drivers for inter-group conflict. Hence, we follow Lowi (1972, 1964) in his classic typology of policies. In general, environmental policy is traditionally classified as a form of regulation. Regulation can, however, entail re-distributive effects. Since policies with re-distributive effects determine clear winners and losers, they can be regarded as generating more inter-group conflict than issues of a more technical and administrative nature. Thus, we assume that strange bedfellow networks are less likely on re-distributive policies.

Our theoretical assumptions on strange bedfellow networks lead us to the following
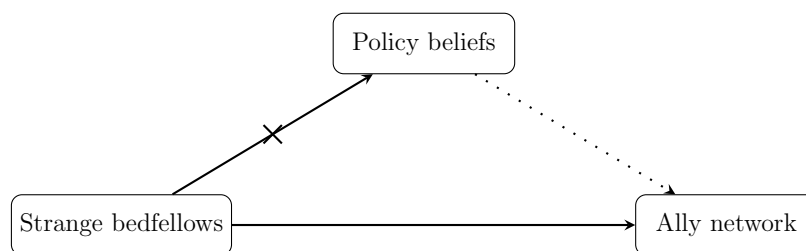
Figure 3.2: Strange bedfellows and ally networks

hypothesis:

H3: A strange bedfellow network is most likely on issues with low inter-group conflict.

3.3 The EU ETS and Carbon Leakage

Given the variety of participants in the legislative process and the typical power discrepancies between influential businesses and NGOs, EU consultations on climate and environmental policies are regularly selected as the best cases for studying policy networks (Ingold, Fischer and Cairney, 2017; Ingold and Fischer, 2014) as well as interest group influence on EU policy-making (Klüver, 2013).

We have selected the "EU ETS post-2020 carbon leakage provisions" as our case study because it captures opinions on a specific problem – carbon leakage – within Europe's "flagship" climate policy, the emissions trading scheme.[3] The consultation ran from May 8, 2014 until July 31, 2014 and was open to responses from all stakeholder groups as well as private citizens. The aim of the consultation was to gather opinions on various options for a system to avoid carbon leakage after 2020.

Within the realm of environmental regulation, climate change mitigation and the EU ETS, in particular, are characterised by a typical business-NGO cleavage of conflicting priorities between stricter regulation and economic competitiveness. Since the adoption of the EU ETS, the development of the system has also been characterised by a within-business cleavage mainly involving the two major greenhouse gas (GHG) emitting sectors in the EU: energy production and energy-intensive industries.[4] This cleavage primarily emerged over provisions for carbon leakage.

The consultation was conducted during the negotiations for the post-2020 reform phase, potentially adjusting the standards for free allowances of energy-intensive industries. The results were fed into further work on the 2030 climate and energy policy framework regarding the determination of post-2020 rules on free allocation and carbon

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[3]See https://ec.europa.eu/clima/consultations/articles/0023_en (accessed May 2, 2019). The EU ETS was established in 2005 as a cap-and-trade-system for greenhouse gases (GHG) in the European Union, Norway, Iceland and Liechtenstein in order to fulfil the EU's mandatory GHG reduction target under the Kyoto Protocol. In contrast to direct taxation, the EU ETS creates a market for emission certificates in order to internalise the external effects of GHG emissions. Polluters are required to buy the appropriate amount of certificates to cover their emissions levels. Excess certificates can be traded between participants.

[4]See Fitch-Roy, Fairbrass and Benson (2019) for an account on one of the most prominent strange bedfellow coalition between business actors and environmental advocacy groups – the "Friends of ETS" – during the "rescue mission" in 2013-2014. The coalition dissolved after 2014.

leakage provisions in the EU ETS.[5]

We selected the EU ETS reform of carbon leakage as a typical case for the occurrence of strange bedfellow coalitions. In general, the carbon leakage reform was highly salient among many stakeholders from different organisational types. Compared with the average EU consultation which features fewer than 100 interest group submissions (see Klüver, 2013, pp. 105-106), the survey of carbon leakage and the EU ETS received 382. Hence, in line with Phinney (2017) and Beyers and De Bruycker (2018) who expects a higher likelihood of strange bedfellow coalitions on more salient legislation, we assume the EU ETS reform to be a typical case for it.

In addition, empirical studies on different aspects of EU ETS reform illustrate the high propensity for strange bedfellow arrangements between NGOs and energy producers. According to Fitch-Roy, Fairbrass and Benson (2019, pp. 8-9), the EU ETS reform project as a whole "reflects years of entrenched division" between energy intensive industries on the one hand, and energy producers of electricity, wind, or gas on the other. Thus, in line with scholars who stress the importance of accounting for different types of business interests in contrast to describing business interests as homogeneous (see Mertens, 2019), policy core beliefs can be assumed to diverge strongly between energy producers and energy intensive industries. While the producers generally support the mechanisms of the EU ETS, the intensive industries attempt to be "treated as a special case [...] by raising concerns about "carbon leakage", a postulated race-to-the-bottom process by which industry leaves the EU seeking lower regulatory costs" (Fitch-Roy, Fairbrass and Benson, 2019, pp. 8-9; see also Jevnaker and Wettestad, 2017). Environmental advocacy groups are in favour of climate change mitigation measures but mostly lobby for stricter regulation with respect to target sectors, allocation modalities and ambitiousness of the EU ETS. Prior research has shown that some energy producers and NGOs have formed coalitions during critical phases of the EU ETS development to overcome the resistance of the manufacturing sector (Markussen and Tinggaard Svendsen, 2005; Fitch-Roy, Fairbrass and Benson, 2019). This evidence and the general distribution of preferences among stakeholders for the EU ETS reform indicate that an ally network of strange bedfellows is most likely between energy producers and NGOs.

Lastly, zooming into the single sub-issues within the consultation, we can detect varying potentials for inter-group conflict. Environmental policy, in general, is tradi-

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[5]As part of this framework and with some adjustments, it was decided to continue the free allocation of emission allowances until 2030. Sectors at the highest risk will receive 100% free allocations until 2030, less exposed sectors will undergo a gradual decrease of free allocation from 30% to 0% between 2026 and 2030.

tionally classified as a form of regulation. However, the EU ETS entails re-distributional elements by creating a market for carbon emissions. Adjustments to the allocation rules for the certificates create winners and losers. In our analysis, we differentiate sub-issues with re-distributional effects from questions of a more general regulatory nature. Linking back to our theoretical assumptions, we assume that re-distributive effects create higher potentials for inter-group conflict. Research on the EU ETS reform periods has shown that issues related to scope and allocation rules generated the strongest conflict. In contrast, issues of a technical and administrative nature, like links to other policy instruments and compliance rules, were less controversial (Markussen and Tinggaard Svendsen, 2005).

3.4 Estimation Strategy

3.4.1 Modelling Ally Networks

As shared preferences regarding the EU ETS might be purely coincidental but might also be caused by coordination or information exchange, network ties cannot be credibly assumed to be independent. Since conditional independence of participating pairs (dyads) is one of the core assumptions of standard regression techniques, using these models would lead to biased estimates (Robins, Lewis and Wang, 2012). Network approaches mitigate this problem of interdependence. Network analysis has a long tradition in political science (Ward and Sacks, 2011) and offers descriptive as well as inferential approaches.

Classical inferential network approaches were developed for binary edges which indicate whether two actors share a social relationship or not. Recent methodological developments on valued networks, however, also allow the application of inferential network approaches on weighted edges (Cranmer et al., 2017; Minhas, Hoff and Ward, 2019). The implementation of exponential random graph models (ERGMs) for count values is well established in the literature (see Scott, 2016). Network approaches for real-data values on a continuous scale, however, are still being developed. To address the problem of real-valued edges, we run recently developed "additive and multiplicative effects models" (AME) (Minhas, Hoff and Ward, 2019). Compared with its two most popular alternative approaches in modelling network dependencies – the latent space model (LSM) and the ERGM – AME models allow a computationally efficient estimation of networks with binary, ordinal as well as continuous edges. In addition, coefficients can be interpreted with greater ease and researchers are enabled to "fo-

cus on examining theories that may only be relevant in the monadic or dyadic level"
(Minhas, Hoff and Ward, 2019, p. 209).[6]

When modelling dyadic data, AME models, first, assume that all data are generated
from a probability distribution: $y_{ij} \sim P(Y|\theta ij)$, with a probability density or mass
function such as binomial, Poisson, or normal. Dependencies in the data are addressed
with the assumption of conditional independence of the presence or absence of a tie
between two actors and all other ties, given the parameters θ_{ij} and the set of nodal and
dyadic covariates x_{ij}. Given a set of n actors, {i,j,k} resulting in $n*(n-1)$ observations,
the joint density function over all dyads can be constructed as follows:

$$P(y_{ij}, y_{ik}, ...y_{kj}|\theta_{ij}, \theta_{ik}, ..., \theta_{kj}) = P(y_{ij}|\theta_{ik})P(y_{ij}|\theta_{ij})...P(y_{ij}|\theta_{kj})$$

$$P(Y|\theta) = \prod_{\alpha=1}^{n*(n-1)} P(y_\alpha|\theta_\alpha) \tag{3.1}$$

Moreover, AME models consist of additive and multiplicative parts. First- and second-
order dependencies are modelled with additive effects introduced by Warner and Stoto
(1979). More specifically, the variance of observations in an adjacency matrix is de-
composed in heterogeneity across row means and along column means, in correlation
between row and column means, and in correlation within dyads (for more details see
Minhas, Hoff and Ward, 2019, p. 211). Third-order dependencies (i.e. dependencies
between triads), in comparison, are introduced using a latent variable framework – the
latent factor model (LFM). The AME approach thus considers the following regression
model:

$$y_{ij} = g(\theta_{ij})$$
$$\theta_{ij} = \beta^T \mathbf{X}_{ij} + e_{ij}$$
$$e_{ij} = a_i + b_j + \epsilon_{ij} + \alpha(\mathbf{u}_i, \mathbf{v}_j), \tag{3.2}$$
$$where \ \alpha(\mathbf{u}_i, \mathbf{v}_j) = \mathbf{u}_i^T \mathbf{D}\mathbf{v}_j \quad = \sum_{k \in K} d_k u_{ik} v_{jk}$$

where e_{ij} represents residual variation that can be decomposed into sender (row) effects
(a_i), a receiver (column) effect (b_j), and a within-dyad effect (ϵ_{ij}). This variation is
added to a typical GLM framework: $\beta^T \mathbf{X}_{ij} + a_i + b_j + \epsilon_{ij}$. Lastly, the multiplicative
component $\alpha(\mathbf{u}_i, \mathbf{v}_j)$ introduces $\mathbf{u}_i = \{u_{i,1}...u_{i,K}\}$ as a vector of unobserved character-
istics describing behaviour in a network. The similarity of $\mathbf{u}_i \approx \mathbf{u}_j$ indicates "how

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[6]Minhas, Hoff and Ward (2019) also demonstrate that AME models outperform both ERGM as well
as LSM models in out-of-sample predictions.

stochastically equivalent a pair of actors are and the eigenvalue determines whether the network exhibits positive or negative homophily" (Minhas, Hoff and Ward, 2019, p. 213).

Given the model specified above, a general model estimated in our analysis is specified in equation 3:

$$y_{ij} = \beta_d^T \mathbf{x}_{dij} + \beta_r^T \mathbf{x}_i + a_i + a_j + \mathbf{u}_i^T \wedge \mathbf{v}_j + \epsilon_{ij} \tag{3.3}$$

Here, $\beta_d^T \mathbf{x}_{dij}$ is a vector of characteristics of dyad {i,j} and $\beta_r^T \mathbf{x}_i$ describes the nodal covariates of node i as a sender. Since our network is un-directed, the model can be expressed as the natural simplification in equation 3. In contrast to the asymmetric variant, the term $\mathbf{u}_i^T \wedge \mathbf{v}_j$ represents any residuals low-rank patterns $\mathbf{M}$ in the symmetric socio-matrix $\mathbf{Y}$ (Hoff, 2008).

In order to capture the intervening effect of belief system similarities between actor type combinations, we employ a mediation setup (Baron and Kenny, 1986; Imai et al., 2011; Shrout and Bolger, 2002). This approach allows the decomposition of associations between three variables into individual components, hypothesising that X has an effect on Y through M. The total effect of X on Y (c) is decomposed into paths a and b as well as c' which represents the direct effect of X and Y excluding any intervening effect of M (see Figure 3.3). The mediation effect (paths a and b) is called the indirect effect and represents the proportion of the association between X and Y which is mediated by M.

Baron and Kenny (1986) propose a four step approach for the analysis of mediator effects. The first model is specified with X predicting Y in order to test for the total effect c. The second model captures path a by X predicting M. Path b is measured in the third model with M predicting Y and the fourth model contains both X and M predicting Y. The first three steps are relevant in order to establish a relationship among the existing variables. If these associations are significant, the results from the full model support a mediation effect if path b (the effect of M on Y) remains significant after controlling for X. An insignificant effect of X would signal a full mediation of M, whereas partial mediation exists if X remains significant.[7]

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[7]In order to make causal claims, mediation analysis usually involves the calculation of the substantial size of the indirect effect and testing its significance through either bootstrapping or parametric resampling (see Imai et al., 2011). There are, however, methodological as well as technical limitations for computing-intensive network models. Hence, we restrict our study to an analysis of associations without making causal claims.
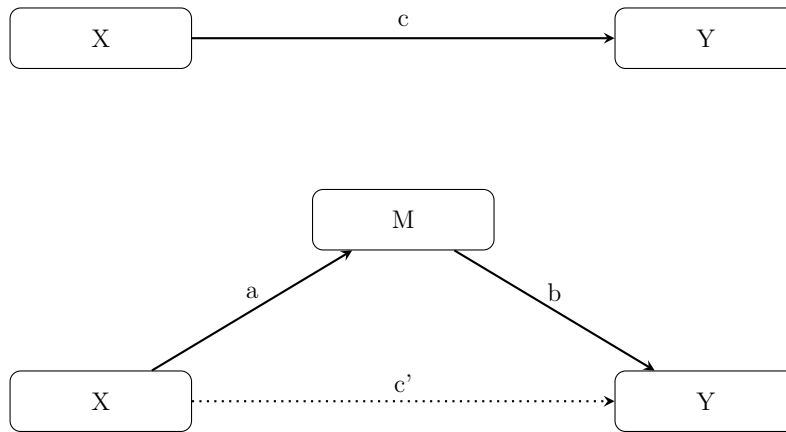
Figure 3.3: Path models showing a total effect of X on Y (above) and the mediated effect through M (below).

3.4.2   Data

Our main dependent variable (DV) indicates ties in ally networks regarding a specific policy issue. Assuming that "identifying someone as an ally could mean that both entities serendipitously end up on the same side of a political conflict repeatedly over time" (Zafonte and Sabatier, 1998), we assume shared policy preferences to be a suitable proxy for network ties. In order to measure these links, we have created association matrices between all respondents in the dataset. For each of the 19 sub-issues featured in the consultation, all those involved were asked whether they agreed or disagreed with the respective issue.[8] The structure of the questions differed slightly depending on the issue: while some questions could simply be answered with "yes", "no", or "no preference", other questions featured five-point-Likert scales ranging from "completely agree" to "completely disagree". Given our aim of constructing a network solely consisting of shared preferences, however, this particularity of the data did not cause a problem. We conceptualised the cross-product between actors' responses as a measure of preference alignment. Hence, we used these data to create networks of shared preferences on policy issues with values of "1" if there was agreement on the same preference and of "0" if there were different preferences or neutral positions. In a further step, we created a valued network for both issues with regulatory as well as re-distributive effects containing the respective sub-issues (see Table SM2.12 and Table SM2.13 in section SM2.3 in the supplementary material) counting the number of times each combination of participants expressed a shared preference.

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[8]For a general overview of all 19 sub-issues see Table SM2.12 and Table SM2.13 in section SM2.3 in the supplementary material. Note that we have excluded questions 8, 9, 10 and 19 from the analysis. These questions either did not fit into the regulatory / re-distributive classification or had little variation in responses.

Shared policy beliefs are specified as the mediator variable. As previously discussed, the variable is specified as DV in model 2 and as independent variable (IV) in models 3 and 4. In order to measure similarities in beliefs, we take into account text entries from the consultation. Due to the fact that participants were asked to justify their direct preference in much greater detail, these entries represent profound accounts of their policy beliefs.[9] When participating in the consultation process, actors translate their policy beliefs into policy frames or even full policy narratives in order to influence the legislative process [10]. The survey offers the possibility of feeding in their ideas on policy issues and providing information in the form of ideal legislation. Shanahan, Jones and McBeth (2011, p. 536) apply this discursive element to the ACF, arguing that stakeholders "use words, images, and symbols to strategically craft policy narratives to resonate with the public, relevant stakeholders, and governmental decision makers, with the aim of producing a winning coalition." We assume that stakeholders with similar policy beliefs use similar words to transport their policy frames and narratives. In order to measure this similarity, we employ automated text analysis.

As a first step, a text corpus was created and the sub-issues were assigned to the respective levels of potential conflict (low vs. high).[11] Next, document frequency matrices were created. Pre-processing included the removal of stop-words, punctuation and numbers. In addition, the terms were stemmed. Terms which occurred only once throughout the whole issue were removed as well. The two corpora provided the basis for the calculation of similarity between the texts. In order to cluster the texts, we follow Garrett and Jansa (2015) and Linder et al. (2018) and compute distances between the text entries based on a cosine similarity algorithm.[12] The features of the text (words) form a vector for each document and these vectors are evaluated with respect to their distance. Cosine similarity is based on the size of the angle between the vectors. The formula for documents A and B, where j indexes their features and y represents the values, is written as:

$$\frac{\mathbf{y}_A \cdot \mathbf{y}_B}{||\mathbf{y}_A||||\mathbf{y}_B||} \tag{3.4}$$

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[9]See Table SM2.3 for exemplary questions and answers. It shows that direct policy preferences can align between actors although their policy beliefs may be vastly different.

[10]See Shanahan, Jones and McBeth (2011) for a conceptual perspective on linking policy narratives with the ACF.

[11]Most text entries were submitted in English. For those which were written in any other language Google translator was used.

[12]While text scaling algorithms (e.g. Klüver, 2009) could provide an alternative way of estimating actors' beliefs, the data at hand is inherently multi-dimensional. Since text scaling techniques require the data to be one dimensional, we utilise text similarity algorithms as a more suitable means of measurement.

The dot product in the numerator equals $\sum_j y_{Aj} y_{Bj}$. $||\mathbf{y}_A||$ in the denominator is the vector norm of features vector $\mathbf{y}$ for document A. Hence, $||\mathbf{y}_A|| = \sqrt{\sum_j y_{Aj}^2}$. Because of this vector-based approach, a major advantage of the cosine distance measure is that it is insensitive to unequal document lengths. The standardised indicator varies between 0 (no similarity) and 1 (same text).

As independent variables, we created the covariates "type", "country", and "leader". For the type variable, the following levels were specified: "Business: energy producer", "Business: energy-intensive", "Business: other", "Business: association" and "NGO". All types were coded according to the self-identification of each interest group. However, we re-coded the business variable to account for the differences between energy producers and energy-intensive industries that were previously defined as a major cleavage potentially influencing the respective preferences. Some firms are active in more than one industry: in these instances we have coded them according to their main field of activity. Given that business associations which exclusively represent one of the two groups should, in principle, request the same policy outcome, we also coded those associations as either energy suppliers or energy-intensive industries. All remaining businesses that could not be assigned to any of the two groups were classified as "Business: other". We have also included a group of general business associations which represent firms from a large spectrum of sectors and industries. Next, we created association matrices for our type-match and type-mix assumptions based on this variable.[13] In the case of type-matches, these matrices record a "1" if both actors are from the same type, otherwise "0". For the node-mixes possibly indicating strange bedfellow combinations, we created several matrices containing a "1" if the relevant node-mix was present (e.g. one is an energy producing business firm and the other an NGO) and a "0", if they differed.

The "country" covariate describes the country of origin. In line with Ingold, Fischer and Cairney (2017, p. 448), we assume that belonging to the same level of a political system "fosters a common understanding of the problem, collective action, and joint learning processes" (see also Berardo and Scholz, 2010; Lubell, Feiock and Ramirez De La Cruz, 2009). This common understanding of policy problems as well as the legal specificities of a certain level in the decision-making process may lead to policy agreement. In the context of the European Union, arguably the most important institutional divide exists between the political systems of the different EU member states. Hence, we control for the country of origin of each of them. The variable is first

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[13]The type mixes include the hypothesised strange bedfellow relationship between "Business: energy producer" and "NGO". In addition, we added the mixes for "Business: energy producer – Business: energy-intensive" and "Business: energy-intensive – NGO" as controls.

coded as a factor with the respective countries as levels. Next, an association matrix is created that is coded as "1" when both actors originate from the same country and as "0" when they do not.

Lastly, the variable "leader" is included as nodal attribute. The general position and the perceived power of an interest group could convince others to adopt the same preferences. Especially in situations where new issues are discussed, decision-makers need information (Leach et al., 2014) and might refer to others who are perceived as having greater expertise, more resources and more influence (Ingold, Fischer and Cairney, 2017; Ingold and Fischer, 2014). Furthermore, according to Calanni et al. (2015), power is a central factor in shaping relations within policy networks. Those who are perceived as powerful and influential can be role models for others. Since smaller and less resourceful ones might turn towards these leaders to gather information and profit from their resources we control for the effect of policy leadership in all of our models. The variable is coded as "1" when an actor can be characterised as a policy leader and "0" when not. Since we assume that policy leaders in EU environmental and climate policies are active in a large variety of different consultations, we identify leaders by calculating the ratio of EU consultations where each group participated to a total number consultations in the area of climate and environmental policies[14]. The top 10% of all interest group are selected as leaders.[15]

3.5   Analysis

3.5.1   Results

The results of the AME models are shown in Table 3.1 and 3.2.[16] While table 3.1 displays the coefficients for all models calculated for policy issues with low levels of inter-group conflict, Table 3.2 shows the results for higher conflict issues with re-distributional effects. The different models in both tables were specified within a

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[14]We have selected 26 consultations which were conducted between 2013 and 2018 and which represent a large majority of all EU public consultations on climate and environmental issues in that time period.

[15]Given that the group of leaders contains influential NGOs like Greenpeace and WWF as well as influential business associations (e.g. FuelsEurope, the European Steel Association or European Aluminium) and large businesses (e.g. Vattenfall, BASF and IKEA), we believe that this measure is a valid proxy for influential participants that are able to shape preferences in EU policy-making.

[16]All models were estimated using an MCMC algorithm (see Minhas, Hoff and Ward, 2019) and converged after 100,000 iterations. See section SM2.1 in the supplementary material for the trace plots of all AME models reported in Table 3.1 and 3.2.

Table 3.1: AME results for ally networks on policies with low potential for inter-group conflict (standard errors in parentheses)

	Model 1	Model 2	Model 3	Model 4
Nodematch				
Business: energy intensive	0.763***	0.027***	—	0.524***
	(0.051)	(0.002)		(0.057)
Business: energy producer	0.017	0.005	—	−0.096
	(0.121)	(0.004)		(0.124)
Business: other	0.583**	0.057***	—	0.500*
	(0.217)	(0.008)		(0.219)
Business association	0.036	0.007	—	0.125
	(0.136)	(0.005)		(0.136)
NGO	1.283***	0.049***	—	1.086***
	(0.216)	(0.008)		(0.223)
Nodemix				
Business: energy producer — NGO	0.362***	−0.002	—	0.305**
	(0.115)	(0.004)		(0.120)
Business: energy intensive — NGO	−0.439***	−0.005**	—	−0.527***
	(0.078)	(0.003)		(0.084)
Business: energy producer — business: energy intensive	−0.388***	−0.002	—	−0.461***
	(0.062)	(0.002)		(0.0.066)
Mediator				
Belief	—	—	4.106***	3.964***
			(0.067)	(0.069)
Controls				
Country	0.087***	0.010***	0.043*	0.043*
	(0.017)	(0.001)	(0.018)	(0.001)
Policy leader	−0.373**	0.029	−1.225***	−1.240***
	(0.153)	(0.020)	(0.215)	(0.214)
Intercept	—	0.409***	—	—
		(0.013)		
N_{issues}	7	7	7	7
N_{actors}	339	339	339	339

Levels of significance: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

mediation analysis framework: model 1 includes the main model without the mediator, in model 2 the same coefficients are regressed on the mediator (policy beliefs), model 3 includes only the mediator as well as the control variables as covariates to predict shared network ties and model 4 – the full model – includes all variables as well as the mediator as covariates (see section SM2.2 in the supplementary material for a detailed specification of all models).

Considering hypothesis 1 on the link between shared organisational affiliations, pol-

Table 3.2: AME results for ally networks on policy issues with high potential for inter-group conflict (standard errors in parentheses)

	Model 1	Model 2	Model 3	Model 4
Nodematch				
Business: energy intensive	0.245***	0.018***	—	−0.049
	(0.051)	(0.002)		(0.051)
Business: energy producer	−0.009	0.021***	—	−0.165
	(0.095)	0.007		(0.094)
Business: other	0.898***	0.043***	—	0.791***
	(0.171)	(0.006)		(0.171)
Business association	0.260**	0.005	—	0.438***
	(0.121)	(0.005)		(0.125)
NGO	3.908***	0.058***	—	3.753***
	(0.225)	(0.008)		(0.231)
Nodemix				
Business: energy producer — NGO	−0.156	0.016***	—	−0.225*
	(0.101)	(0.004)		(0.104)
Business: energy intensive — NGO	−0.006	−0.000	—	0.097
	(0.075)	−(0.003)		(0.079)
Business: energy producer —	−0.312***	−0.001	—	0.441***
business: energy intensive	(0.055)	(0.002)		(0.057)
Mediator				
Belief	—	—	4.488***	4.441***
			(0.081)	(0.083)
Controls				
Country	0.222***	0.013***	0.144***	0.142***
	(0.016)	(0.001)	(0.016)	(0.016)
Policy leader	−0.271	0.046	−1.323***	−1.266***
	(0.0174)	(0.022)	(0.244)	(0.232)
Intercept	—	0.412***	—	—
		(0.015)		
N_{issues}	12	12	12	12
N_{actors}	350	350	350	350

Levels of significance: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

icy beliefs and the likelihood of ties in any ally network, the results of the AME models offer important insights: first, significant effects for node-matches (matches between the type / organisational affiliations of a facilitator) and the likelihood of a network tie can be observed for most types. In line with the assumption of increased chances of preference alignment between facilitators of the same type, we observe a substantive and significant increase in the probability of a network tie between dyads of energy intensive businesses, other business actors and NGOs (see model 1 in both Table 3.1 and

Table 3.2). While we observe a significantly positive effect for business associations in model 1 of Table 3.2, there is no significant effect for matches between energy producers in both models, indicating a more heterogeneous distribution of preferences within this group. Secondly, looking at models 2-4 in both Table 3.1 and 3.2, the assumed mediation effect seems to hold. There is a significantly positive increase in shared policy core beliefs between energy intensive industries, other business and NGOs (as well as between energy producers in model 2 in Table 3.2). The strong positive effect of policy core beliefs, with $p < 0.001$ in models 3 and 4 in both tables, offers support for the theoretical accounts of a mediation effect. Since all other coefficients decrease after the introduction of the mediator in model 4 (in both Table 3.1 and 3.2), we provide tentative evidence for the assumed relationship between shared policy beliefs as a mediator of network ties of the same type.

Next, we look at H3 assuming that strange bedfellow networks are most likely on issues with low inter-group conflict. Here, we have to compare the results of model 1 in both Table 3.1 and 3.2. In line with our expectations, we do, in fact, observe a significantly positive effect (a coefficient of 0.362 with $p < 0.001$) between shared preferences of energy producers and NGOs on policy proposals with a low propensity to generating conflict. On issues with re-distributive effects that can be characterised by high amounts of inter-group conflict, in comparison, the effect is negative and non-significant (-0.156 in model 1 in Table 3.2). Hence, the level of conflict is relevant for the understanding of the emergence of strange bedfellow networks. The positive effect is also underlined by the other mixes between energy intensive industries and NGOs and energy producers, respectively, that were introduced as controls. Both mixes are significantly negative (see model 1 in Table 3.1) which indicates that their preferences, as expected, go in opposite directions.

Hypothesis 2 postulated the absence of a mediation effect of shared policy beliefs in strange bedfellow networks. Since these occurred solely for issues with low levels of inter-group conflict, we look only at the results presented in Table 3.1. As previously discussed, the main coefficient for the energy producer–NGO dyad is significantly positive in model 1. Hence, the likelihood of a tie increases if one of those involved is an energy producer and the other an NGO. When looking at model 2, however, we see that the same relationship does not exist for policy beliefs. In fact, the coefficient is negative (-0.002) and non-significant. In the mediation analysis framework, this is a strong indicator in favour of hypothesis 2 — ally networks of strange bedfellows can work without shared policy beliefs.

Lastly, the control variable "country", indicating level homophily between actors

with the same country of origin, is positive and significant in all four models (both in Table 3.1 and Table 3.2). In contrast to our expectations, being a policy leader, however, does not seem to increase the likelihood of a network tie with another one. The effect is significantly negative in most of the models specified in the analysis.

The supplementary material to this paper includes several robustness checks (see Table SM2.14, SM2.15, and SM2.16 in section SM2.4). Some of those consulted have submitted identical written statements. This clearly indicates a formalised coordination between them which could potentially bias our results. In order to control for this effect, we ran all models on a subset excluding duplicate text entries. The results support our previous findings. In order to validate our automated text analysis, we employed the Smith-Waterman local alignment algorithm as an alternative measure (Wilkerson, Smith and Stramp, 2015). The results based on this belief similarity measure do not deviate from our main findings.

3.5.2   Discussion

Hypothesis 1 states that the likelihood of ally networks between actors of the same organisational type is mediated by shared policy beliefs. The results of our network analysis support this assumption. Both in low- and high-conflict situations, energy-intensive industries, NGOs and other business groups form type-related ally networks which are linked by a shared belief system. This is not surprising as energy-intensive industries and environmental advocacy groups, in particular, formed opposing ends in many instances of the EU ETS reform since its inception. This finding is supported by the fact that the effects of mixed types for these two groups are either missing or significantly negative and mediated by divergences in belief systems.

The results can be substantiated with a discussion of exemplary submissions: one issue in the policy proposal discussed whether the EU ETS helps the EU industry to become more energy efficient and thus more competitive.[17] A large proportion of the energy-intensive firms responded with "no" and primarily argued that the current system reduces the competitiveness of the sector due to high energy costs and short time frames for adapting to more energy efficient ways of production. With respect to deep core beliefs, it becomes clear that a market-based system was favoured but that interventions by national and EU regulators have weakened this aim. Powerful environmental NGOs like Greenpeace, WWF and the Climate Action Network Europe,

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[17]For the full questions and answers discussed in this section see Table SM2.11 in section SM2.3 in the supplementary material.

on the other hand, answered "yes" to the question.[18] They argue that the EU ETS, in principal, can deliver improvements in energy efficiency and competitiveness if combined with complementary measures. Nevertheless, they emphasise design flaws like a CO_2-price-depressing surplus of allowances and "generous" free allocation to industry which undermined the effectiveness of the EU ETS. Hence, there is supporting evidence that these two groups are the strongest opponents of carbon leakage provisions of the EU ETS and that this opposition emanates from homogeneous belief systems.

The results for energy producers and business associations appear to be much more vague with respect to the alignment of preferences within each type. This is not surprising as these are more heterogeneous groups. Catch-all business associations might advance much more general policy preferences in order to represent a wide range of their members. In addition, this category captures labour unions as well as federations of employers which might add to a divergence in beliefs and preferences. The category of energy producers represents both the "incumbent" production system based on fossil fuels as well as the renewable energy sector. It is highly likely that this difference creates another cleavage as stricter regulation of CO_2 emissions enhances the competitiveness of low-carbon production sources. In addition to the ambitiousness of climate action, the question of technology-neutrality sparks conflict between these two subgroups (Fitch-Roy, Fairbrass and Benson, 2019).

With respect to previous literature, our results largely confirm the assumed relationship between organisational affiliation, policy beliefs and the likelihood of network ties (see Henry et al., 2014; Ingold, Fischer and Cairney, 2017; Ingold and Fischer, 2014; Weible and Sabatier, 2005; Zafonte and Sabatier, 1998). Hence, theoretical assumptions drawn from the ACF also hold in the case of the political system of the EU.

What role do other mechanisms except policy belief similarity play for ally network formation? The literature primarily discusses resource dependence and functional interdependence as alternative drivers. Since ally networks do not require direct interactions, Weible and Sabatier (2005, p. 184) argue that they should be minimally affected by these two mechanisms. Following Weible (2005), the leadership variable in our analysis could be described as an indicator of resource dependence. Smaller actors turn towards these leaders for access, information and coordination. The effect of leadership, however, is negative or insignificant in most model specifications. It indicates that resource dependence is not a driver of the network formation in our case

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[18]It should be noted though that this is not a unanimous vote among the environmental community. In fact a slight majority of NGOs stated "no".

and confirms the assumption postulated by Weible (2005), that ally networks do not necessarily depend on this mechanism.

Hypotheses 2 and 3 are concerned with the emergence of strange bedfellow networks and the role of shared beliefs as an intervening variable for these cross-type networks. The results support the assumption that strange bedfellows are especially likely in low-conflict situations (H3). In contrast, situations where the stakes are high might lead to a rallying around the flag, where actors from the same organisational type pool their positions in order to increase the gains. With respect to the role of belief systems as mediators (H2), we conclude that ally networks between strange bedfellows lack this intervening effect.

Referring to our previous example about the effectiveness of the EU ETS, the majority of energy companies agreed that the EU ETS helps the industry to become more energy efficient. In accordance with energy-intensive firms, they argue that a market-based instrument is the most cost-efficient tool but also stress that the EU ETS fulfils this criterion. In addition, some emphasise that additional regulation would be detrimental to the effectiveness of the EU ETS.[19] Hence, the case exemplifies overlapping policy preferences between energy companies and NGOs in the absence of similarities in belief systems: with respect to policy beliefs, it becomes clear that although both agree on the necessity of the EU ETS, energy companies strongly emphasise the role of market-based instruments. With respect to this deep core belief, energy producers and energy-intensive industries are much closer to each other than energy producers and major environmental NGOs. NGOs' references to complementary measures such as an energy savings target – i.e. an explicit command-and-control-approach which would be refused by many energy producers as "double regulation" – hints at divergences in deep core beliefs which also translate into diverging policy core beliefs.

Our findings with regard to strange bedfellow networks have several implications for the theoretical literature on policy networks as well as the literature on strange bedfellow coalitions in the EU. First, analysing the formation of strange bedfellow networks, we contribute to the vast literature about policy networks that mostly focuses on type and belief homogeneity to explain network arrangements (see Ingold, Fischer and Cairney, 2017; Ingold and Fischer, 2014). While there are some notable exceptions (see Weible and Sabatier, 2005; Weible, 2005), the ACF would not define interactions among strange bedfellows as coalitions, as such, for the lack of common belief systems. However, in the case of the EU ETS, coherence in preferences between businesses (energy producers) and NGOs is of crucial importance for understanding the underlying

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[19]See section SM2.3 in the supplementary material for direct statements of examplary organisations.

policy network. Although both groups have fundamental differences in their policy beliefs, they still lobby for the same specific policy outcomes. Following Rozbicka (2013), we find that the ACF has particular shortcomings in understanding strange bedfellow arrangements in the political system of the EU.

Finally, we demonstrate the importance of contextual factors for determining ally networks. Following the suggestion by Weible and Sabatier (2005, p. 195) of focusing on the effects of contextual factors on policy network structures, we demonstrate that in addition to the salience of a policy proposal (see Beyers and De Bruycker, 2018; Phinney, 2017), the level of conflict potential can be an important factor in the formation of strange bedfellow networks. Identifying contextual factors that influence the formation of policy networks is important, as they specify the conditions under which advocacy coalitions can emerge without shared policy beliefs.

3.6   Conclusion

This study has investigated the role of belief systems as links between shared organisational affiliations and ally networks in EU policy-making. Our results suggest that shared belief systems are a strong mediator for network formation among actors of the same organisational type. We show that environmental NGOs and energy-intensive industries form ally networks based on homogeneous belief systems and that their beliefs are often diametrically opposed. In addition, our results reveal a strange bedfellow network between NGOs and energy producers on issues with low conflict potential between groups. The mediation analysis also indicates a lack in belief congruence between strange bedfellows.

The application of the advocacy coalition framework on EU multi-level politics is a novel and promising endeavour. Rozbicka (2013) has highlighted important advantages of the ACF for the analysis of the complex political system of the EU. Firstly, it takes the policy process seriously and is suitable for a large number of participants in complex multi-level interactions. Secondly, it provides a differentiated perspective on policy change, linking the persistence of policy core beliefs with barriers to major policy change (Nedergaard, 2008). Thirdly, it provides an explicit focus on policy subsystems, potential spill-over effects (Feindt, 2010) and a conceptualisation of the developmental stage of the subsystem, taking into account temporal factors (Szarka, 2010). Hence, major theoretical assumptions drawn from the ACF also hold in the case of the political system of the EU.

Considering the fact that lobbying in the European Union is strongly based on information-provision (Broscheid and Coen, 2007; Chalmers, 2011) where relationships are much more tentative (Pijnenburg, 1998; Warleigh, 2000), this study reveals possibilities for further development of the ACF in the context of EU politics. Shanahan, Jones and McBeth (2011) have highlighted the theoretical under-specification of the discursive element in the ACF. Since strange bedfellow constellations are a particular challenge for the ACF, further research is necessary on the effect of diverging belief systems within strange bedfellow networks.

Next, our results underline the necessity for a clear conceptual distinction between belief systems and actual policy preferences. Whereas the belief system represents the normative foundation for political action, tangible policy preferences can be influenced by other factors than just beliefs. Actors might formulate policy preferences which do not represent their beliefs due to structural interdependence or resource dependence. Interestingly, since preference congruence and the effect of belief systems on network ties, in general, differ between different organisational types, future research could more thoroughly investigate whether similarities in belief systems are more important for some groups than for others. In order to forge coalitions, actors might be forced to trade off some goals as a quid pro quo to push through at least part of their agenda. The interplay between this strategic behaviour, policy core beliefs and preference formation warrants further research.

Last, this study focused on non-formalised ally networks. Conceptually, these allies represent a first step towards coordinated action and formalised coalitions (Weible et al., 2019, p. 15). Further research is needed on more organised forms of networks in order to draw a more nuanced picture of these constellations. It is particularly interesting to investigate drivers and barriers for the translation of "strange" ally networks into "strange" coordination networks. In addition, the temporal variation of coalition decline and growth becomes increasingly relevant for the ACF literature (Schmidt, Schmid and Sewerin, 2019). The time dimension seems to be extremely relevant for strange bedfellows. In particular, it is up for discussion if strange bedfellows are just short-term "coalitions of convenience" or if they are capable to be transformed and stabilised into stable arrangements over time (Weible et al., 2019).

FOUR

THE POLITICAL ECONOMY OF LOCAL GOVERNMENT FINANCIALISATION AND THE ROLE OF POLICY DIFFUSION

(co-authored with Christine Trampusch, Florian Fastenrath and Rebecca Wangemann)

Abstract

By analysing why English local governments have made extensive use of long-term market loans with embedded derivatives, this paper seeks to contribute to the growing literature on local government financialisation. Using an original, large-N panel dataset for the period from 1998 to 2014, we show that the configuration of the local political economy is an important driver of financialisation processes: a Labour Party majority, as well as fiscal and economic stress make it more likely that councils adopt risky financial instruments. Since the use of financial innovations has also diffused geographically, policy diffusion impacts local governments as well. Highlighting the conditional effect of finance sector power which only increases the use of financial innovations in very large councils as well as the temporal dimension of fiscal and economic stress we create ample avenues for further research.

4.1 Introduction

Since 1998 almost 50 per cent of English local governments borrowed through so called "lender option borrower option" (Lobo) loans with embedded derivatives, essentially betting on rising long-term interest rates. When interest rates were unexpectedly falling to a historic low, however, councils were confronted with massive losses of taxpayer money and subsequently faced public outrage, central government inquiries and law suits that are currently being filed (Financial Times, 2016; Guardian, 2016, 2019). Consequently, the puzzle is why public officials used risk-prone market loans and not the more conservative option of Public Works Loan Board (PWLB) loans with fixed rates and higher planning security.[1] Hence, this paper investigates which factors increased the likelihood of local governments taking out Lobo loans. More generally, as the use of derivatives indicates local government financialisation, we ask: what drives the financialisation of the state at the subnational level?

In political science, the phenomenon of financialisation has received ever growing attention during the last decade (e.g. Mandelkern, 2016; Maxfield, Kindred Winecoff and Young, 2017; Rommerskirchen, 2015; Van der Zwan, 2014; Witko, 2016). Broadly defined as the "increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies" (Epstein, 2005, p. 3), scholars have focused mainly on the economy as a whole, corporations and households. The financialisation of states, by comparison, is less researched (Hendrikse and Lagna, 2018; Karwowski and Centurion-Vicencio, 2018; Van der Zwan, 2014). Only very recently have scholars started to conceptualise and describe the process on the national (Fastenrath, Schwan and Trampusch, 2017; Lagna, 2016; Trampusch, 2019) and the subnational level (Fastenrath, Orban and Trampusch, 2018; Hendrikse, 2015; Hendrikse and Sidaway, 2014; Kirkpatrick, 2016; Lagna, 2015; Pacewicz, 2013). In the studies on (local) state financialisation, the adoption of derivatives-based financial innovations by public officials has been identified as a crucial dimension of the process.

Despite the achievements of the previous studies, three major gaps still exist: first, the role of party politics remains largely unclear as Witko (2016, p. 349) highlights for the financialisation literature in general. Second, due to the dominance of case study research, we still lack a systematic quantitative analysis differentiating and testing crucial local political economic factors that may drive financialisation such as finan-

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[1]The PWLB is a government institution issuing loans to local authorities with an interest rate linked to the UK gilt yield. Traditionally, these constituted the main borrowing source for local governments.

cial industry power and fiscal or economic stress. In fact, previous descriptive case studies on single municipalities in the U.S. or Germany have demonstrated the major importance of financial industry interests and economic and fiscal stress in driving the process (Fastenrath, Orban and Trampusch, 2018; Hendrikse and Sidaway, 2014; Kirkpatrick, 2016; Pacewicz, 2013; Weber, 2010), but have not systematically quantified the effects of these different aspects of the local political economy across cases. Third, considering the literature on the diffusion of financial innovations (e.g. Akhavein, Frame and White, 2005; Molyneux and Shamroukh, 1996; Tufano, 2003) and policies (Berry and Berry, 1990; Gilardi, 2016; Shipan and Volden, 2008; Volden, 2006) we know that new financial products or policies are not adopted in a vacuum. Public officials are influenced by policy decisions in other governments which previous case studies on the use of derivatives by local governments in Germany have also indicated (Fastenrath, Orban and Trampusch, 2018; Hendrikse and Sidaway, 2014; Hendrikse, 2015).

In order to fill these gaps, based on a newly constructed comprehensive panel dataset including all 353 local governments in England for the period 1998 to 2014, we test both internal (i.e. the effect of the local political economy) as well as external (policy diffusion) influences on local government financialisation across cases and time. To this end, we collected data for 5,648 unit-year observations with a wide range of variables and ran event history models to understand the dynamic evolution of financialisation. Furthermore, to improve our understanding of the dynamics of local authorities' debt policies and interpret our statistical findings, we conducted expert interviews with representatives of investment banks, treasury management advisers and local authorities.[2]

Our results indicate that partisan politics did play an important role in facilitating the use of financialised borrowing instruments in English councils, highlighting the importance of Labour-dominated councils in driving local government financialisation. Next, our results illustrate that both fiscal and economic stress are crucial for understanding financialisation processes, however, we find that both interact differently with time. Against our expectations, finance power is actually negatively associated with the use of derivatives in smaller councils and only becomes significantly positive for very large local governments. These complex conditional effects imply that further case study research is indispensable to investigate the causal processes of these local political economic impacts. Last, our analysis shows that financial innovations diffuse geographically across English local governments.

There are several reasons why the recent spread of Lobo loans among English lo-

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[2]See Table SM3.24 in the supplementary material for an overview of the interviews we conducted and the abbreviations used in this article.

cal authorities is a useful case for generating theoretical contributions: On the one hand, together with the US, the UK counts as a benchmark for other countries not only with regard to the power of its financial industry (Culpepper and Reinke, 2014; Bell and Hindmoor, 2017) but also regarding its degree of economic financialisation (Maxfield, Kindred Winecoff and Young, 2017). It remains unclear whether the UK also constitutes a reference category with respect to state financialisation; additionally, English local governments have a tradition of capital market funding because of local authorities' strategy to circumvent central controls through private funding in the money and capital market (Sbragia, 1986). This historical trajectory leads us to expect that internal political-economic factors, such as the power and interests of finance, are important drivers of Lobo borrowing. On the other hand, Lobo loans are complex financial instruments whose outcomes are highly sensitive to shifts in market rates and cannot be calculated in advance. According to Makse and Volden (2011, p. 109) and Karch et al. (2016, p. 89), complex policies are less likely to be adopted or diffuse across geographical units due to uncertainty about their potential costs and benefits. Thus, any finding of significant effects of policy diffusion on the use of Lobos would indicate that understanding the process of state financialisation requires the study of external factors.

The paper is structured as follows: after we describe the structure of Lobo loans and their use by English authorities, we explain our theoretical framework in the third section. The fourth section presents the data and method, followed by our results. In section six we conclude and present the implications for further research.

4.2 The Structure and Use of Lobo Loans

Until the end of the 1990s, English municipalities possessed little autonomy in their financial policies as local government investments required central government approval and borrowing limits were set. This changed in the early 2000s, with the push by New Labour to modernise local government finance. Most prominently, the Local Growth Agenda (2003) initiated a great devolutionary reform aimed at giving local officials more freedom in their financing decisions. Equipped with newly gained financial powers and pressured by the central government's austerity policy, municipalities increasingly financed their borrowing through the use of Lobo loans (INT_1, 2, 4).

In more detail, Lobo loans can be described as complex financial borrowing instruments containing embedded derivatives, issued with an average lifespan of 40 to 70 years. Therein, the lending bank has the option to adjust the interest rate charged at predetermined intervals (e.g. 6-monthly, annually or on a 5-year basis). If the bank
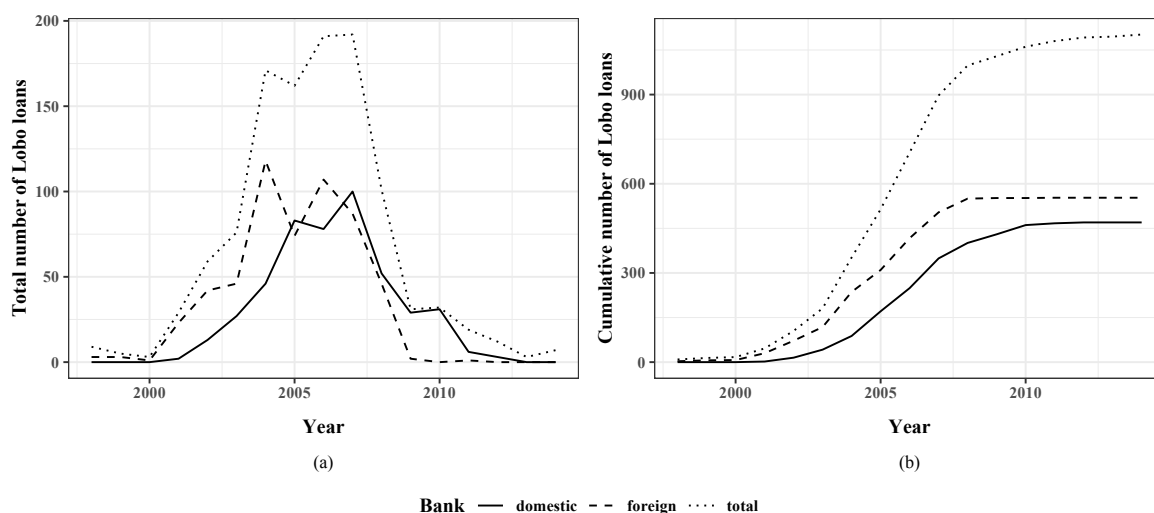
Figure 4.1: Number of Lobo loans taken up by English local governments

(a) Total number of Lobo loans sold to English local governments by year and bank (b) cumulative number of Lobo loans taken up.

changes the interest rate, the borrower has to accept it or repay the loan in full at current market rates. However, if the borrower chooses to repay the loan early, there is an additional penalty specified in the loan contract (CIPFA 2015). Another crucial aspect of the structure of most Lobo loans is the often very low starting interest rate – a so-called "teaser rate". These low rates (set for the starting period of 1 or 2 years) are typically well below the standard PWLB interest rates and generate cheaper income on a short-term basis.

Most significantly, Lobo and PWLB loans differ in their degree of embedded risk. In taking out Lobo loans, local authorities were betting on long-term interest rate development. Only if base interest rates rose would local governments have been better off than with standard PWLB loans. However, since interest rates instead have fallen to historic lows, many local authorities now face much higher repayment costs (due to the embedded derivatives) than they would have done with public loans (Financial Times, 2016; Guardian, 2016; INT_3). Combined with the lender option to increase interest rates periodically and high exit fees, the embedded risk (reinforced by the derivative) in the loan structure is much higher than in standard fixed rate PWLB loans (INT_4). In sum, Lobo loans represent a highly financialised way of borrowing due to embedded derivatives - i.e. the banks' option to convert fixed into floating interest rates.

Figure 4.1 illustrates the number of Lobo loans taken out by English local authorities from 1998 to 2014, both in total (4.1a) as well as cumulatively (4.1b). Of 353 local authorities in England, 155 took out Lobo loans at least once, making a net worth of £10.6bn.[3] It is important to note that it were not domestic but foreign banks who

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[3]Calculation by the authors using our dataset including all 353 local authorities in England.

started selling Lobo loans in the late 1990s and early 2000s, while domestic banks only started to catch up by 2005. The fact that foreign banks also outperformed domestic banks in the total volume of loans made with local governments indicates the global dimension of local government financialisation in England. While Lobo loans were increasingly taken up by local governments prior to 2007, the sharp decrease in new loan contracts after 2007 can best be explained by the turbulence at the beginning financial crisis and the corresponding drop in interest rates. As interest rates were expected to continually decrease, Lobo loans were no longer attractive neither for local governments nor for banks. Since no new Lobo loans were taken up after 2014 we can observe the entire process of diffusion.

4.3 The Financialisation of Local Governments

As we suspect that the financialisation of local governments is driven by the configuration of the local political economy as well as public officials' orientation towards policy-making in other local governments, we refer to the established literature on business power and partisan politics in general as well as in state financialisation, supplemented with the literature on the diffusion of policies and financial innovations.

4.3.1 Partisan Politics

In accordance with classical partisan politics models we argue that the setup of the local political landscape can be of major importance for explaining variation in the use of financial innovations by English local governments. Building on the seminal work by Hibbs (1977), it could be assumed that the partisan composition of local governments influences economic policy since parties cater to the interests of their particular electoral constituencies. As several studies for the central government level have shown, the influence of different party ideologies – along the left-right scale – play a crucial role on policy decisions in the high priority field of economic (fiscal and tax) policy (Bräuninger, 2005; Cusack, 1997, 1999; Cusack and Beramendi, 2006). While a consensus emerged in the 1990s that the partisan effects became less pronounced, there exists a growing literature that shows that parties matter for economic and fiscal policy making on the subnational level (Blom-Hansen, Monkerud and Sorensen, 2006; Boyne et al., 2012; Kleider, Röth and Garritzman, 2017).

Based on these studies, we expect that the left-right composition of English local governments translates into policy decisions on the use of financial innovations. In line with the conventional parties' left-right differentiation, we assume that Labour-

dominated councils have greater incentives to increase the local authorities' revenues because, as a left-wing party, they are more willing to follow the "voters' demands for service provision" (Boyne et al., 2012, pp. 642-643; see also Blom-Hansen, Monkerud and Sorensen, 2006), even if this requires the use of complex financial instruments (Tickell, 1998). Thus, we argue that Labour councillors have preferences for revenue increases through financial risk-taking to secure the services level for their core voter clientele. Accordingly, in his study on derivatives (interest rate swaps) use by English local authorities in the 1980s, Tickell (1998) points out that it was above all Labour-dominated local governments that attempted to circumvent fiscal austerity measures imposed by the central government through the use of speculative financial innovations. In this regard, it is also noteworthy that in the early 1990 when the Hammersmith-Fulham scandal on the speculative ultra-vires use of interest-rate swaps by local authorities blew up, the prominent Labour MP Marjorie (Mo) Mowlam expressed her wish "to see legislation clarifying the legal powers of local authorities to be players in the swaps market" (Bank of England Archive, 1990).

Our expectation to observe a Labour Party impact on financialised policy outputs is further strengthened by the party's transformation in the 1990s. The elected New Labour government coming into power in 1997 not only radically restructured local government finance but also wanted to establish a business-friendly image, even surpassing the efforts made by the preceding Conservative government (Wilks-Heeg, 2009, p. 30). According to Fuller (2016, pp. 85-88), New Labour forcefully tried to incorporate the image of being business-friendly after its crushing defeat in the 1992 elections, leading to a large-scale ideological transformation including the belief in limited government, financial innovations, and the encouragement of financial risks. Public officials in English local councils have traditionally been prone to a strong degree of intra-party group loyalty (Copus, 1999; Kleider, Röth and Garritzman, 2017) and so we assume that the ideological shift at the national level had a spill-over effect on local officials within the Labour party. Due to the "pro-finance, pro-innovation bent" of New Labour (Fuller, 2016, p. 91), hypothesis H1 thus states:

> H1: Local authorities with councils dominated by the Labour Party have a higher propensity to use Lobo loans.

4.3.2 Fiscal and Economic Stress

In addition to partisan politics, we assume that the degree of problem pressure faced by local officials has an impact on the likelihood of Lobo use – regardless of the party

with the council majority. The relationship between fiscal stress (public debt) and the use of speculative financial innovations is well explored in the literature on state financialisation (Fastenrath, Orban and Trampusch, 2018; Hendrikse and Sidaway, 2014; Kirkpatrick, 2016; Lagna, 2015). Ever increasing debt obligations – caused by declining aid from the central government as well as tax revenues with a simultaneous increase in the municipal tasks delegated – strengthen the incentives for local officials to minimize interest payments through innovative financial instruments (Hendrikse and Sidaway, 2014, p. 199; Hendrikse, 2015; Lagna, 2015; Strickland, 2013) or to shift repayment costs into the future, as the "financial constraint is more likely to be currently binding and limit politicians' actions" in highly indebted local governments (Pérignon and Vallée, 2017, p. 1912). For many local governments, high fiscal pressure (high levels of indebtedness) often means that political room for manoeuvre is considerably restricted by the following austerity measures and the resulting imperative of fiscal consolidation. Fastenrath, Orban and Trampusch (2018) show that municipal representatives perceive financial innovations as a less politically costly means (no direct cuts) to regain a certain financial and eventually political leeway. In their studies on derivatives use by German and French municipalities both Trampusch and Spies (2015) as well as Pérignon and Vallée (2017) demonstrate a significant positive relationship between the level of municipal debt and the use of innovative financial instruments. Hence, our second hypothesis reads:

H2: The higher the level of local public debt, the higher the propensity of local councils to use Lobo loans.

While public debt and economic deprivation might be entangled in practice, it still makes sense to analytically differentiate between fiscal and economic stress. As drivers of local government financialization, they indicate different actors' motivations, i.e. whether local governments use Lobo loans as an instrument of debt or economic policy. More specifically, while high levels of public debt might motivate politicians to use Lobo loans for restructuring their debt portfolios and decrease their overall interest rates, economic deprivation incentivises local authorities to borrow money at favourable rates to invest in infrastructure projects. In general, economic deprivation describes the general economic conditions within local governments (Bertelli and John, 2010). According to Hendrikse and Sidaway (2014, p. 198) it was not only public debt but also the demise of the local economy and rising levels of unemployment that exerted pressure on local governments to find "novel ways to raise revenue", eventually leading to the use of derivatives. In addition, Strickland (2013: 389) describes the use derivatives explicitly as a means of paying and investing in infrastructure to generate growth. Thus, it can be assumed that worse economic conditions put pressure on local councillors to

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use risky financial instruments to raise additional money for investments and public infrastructure projects to stimulate the local economy.

> *H3: The higher the economic deprivation in a local council, the higher the likelihood of the respective government to adopt Lobo loans.*

4.3.3 Local Finance Power

Previous research has shown that financial sector institutions are important actors in facilitating local government financialisation (Hendrikse and Sidaway, 2014; Kirkpatrick, 2016; Pacewicz, 2013). Hence, we assume that the structural and instrumental power of local finance industry might be an important driver of the use of Lobo loans by local councils.[4] While structural power describes the dependency of governments on private business interests in their policy-making decisions, as business may automatically or strategically threaten to withdraw investments (Culpepper, 2015; Fairfield, 2015b; Hindmoor and McGeechan, 2013; Lindblom, 1982), instrumental power comprises "the non-core functions of the firm on which business relies to attain a political edge, such as campaign donations and the use of lobbying" (Culpepper, 2015, p. 396). In our case both dimensions are relevant. While public officials are generally aware of the growing importance of the financial sector for generating growth and employment, there are also numerous events (e.g. receptions and other social activities) organised and financed by local financial market actors to which local councillors are invited, as well as the regularly observed phenomenon of public-private "revolving doors" in local authorities' treasury managements. Local officials develop the skills that enable them to "work as private money brokers" and so the phenomenon of revolving doors, i.e. leaving to work in the financial sector, has always existed in English local governments (Sbragia, 1986, pp. 318-319). In addition, Schwan (2017) has documented a considerable variation in the strength of the financial sector within different regions in the UK. Having more financial institutions close to the city hall doors might lead to more and more intense interactions between finance and local authority representatives. Being neighbours to local politicians makes it easier for bankers to advertise and supply new financial instruments. Consequently, the stronger the local financial sector in a municipality, the more likely it is that banks will use their instrumental power to "persuade" politicians to use Lobo loans. In accordance with recent studies on finance power, we assume that structural and instrumental power can be mutually reinforcing (James

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[4]Regardless of the previous differentiation between domestic and foreign banks operating in a local economy, we assume this effect to be driven by the local financial sector comprising both domestic and foreign actors as both can contribute to economic growth and employment in a local authority.

and Quaglia, 2019; Fairfield, 2015b; Hindmoor and McGeechan, 2013). Our hypothesis H4a proposes that the use of Lobo loans is likely to increase where the local financial sector is strong:

H4a: *The likelihood of local authorities using Lobo loans increases where the power of the local financial sector is strong.*

Furthermore, we consider that the effect of finance power is conditioned by the size of a local government. Since local governments differ broadly on a range of relevant indicators like the expertise of their officials and their level of public debt (Trampusch and Spies, 2015) as well as their investment portfolios, development and economic growth (Strickland, 2013), we believe that the size of a local authority is likely to moderate the effect of financial sector power. Eckersly (2016, p. 5) argues that the "level of internal capacity" directs whether municipalities "look to private businesses to provide them with the 'power to' achieve their objectives". Especially the inability of smaller councils to hire more qualified personnel can create an "asymmetry of expertise" between smaller local governments and a financial counterparty (Culpepper, 2011, p. 178). This is also argued by Tickell (1998, p. 877), who states in his study on that the use of derivatives by English local authorities is a case of "major information asymmetries" between the selling financial institution and the buying local authority. Since smaller councils often lack the financial expertise to understand more complex financial instruments, financial institutions might exploit situations of even greater information asymmetry and find it easier to sell unsound financial products. Moreover, smaller local authorities may also more likely approach banks because they recognise that "the use of consultants is necessary to access expert knowledge" (Weber and O'Neill-Kohl, 2013, p. 12).

H4b: *In smaller local governments, the power of the financial sector has a stronger effect on the likelihood of Lobo loans being used.*

4.3.4   The Diffusion of Policies and Financial Innovations

We assume that is it not only the local political economy but also the behaviour of other local authorities that push local governments to take out Lobo loans by exerting pressure to follow the trend. In line with Graham, Shipan and Volden (2013, p. 675), we argue that "policy innovation is influenced by choices made by other governments" and consequently use the literature on the diffusion of policies and financial innovations to explain the phenomenon of state financialisation better.

Considering the characterisation of financialisation as a process that unfolds over time (Lee et al., 2009) and its co-evolution with innovations in financial engineering (Buenza and Stark, 2004; Pacewicz, 2013, pp. 415-416), it makes sense to analyse state financialisation as a process of diffusion. Innovation, in general, includes the element of invention and the diffusion or adoption of new products, services, or ideas (Rogers, 2003; Tufano, 2003, p. 311). While there is a large body of literature investigating the diffusion of financial innovations (see Akhavein, Frame and White, 2005; Molyneux and Shamroukh, 1996; Tufano, 2003), the analysis is restricted exclusively to financial institutions (e.g. banks or exchanges). In the present case, however, local government officials are pivotal in deciding which new type of loan is used by their respective municipal government. Therefore, we resort to another sub-branch of the literature on the diffusion of innovation – the literature on policy diffusion (see Berry and Berry, 1990; Gilardi, 2016; Graham, Shipan and Volden, 2013; Karch et al., 2016; Maggetti and Gilardi, 2016; Shipan and Volden, 2008).

Since a meta-analysis by Maggetti and Gilardi (2016) revealed a considerable lack of coherence in the respective literature in measuring the different mechanisms (the same indicators are used for different mechanisms and different indicators are used for the same mechanism), we refrain from claiming to test for a specific mechanism of diffusion, but rather use geographical proximity as a general indicator thereof (Monney, 2001; Shipan and Volden, 2008). It was popularised by Berry and Berry (1990), who argued that lottery adoptions have a higher probability in states where an immediate neighbour (i.e. a state with a common border) have already implemented a lottery. Some scholars argue that geographical proximity "can facilitate the development of communication networks through which policy-relevant information spreads" (Karch et al., 2016, p. 94; Monney, 2001). We assume that the same logic can be applied to the diffusion of financial innovations. In fact, there are various local authority associations in England, where the officials can network and exchange ideas (Rhodes, 2003, pp. 216-217). Not only do councillors and treasurers from different municipalities exchange ideas about the use of distinct financial instruments, but association meetings and conferences are also frequented and financed by bankers and others in the financial market to advertise the newest product (see Fastenrath, Orban and Trampusch, 2018; Hendrikse and Sidaway, 2014). Hence, we expect that information regarding the use of Lobo loans is likely to diffuse across regional communication networks. Accordingly, we expect local governments to use experiences from their closest neighbours to decide on their own policies.

H5: The likelihood that a local government will take out Lobo loans is positively related to the percentage of bordering municipalities that have used the same kind of loan.

4.4 Data and Method

4.4.1 Dependent Variable

For our dependent variable – the use of Lobo loans by local governments – we resorted to the Freedom of Information Act (2000) which enables private persons to request any information held by public authorities in the UK. Using Freedom of Information requests, data were collected for the total number of Lobo loans taken up by each local authority, the date the loans were signed, the loan principal, the initial interest rate and (if applicable) the step-up rate of the loans, as well as the name of the bank that sold the loan.[5] We gathered reliable information on the use of Lobo loans for all of the 353 local authorities. Since we run an event history analysis (EHA) with repeated events and time-varying covariates which requires each time period for an individual to appear as a separate observation, we collected the start and end times as well as event occurrence (binary) for each interval (see Allison, 2014, pp. 38-41).

4.4.2 Independent Variables

Concerning the effects of partisan politics, we collected data for the categorical variable *party in office*, denoting the party with a majority in the respective local council. It differentiates between "Labour Party", "Conservatives" and "Other", which contains Liberal Democrats, the Independent Party or no overall control in a local council. Data were collected using the British Local Election Database (2015).

The variable *public debt* was measured as the ratio of total debt to population size. To collect local level data on the levels of public debt, we purchased a dataset on capital expenditure and treasury management for all local governments in the UK (CIPFA). For the years from 2008 to 2014, we cross-checked the data with those provided by the Department for Communities and Local Government in the UK (DCLG) to enhance the general quality of the dataset.[6]

Data for *economic deprivation* were collected from the Economic Deprivation Index (EDI) made available by the DCLG, comprising the two elements of income and em-

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[5]Part of the data on the use of Lobo loans were collected by the UK public initiative "Debt Resistance" and was graciously given to us. The rest of the data were obtained using Freedom of Information Requests.

[6]Concise variable descriptions and descriptive statistics are shown in Table SM3.17 in the supplementary material.

ployment deprivation. We use the population-weighted average ranks of the EDI to improve comparability across units and time.[7].

To test our fourth hypothesis about the effect of financial sector, we calculated the variable *finance power* as the share of the gross value added (GVA) of the financial sector of the total GVA of the local economy using data from the Office for National Statistics (ONS), which are provided on a yearly basis for the period 1998 to 2014. The variable is a proxy for the relative importance of the financial sector for the individual local economy. The greater the proportion of financial sector GVA, the more important it is for the local economy relative to other sectors and the more valuable is the sector for incumbent politicians (through employment, taxes, etc.). For the interaction effect, a local governments' population size was measured as the logarithm of its total population in thousands of persons. Data were acquired from the ONS yearly population estimates.

To test hypothesis H5 we constructed a variable by counting the *number of bordering local governments* which had previously $(t-1)$ used Lobo loans in relation to the total number of neighbouring governments. Theoretically, row-standardisation makes sense since decision-makers on the local level have only limited resources and hence less capacities to monitor a larger number of other local governments (Weyland, 2006). Given their bounded rationality, we use row-standardisation to decrease the relative influence of each unit with an increasing number of neighbouring local governments (see Plümper and Neumayer, 2010). The neighbouring units were identified using polygon contiguities, i.e. by identifying polygons sharing boundary points as neighbours. The necessary shape files were collected from the UK Data Service Census Data Set (2011). As additional robustness checks we also identified second order contiguity neighbours and used inverse distance matrices with a cut-off at 80km.

4.4.3 Control Variables

We controlled for a number of variables that have been established in the literature of state financialisation and policy diffusion.

First, we introduced the *number of previous adoptions* as a control variable in every model. According to Beck, Katz and Tucker (1998, p. 1272), it makes sense to account for the number of previous adoptions when using repeated event models (see next section), since the events following the first adoption cannot be considered to be

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[7]While the previously discussed entanglement between public debt and economic deprivation also shows in the moderate correlation coefficient of 0.546 (see Tables SM3.21 and SM3.22 in the supplementary material), both variables still explain different parts of the variation in using Lobo loans (see the results of our event history analysis in Table 4.1)

independent of the former. This variable simply counts the number of previous event occurrences – i.e. the number each local government used Lobo loans up to the current year – in local governments.

Next, we controlled for the *type of local government*. The categorical variable differentiates between single-tier (unitary authorities, London boroughs and metropolitan boroughs) and two-tier authorities (shire districts). Since the different types share most responsibilities but differ in certain areas of providing public services, we include the distinction in the analysis to account for possible repercussions of type-specific effects.[8]

To control for the effect of election years we incorporated *year of election* in our analysis. The literature generally assumes that politicians try to appeal to their electorate by smoothing their portfolios before elections to give the illusion of economic gains (Benton and Smith, 2017; Franzese, 2002; Tufte, 1978). As the Lobo loans' teaser rates indicate a short-term reduction of interest payments in the very beginning, their use would be attractive to incumbent politicians, especially in election years. Hence, we controlled for *etelection year*, coded "1" if a local election was held in the given year and "0" if there was no election. Data were collected from the British Local Election Database (2015) and the Ministry of Housing, Communities & Local Government (2018).

4.4.4 Method

To analyse the use of Lobo loans over time we ran several models using EHA techniques. EHA focuses on the distribution of events over time and is widely used in the literature on the diffusion of innovation (Berry and Berry, 1990; Karch et al., 2016; Shipan and Volden, 2008), essentially estimating the "hazard-rate" of event occurrence (i.e. the probability that a local government is at risk of taking out a Lobo loan at time t). Since we do not have strong assumptions about the effects of time on the baseline hazard, we used Cox proportional hazard models with time-varying covariates instead of its parametric alternatives (Allison, 2014; Box-Steffensmeier and Jones, 2004).

Many local authorities repeatedly took up Lobo loans while others used the loans only once or twice. Since each loan adoption can be considered to be a deliberate decision (each loan adoption has to be discussed and agreed upon by the Council) rather

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[8]For a more in-depth description of local government organisation in England see section SM2.4 and Table SM3.23 in the supplementary material. In addition, the variable type might capture important dynamics of central government budget cuts. While all local governments are frequently hit by budget cuts which could increase the use of innovative financial instruments, the budgets of shire districts are mostly reduced at higher proportions.

than an automatic extension of existing contracts, subjects were not dropped from the risk set after the first event has occurred. Because the observations become clustered and hence statistically dependent when multiple events occur for the same subject, we calculated robust standard errors within the Andersen-Gill modelling framework (Andersen and Gill, 1982; Allison, 2014, p. 70). The Andersen-Gill model assumes events to be independent given variance-corrected errors and the correct specification of time-dependent covariates. Hence, all models use robust standard errors, clustered by local authority. We corrected for non-proportional hazards with the inclusion of time interactions for variables in violation of the proportional hazard assumption (Box-Steffensmeier and Jones, 2004; Licht, 2011). In addition to the inclusion of the number of previous adoptions as control variable (Beck, Katz and Tucker, 1998), the calculation of robust standard errors and the inclusion of time interactions, we also calculated conditional gap-time (PWP) models as suggested by Box-Steffensmeier and Zorn (2002). Last, we estimated different parametric models (Weibull, Gompertz, lognormal, log-logistic and exponential) and models with different variable operationalisations and specifications as robustness checks.[9]

Given the complex structure of English local governments, we excluded all county councils from our main analysis, because some of the covariates would not have been independent from each other (e.g. a county's population size comprises the population size of the shire districts within its boundaries). To account for the remaining differences between single- and two-tier local authorities, we included the type variable in each model, to control for the variation explained simply by differences in the local governments' structural setup.

4.5 Findings

4.5.1 Descriptive Statistics

We begin with a descriptive evaluation of our hypotheses. First, Figure 4.2a indicates that, as expected, Labour did indeed take out more Lobo loans compared to all other political parties. The biggest difference between Labour and Conservative can be observed in the early years of the diffusion process (2000-2002). Hence, Labour not only issued more loans in total but also started earlier, setting the trend for the local political parties that others followed. After 2007, the numbers are essentially indistinguishable

[9]See Table SM3.18 and Table SM3.19 in the supplementary material. Our results remain largely the same.
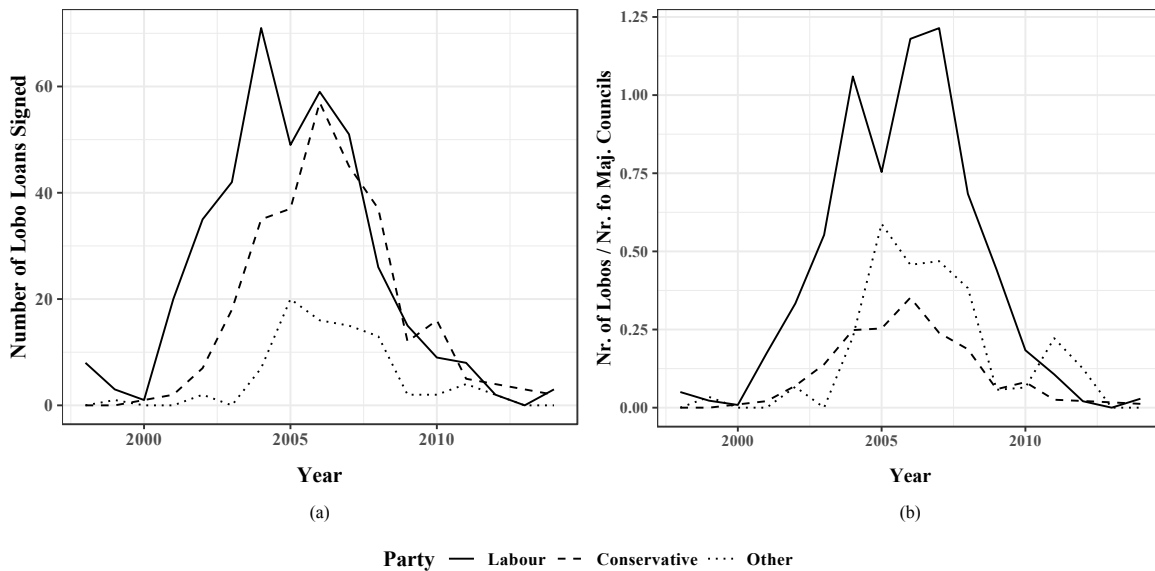
Figure 4.2: Number of Lobo loans signed by party in office (1998-2014)

(a) Total number of Lobo loans signed by party in office; (b) total number of Lobo loans signed by party in office divided by the total number of local governments where the party had the council majority. "Other" includes Liberal Democrats and Independent candidates.

for Labour and Conservative since adoption rates decreased at the same pace for both parties. Furthermore, Figure 4.2b shows that in relation to the total number of local governments where the respective party had a council majority (hence, where the party actually had the ability to take out loans), Labour issued significantly more than the Conservative Party.[10]

With respect to the process of the geographical diffusion of Lobo loans entered into by English local governments, Figure 4.3 shows the diffusion dynamics across space and time. It depicts the cumulative use of Lobo loans for all 335 local governments included in the analysis. In 1999 only 6 local governments signed Lobo loans, accounting for fewer than 2% of all English local authorities. However, the use of Lobo loans spread rapidly: in 2003, 67 (20%) and in 2007, 141 local authorities (42%) used them. By 2011 almost 50% of all local councils in England used the new financial product at least once. Next to the total proportion of adoptions, Figure 4.3 gives first insights relating to our hypothesis on the geographical diffusion of Lobo use. At first glance, several clusters of bordering local governments which used Lobo loans can be observed. They include the most northerly region around Northumberland and Newcastle upon Tyne, the western region around Liverpool and Manchester, and the area around London, as well as several smaller clusters across the whole country. Spatial regression techniques

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[10]Values > 1 appear since multiple loans could be taken up by a single local government in the course of one year. Councils with no overall majority are not included.
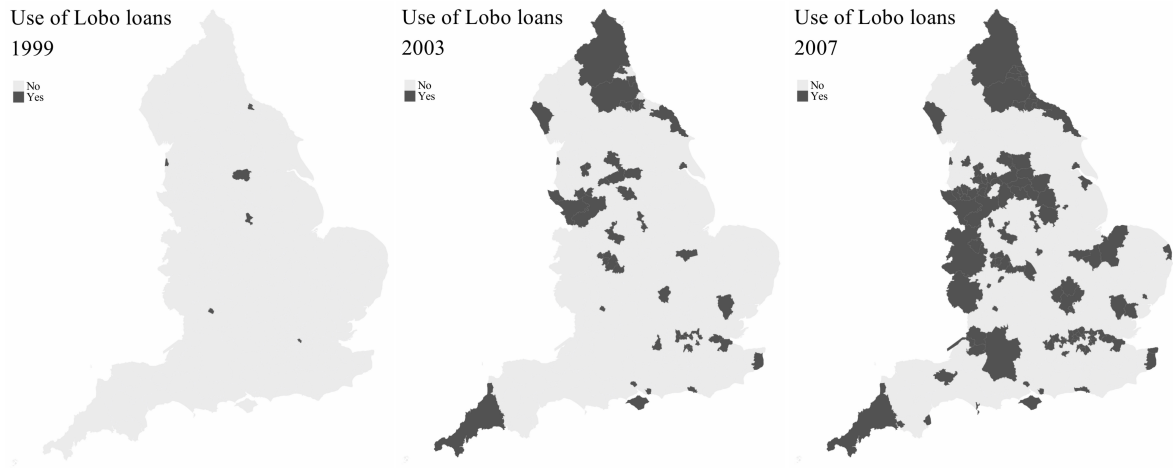
Figure 4.3: The geographical diffusion of Lobo loans across English municipalities (1999-2011)

in the subsequent chapter will show whether the observed establishment of clusters can legitimately be described by a process of diffusion.

4.6   Results and Discussion

Our statistical results are shown in Table 4.1. Considering hypothesis H1 assuming a positive relationship between the Labour party being in office in a local government and the use of Lobo loans, we can observe a positive and statistically significant association of the respective coefficient. Substantively, compared to local council with a Conservative majority (the reference group), a Labour majority increases the likelihood of the use of Lobo loans by 66% (Model 3). Supporting the descriptive evidence of the previous chapter, we find strong support for H1 on partisan politics and increasing levels of local government financialisation. Hence, partisanship does (still) matter for local governments' debt policies. Given the core expectation of partisan theory that different incumbent parties pursue different policies to cater to the interests of their constituencies (see Hibbs, 1977; Schmidt, 1996, we find that party differences do help to explain the use of financial innovations in English local governments. This notion is also supported by our interview evidence as a Labour councillor describes the notion that Lobo loans were predominantly taken up by the Labour party as "quite logical" given their need to finance infrastructure projects and the fact the Labour "is strong in industrial areas [like] Manchester [or] Birmingham" (INT_4).

Next, it has to be noted that with regard to the fiscal and economic stress hypotheses, both variables (public debt per capita and economic deprivation) violated

Table 4.1: Repeated event survival analysis (1998-2014)

	Model 1	Model 2	Model 3
Independent variables			
Party: Labour	—	0.535**	0.508**
		(0.212)	(0.212)
Party: Other	—	0.336*	0.301
		(0.194)	(0.194)
Public debt$_{t-1}$	—	−0.114***	−0.111***
		(0.040)	(0.040)
Public debt$_{t-1}$ * ln(t)	—	0.015***	0.015***
		(0.005)	(0.005)
Deprivation$_{t-1}$	—	0.146***	0.146***
		(0.043)	(0.042)
Deprivation$_{t-1}$ * ln(t)	—	−0.019***	−0.019***
		(0.006)	(0.005)
Finance power	—	−0.172	−4.543***
		(0.156)	(1.541)
Finance power * ln population	—	—	0.796***
			(0.279)
Neighbour	—	1.052***	1.142***
		(0.402)	(0.401)
Controls			
Number previous adoptions	0.286***	0.216***	0.208***
	(0.034)	(0.038)	(0.039)
ln population	0.452***	0.495***	−0.044
	(0.139)	(0.154)	(0.243)
Election year	−0.024	−0.070	−0.067
	(0.147)	(0.150)	(0.149)
Type of local government	−2.196***	−1.932***	−2.146***
	(0.257)	(0.282)	(0.289)
AIC	2646.819	2631.079	2627.145
Number of events	286	286	286
Number of observations	4211	4211	4211
PH test	0.227	0.716	0.605

Standard errors clustered by local authority in parentheses. Reference group for Party: Conservative.

Levels of significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

proportional hazard assumptions and had to be specified with log-time interactions (see Licht, 2011). Accordingly, the coefficients of the main effects reported in Table 4.1 show an incomplete picture and both effects were plotted in Figure 4.4 for post-estimation.

We can observe a highly significant association between public debt and the use derivatives in both Model 2 and Model 3. While the negative direction of the coefficient
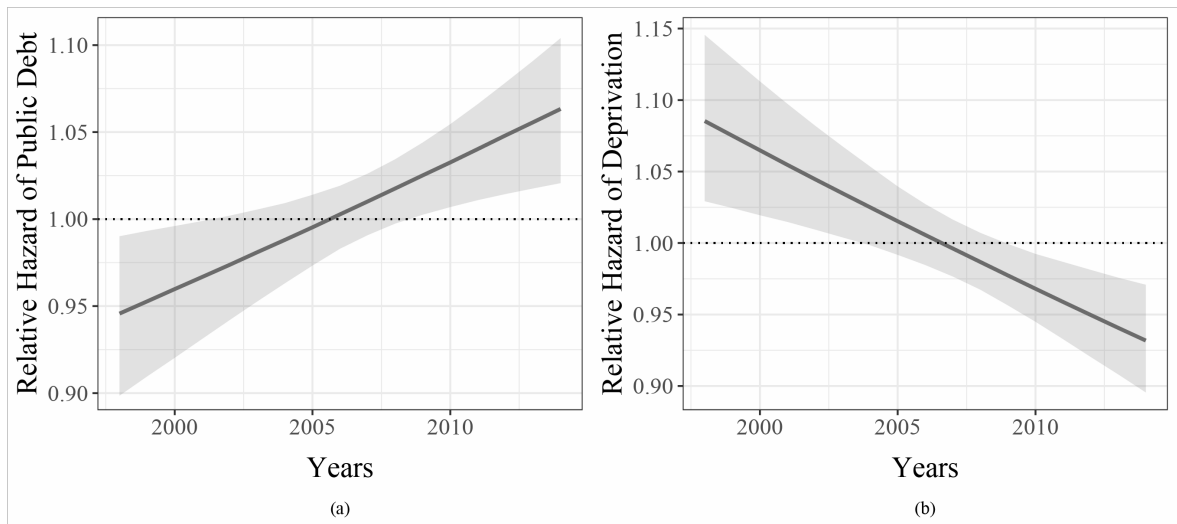
Figure 4.4: Simulated relative hazards for the effect of public debt and economic deprivation on the use of Lobo loans

(a) Simulated relative hazards for the effect of public debt on the time it takes to use Lobo loans; (b) Simulated relative hazards for the effect of economic deprivation on Lobo use over time. 95% confidence intervals in shaded grey.

in Table 1 seems to contradict our hypothesis, caused by the log-time interaction it only shows the effect for the year 1998. Looking at Figure 4.4a, it can be observed that the association between public debt and local government financialisation is only negative for the very early years of the diffusion process (1998-2000). Interestingly, the direction of the relationship changes over time and becomes significantly positive after 2007. One possible explanation could be differences in risk-seeking behaviour. While leaders of diffusion processes can be associated with more risk-prone behaviour, laggards may be more risk-averse (see Graham, Shipan and Volden, 2013, pp. 698-699; Walker, 1969). In the context at hand, local governments were potentially less focused on reducing high levels of public debt with more lucrative borrowing instruments, but rather sought to decrease their level of economic deprivation by making a risky move on the financial markets in order to obtain money to invest in public infrastructure projects.

In view of this interpretation, the coefficient of economic deprivation as reported in Table 1 and Figure 4.4b also makes sense. In contrast to public debt per capita, the association between economic deprivation and the use of derivatives is actually significantly positive in the early diffusion process (until 2004) and turns significantly negative after 2007. Hence, we find some supportive evidence for hypothesis H3 assuming a positive relationship between economic deprivation and the use of Lobo loans by local governments. However, the association is conditioned by time. As a consequence, it is important to account for the dynamic nature of the relationship between both fiscal

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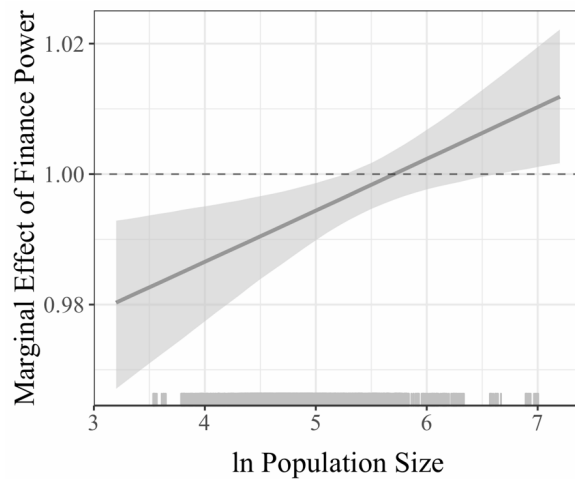
Figure 4.5: Simulated marginal effects of financial sector power on the use of Lobo loans

Marginal effects of financial sector power by population size (measured as the natural logarithm). 95% confidence intervals in shaded grey.

and economic stress with increasing levels of local government financialisation. While early adopter local authorities are more risk-prone and driven by economic motivations when they use Lobos, late adopters are more risk-averse and fiscally motivated.

Next, Table 4.1 shows the coefficients for the association between financial sector strength and the use of innovative borrowing instruments by local governments. In contrast to the positive relationship assumed in hypothesis H4a, the effect is actually negative and not statistically significant. However, given the fact that the interaction effect between financial sector power and the size of a local government (postulated in hypotheses H4b) is significant (see Model 3 in Table 4.1), the main effect cannot be meaningfully interpreted in isolation (Brambor, Clark and Golder, 2006; Braumoeller, 2004). Hence, we plot the marginal effect of finance power conditioned by population size in Figure 4.5. Given our assumptions expressed in hypothesis H4a (i.e. that a strong local financial sector increases the likelihood of using Lobo loans), the results are very surprising: the effect of local financial sector power is significantly negative for local governments with a population size $< 190,000$ and turns positive for very large councils with more than $\sim 570,000$ inhabitants. Hence, the effect has the opposite of the expected direction.

This conditional effect could be driven by different causal processes: first, contrasting our initial expectation, there could also be incentives for finance to lobby larger local governments more frequently since "[p]olicy making in the larger municipalities is less transparent" (Sørensen, 1998, p. 309) or because employment opportunities are more prestigious and reinforce the revolving-door phenomenon (Sbragia, 1986, pp.

319-319). Consequently, the effect of financial sector in smaller councils could actually be less pronounced compared to larger ones. Second, the global dimension of financialisation that was previously discussed might play a decisive role. Foreign banks might have intentionally targeted those local governments where the domestic financial industry was less present. Given the fact it were foreign banks who started selling Lobo loans to English municipalities in the late 1990s, the demand in issuing new Lobo loans might actually have been substantially decreased in those smaller councils when domestic banks started to participate in the market. Third and last, recent research by Trampusch (2019) suggests that finance uses different channels to drive the process of financialisation: next to the means of structural and instrumental power, state financialisation can also be increased by financial industry experts who are already part of the state apparatus. If this interpretation was correct, the interaction term (power∗size) would actually be less a proxy for the interaction between finance power and government size but for local governments' ability to hire financial experts from the local labour market – it is more difficult to attract professional financial experts from a well-developed local financial sector in small and medium sized local governments compared to larger ones which can offer higher salaries and better career opportunities in their treasury departments.

The neighbour variable (i.e. the ratio of contiguity neighbours who previously adopted Lobos to the total number of neighbours) was introduced in Model 2 and 3, respectively, to test our assumption on the relationship between external pressure and the use of Lobo loans. In line with our expectations, the effect is significantly positive. The coefficient of ~ 1.14 in Model 3 results in the interpretation that a one unit increase in the neighbour variable would increase the likelihood of using Lobo loans by 213%. While the effect seems to be rather large, it describes the case that all of the subject's neighbouring local governments previously used Lobo loans. In most cases (where only a small share of neighbours used Lobo loans) the effect is much smaller. Considering the differently specified spatial weights, (see Model 1 and 2 in Table SM3.20 in the supplementary material) the associations are still substantively positive but only significant at $p < 0.1$ (second order contiguity) or $p < 0.13$ (inverse distance). Hence, in line with our assumptions, local governments might actually only look to its closest (direct) neighbours and lack the capacities to monitor the borrowing behaviour of council that are farther away. In addition, the results of the PWP model (Model 3 in Table SM3.20) indicate that that the pressure exerted on local governments by its closest neighbours might only be relevant for the first adoption of Lobo loans but loses its significance for later adoptions. Nevertheless, we find some supportive evidence that geographic proximity and hence external pressure, might play an important

role in facilitating the spread of local government financialisation. This finding is also backed by our interviews. Smaller local authorities, in particular, compare each other with other local councils in their area (INT_6) and once a new financial instrument is used by these authorities and has been established, they tend to follow the trend (INT_1, 4, 6).

The coefficients of our control variables for all models are reported in the bottom half of Table 4.1. Several aspects are noteworthy. First, the coefficient for the number of previous adoptions is positive and statistically significant across all models. Next to the necessity of including the variable due to our choice of a statistical model (see Beck, Katz and Tucker, 1998), it can also be interpreted with substantive meaning: each loan contract that was previously signed by a local government increases the likelihood of taking up a new loan by 23%. This might be caused by the fact that having used this complicated borrowing instrument in the past might reduce the inhibition threshold to use it again. Next, population size is also significantly positively associated with Lobo use in Model 1 and Model 2. The change in direction of the coefficient in Model 3 is caused by the introduction of the interaction effect. In addition, a substantive difference can be observed between different types of local governments across all specified models. Shire districts are far less likely to use Lobo loans than are Metropolitan Districts, London Boroughs and Unitary Authorities. Contrary to expectations, the coefficient for election years is actually negative and not statistically significant. This might be caused by the fact that local governments in England adhere to different electoral cycles. Since Shire Districts hold council elections in 3 out of 4 years, the differences in electoral systems might be captured by the type variable. The negative direction of the effect could also be caused by the relative frequency of elections compared to other countries.

4.7   Conclusion

This article makes an original contribution to the growing literature on local government financialisation by analysing the use of long-term market loans with embedded derivatives for all local authorities of a country in its entirety over time. By transcending and expanding extant literature which so far has mainly produced results from within-case analyses, our approach increases the external validity of previously found relationships in single municipalities. Based on an extensively compiled panel dataset of all 353 local authorities in England, our event history analysis across cases identified the configuration of the local political economy and policy diffusion as important

drivers of the spread of financialisation among English local authorities. Our study deepens the understanding of the effects of internal and external influences of local state financialisation (effects of causes) and future studies should further investigate the causes of these effects, thus the underlying causal processes.

With respect to local political economy factors we find supportive evidence for the impact of a Labour majority in local councils on the propensity to adopt financial innovations. Given the core expectation of partisan theory that different incumbent parties pursue different policies to cater to the interests of their constituencies, we find that party differences do help to explain the use of financial innovations in English local governments. This result provides new insights to the existing literature on party ideology and economic and fiscal policy-making as well as the literature on local government financialisation, in general.

Moreover, our analysis reveals that the other internal factors discussed in the previous literature, such as the degree of fiscal stress, of economic deprivation or the strength of the local financial industry, are associated with increasing financialisation in a more complex way than previously assumed as these are moderated by other factors. In this sense, we were able to show that different temporal stages of the financialisation process affect the effects of local indebtedness and economic deprivation on this very process. While in the early phase (1998-2003) the probability of Lobo use correlates with a high degree of economic deprivation and a low degree of debt, the directions of both factors are reversed in the late phase of Lobo use (2007-2014). In addition, we find that financial sector power is moderated by the size of a local authority's population. While finance power decreases the likelihood of Lobo use for small to medium sized governments, the effect is positive for very large authorities. We propose that this unexpected conditional impact of local finance power can be driven by different processes: larger authorities being targeted more frequently by the financial industry, foreign banks mainly targeting local authorities with smaller domestic financial sector, or local authorities' ability to hire financial experts from the local financial market. To investigate these different processes, further research should systematically compare governments of different sizes, and more specifically with different institutional capacities of their local treasuries with regard to salary structures and human resource development. This avenue of research also indicates that financialisation studies need to consider the literature on public administration, administrative recruitment patterns and the role of professional training in public policy-making (e.g. Fourcarde, 2009; Campbell and Pedersen, 2014. In addition, an analysis explicitly differentiating between the role of domestic and foreign banks might provide interesting results.

While we illustrate the importance of the local political economy, we also want to highlight the relevance of external factors, i.e. the role of diffusion (Gilardi, 2016) for understanding financialisation of local governments as was suggested by previous case study research (Fastenrath, Orban and Trampusch, 2018; Hendrikse and Sidaway, 2014). Our results show that geographic proximity is highly relevant for the analysis of local borrowing through Lobo loans, which is supported by our interview material. The substantive and significant effect of geographic proximity as "catch-all" indicator for diffusion clearly demonstrates that diffusion does take place, however, further research is necessary to analyse which specific mechanism operates and how exactly it translates into the use of financial innovations by local governments.

Whereas our quantitative analysis identified several factors that contributed to the spread of financialised borrowing among English local governments (effects of causes), additional process tracing case study research is necessary to improve our understanding of the concrete causal mechanisms that help to understand how exactly these factors produce state financialisation in single cases (causes of effects). The conditional effects clearly point to variegated paths of state financialisation and varying motivations of local policy makers to financialise their borrowing depending on the timing of local politicians' motivations. Further advances could be made by more theoretical and empirical work on the (conditional) impact of the local financial sector on public debt policies by extending the scope of analysis to a larger sample of local governments from different countries.

We conclude with four remarks on the generalisability of our findings. First, with regard to partisan politics, it seems reasonable to assume that our results also apply in other countries. Although this should be taken with caution as the English case of New Labour is certainly to be regarded as special and not as the case of a classic social democratic party (as seen in the partisan politics literature), individual studies have already pointed to the crucial role of left political parties as being receptive to voters' demands for increasing revenues to expand public services (e.g. Boyne et al., 2012). Moreover, as the literature on European social democratic parties' rightward shift during the 1990s indicates, the ideological change of the Labour Party in England should by no means be treated as a singular phenomenon (see Allen 2009). Second, we suppose that the dynamic effects of fiscal and economic stress on local public finance are transferable to countries with more fiscally autonomous local governments, since such autonomy means that local governments are free to harness any form of financial innovation to reduce local problem pressures. While in unitary states like England the central government can have a significant influence on the fiscal position as well as on the financialisation of its local governments, in federal states there is less involvement

in local economic and fiscal affairs. Hence, we can expect that an increasing fiscal and economic pressure will lead those more autonomous local governments to use all available creative ways to produce leeway. Third, the conditional impact of finance power is certainly transferable to other countries, not only in England. Fourth, given that studies on policy diffusion focus almost exclusively on international diffusion (Jordana, Levi-Faur and Fernández I Marín, 2011; Levi-Faur, 2005) or federal political systems like the US (Berry and Berry, 1990; Shipan and Volden, 2008), Germany (Abel, 2019), or Switzerland (Füglister, 2012), we provide additional insights in illustrating how policies diffuse in a non-federal (unitary) political system.

SUPPLEMENTARY MATERIAL

SM1 Regulating the Audit Market in the European Union: Who Dominates, Who Loses?

SM1.1 Data Preparation

Table SM1.1: Cleansing process of interest group submissions

	N
Total submissions	837
Reasons for removal	
Cover letters	136
Duplicates	231
Unrelated	31
Not processable	37
Total removed	435
Final data set	402

Note: Some interest group submissions consisted of one document including the preferences to the Commission proposal as well as one separate cover letter with general, introductory remarks. The cover letters were removed from the text corpus used in the analysis. Duplicates mostly consisted of documents with identical answers by 212 German SMEs. Since the preferences are completely identical, the documents were aggregated to only one submission. Additionally, some documents had to be excluded

from the analysis since they were not directly related to the concrete policy proposals. Most of those submissions were journal articles by academics that did not relate to the questions at hand. Lastly, a small margin of documents was not processable (e.g. because of formatting errors).

SM1.2 Summary Statistics

Table SM1.2: Descriptive statistics

	N	Mean	St. Dev.	Min	Median	Max
Large firm	6,118	0.2	0.4	0	0	1
SME	6,118	0.18	0.38	0	0	1
Public authority	6,118	0.24	0.42	0	0	1
Other	6,118	0.39	0.49	0	0	1
Coalition size	6,118	0.35	0.24	0	0.27	1
Salience	6,118	0.41	0.3	0	0.33	1
Conflict	6,118	0.67	0.25	0	0.75	1
Number of responses	6,118	0.8	0.27	0	1	1
Information supply	6,116	0.05	0.06	0	0.04	1
EU-level	6,118	0.07	0.25	0	0	1

Table SM1.3: Correlation matrix of main variables

	Large firm	SME	Public authority	Other	Coalition size
Large firm	1	−0.23	−0.28	−0.40	0.14
SME	−0.23	1	−0.26	−0.37	−0.11
Public authority	−0.28	−0.26	1	−0.44	−0.02
Other	−0.40	−0.37	−0.44	1	−0.01
Coalition size	0.14	−0.11	−0.02	−0.01	1
Salience	0.06	−0.01	−0.03	−0.01	0.39
Conflict	−0.00	0.01	−0.02	0.01	−0.39
Responses	−0.08	−0.00	0.03	0.04	−0.19
Information supply	0.04	−0.12	0.00	0.06	0.01
EU-level	−0.07	−0.04	−0.09	0.16	−0.00

Table SM1.4: Correlation matrix of main variables (continued)

	Salience	Conflict	Responses	Information supply	EU-level
Large firm	0.06	−0.00	−0.08	0.04	−0.07
SME	−0.01	0.01	−0.00	−0.12	−0.04
Public authority	−0.03	−0.02	0.03	0.00	−0.09
Other	−0.01	0.01	0.04	0.06	0.16
Coalition size	0.39	−0.39	−0.19	0.01	−0.00
Salience	1	−0.22	−0.28	0.16	0.00
Conflict	−0.22	1	0.07	0.06	−0.00
Responses	−0.28	0.07	1	0.01	0.02
Information supply	0.16	0.06	0.01	1	0.05
EU-level	0.00	−0.00	0.02	0.05	1

Table SM1.5: Correlation of interest group attention across all issues

	Large firms	SMEs	Public authorities	Other
Large firms	1	0.66	0.60	0.91
SMEs	0.66	1	0.69	0.80
Public authorities	0.60	0.69	1	0.77
Other	0.91	0.80	0.77	1
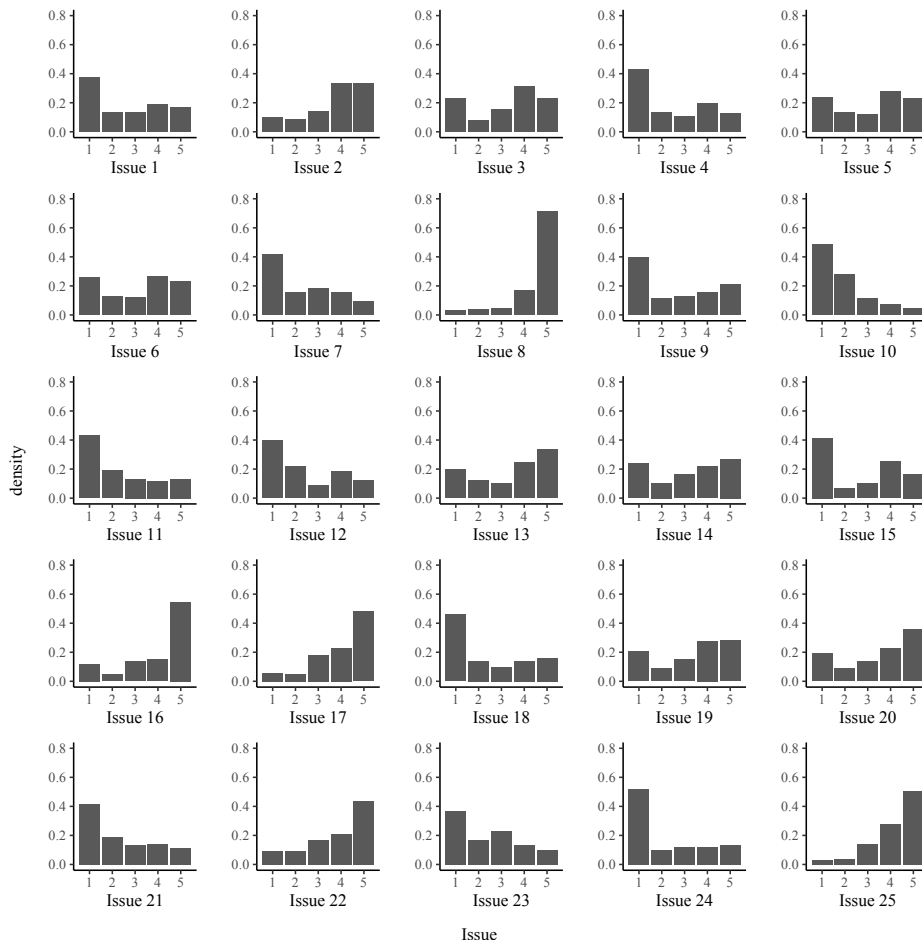
Figure SM1.1: Distribution of all actors' preferences by policy issue

Note: For a description of the content of each issue see Table SM1.6 in section SM1.3 in the supplementary material below.
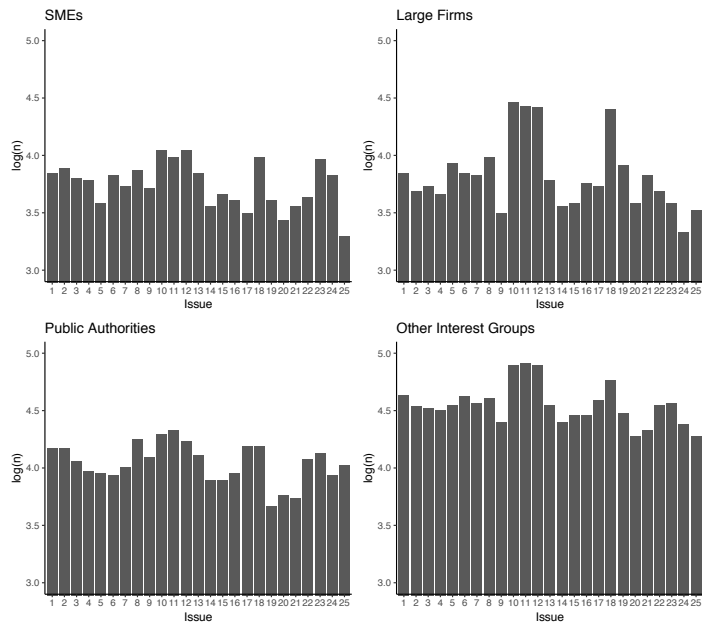
Figure SM1.2: Distribution of submissions by interest group type and issue

SM1.3   Issue Description

Table SM1.6: Issue characteristics of distinct issues in the EU Green Paper on audit market regulation

ID	Description	Question	Conflict[a]	Salience[b]
1	Financial Health	4	0.89	0.53
2	Expectation Gap	5	0.45	0.45
3	Professional Skepticism	6	0.77	0.38
4	Negative Qualifications	7	0.83	0.30
5	Adequate Dialogue	9	0.82	0.36
6	CSR Reporting	10	0.87	0.43
7	Communication with stakeholders	11	0.64	0.41
8	ISAs	13+14	0.00	0.60
9	ISA and SMEs	15	1.00	0.25
10	Appointment of auditor	16+17	0.22	1.00
11	Mandatory rotation	18+29	0.74	0.98
12	Prohibition of non-audit services	19	0.75	0.95
13	Maximum level of fees	20	0.87	0.46
14	Transparency	21	0.87	0.13
15	Alternative financing structures	23	0.98	0.19
16	Group Auditors	24	0.64	0.25
17	EU supervision	25+26	0.30	0.41
18	Joint-Audits and Audit Consortia	28	0.91	0.84
19	Big Four bias	30	0.80	0.25
20	Contingency plans, living wills	31	0.85	0.00
21	Reverse consolidation	32	0.70	0.13
22	European market	33+34	0.63	0.36
23	Limited audit for SMEs	35+37	0.61	0.46
24	Safe harbour for SMEs	36	0.85	0.16
25	Global co-operation	38	0.01	0.03

[a] Calculated with the standard deviation for each issue (standardised).

[b] Logarithm of number of actors responding to each issue (standardised).

Table SM1.7: Coding of success for each issue (main analysis)

Issue	Success 1.0	0.5	Description	Legislation
Issue 1	1	2	Dropped	x
Issue 2	4	3	Clarification of scope, but little information	Directive
Issue 3	4	3	Included but vague	Directive
Issue 4	1	2	Dropped	x
Issue 5	5	4	Completely included	Directive
Issue 6	1	2	Dropped	x
Issue 7	1	2	Dropped	x
Issue 8	4	3	Included, but still voluntary	Directive
Issue 9	1	2	Dropped	x
Issue 10	1	2	Dropped	x
Issue 11	4	3	Included, but very long time period that can be extended	Regulation
Issue 12	4	3	Some prohibitions but no total ban	Regulation
Issue 13	4	5	Maximum fee introduced, but it is rather high (70%)	Regulation
Issue 14	5	4	Completely Included	Regulation
Issue 15	1	2	Dropped	x
Issue 16	5	4	Completely Included	Directive
Issue 17	5	4	Completely Included	Regulation
Issue 18	1	2	Dropped	x
Issue 19	5	4	Completely Included	Directive
Issue 20	1	2	Dropped	x
Issue 21	1	2	Dropped	x
Issue 22	5	4	Completely Included	Directive
Issue 23	1	2	Dropped	x
Issue 24	1	2	Dropped	x
Issue 25	3	4	Some changes, but only minor	Regulation

SM1.4 Additional Analyses

Table SM1.8: Mixed-effect ordered logistic regression models (base group: public authorities)

	Model 1	Model 2	Model 3	Model 4
IG: Large firms	-0.22^{***}	-0.12	0.40^{***}	0.18
	(0.08)	(0.15)	(0.14)	(0.16)
IG: SME	-0.07	-0.37^{**}	-0.02	-0.28
	(0.08)	(0.15)	(0.14)	(0.18)
IG: Other	-0.11	-0.21^{*}	0.19	0.01
	(0.07)	(0.13)	(0.12)	(0.14)
Coalition size	5.79^{***}	5.57^{***}	5.99^{***}	5.32^{***}
	(0.18)	(0.29)	(0.18)	(0.30)
Salience	-2.10^{***}	-2.07^{***}	-1.44^{*}	-1.29^{*}
	(0.73)	(0.73)	(0.76)	(0.75)
Large firms x Coalition	—	-0.22	—	1.02^{**}
		(0.36)		(0.42)
SME x Coalition	—	1.00^{**}	—	1.14^{**}
		(0.42)		(0.45)
Other x Coalition	—	0.31	—	0.74^{**}
		(0.32)		(0.35)
Large firms x Salience	—	—	-1.59^{***}	-1.94^{***}
			(0.29)	(0.34)
SME x Salience	—	—	-0.11	-0.37
			(0.32)	(0.33)
Other x Salience	—	—	-0.82^{***}	-1.01^{***}
			(0.26)	(0.27)
Conflict	1.89^{**}	1.89^{**}	1.99^{**}	1.96^{**}
	(0.84)	(0.84)	(0.85)	(0.84)
Number of responses	-0.08	-0.10	-0.13	-0.13
	(0.11)	(0.11)	(0.11)	(0.11)
Information supply	-0.03	-0.03	-0.01	-0.02
	(0.44)	(0.44)	(0.45)	(0.45)
EU-level	0.09	0.10	0.11	0.12
	(0.11)	(0.11)	(0.11)	(0.11)
Constant	2.23^{***}	2.15^{***}	2.55^{***}	2.38^{***}
	(0.72)	(0.72)	(0.73)	(0.73)
Constant 2	3.20^{***}	3.12^{***}	3.53^{***}	3.35^{***}
	(0.72)	(0.72)	(0.73)	(0.73)
Log Likelihood	-5305.17	-5300.46	-5286.84	-5282.22
AIC	10636.33	10632.91	10605.69	10602.44
Observations	6116	6116	6116	6116
n IG	402	402	402	402
n Issues	25	25	25	25
Variance: ID: (Intercept)	0.00	0.00	0.00	0.00
Variance: issue: (Intercept)	0.95	0.95	0.97	0.96

IG = interest group; Levels of significance: $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table SM1.9: Mixed-effect ordered logistic regression models with alternative coding of success (base group: SME)

	Model 1	Model 2	Model 3	Model 4
IG: Large firms	−0.24***	0.16	0.65***	0.63***
	(0.09)	(0.16)	(0.15)	(0.17)
IG: Public authorities	0.05	0.32**	0.14	0.35**
	(0.08)	(0.15)	(0.14)	(0.17)
IG: Other	−0.07	0.15	0.37***	0.45***
	(0.07)	(0.14)	(0.13)	(0.16)
Coalition size	5.47***	6.24***	5.81***	6.13***
	(0.17)	(0.34)	(0.17)	(0.34)
Salience	−1.53***	−1.51***	−0.60	−0.64
	(0.52)	(0.51)	(0.57)	(0.57)
Large firms x Coalition	—	−1.18***	—	0.28
		(0.39)		(0.44)
Public authorities x Coalition	—	−0.91**	—	−0.84**
		(0.39)		(0.40)
Other x Coalition	—	−0.74**	—	−0.36
		(0.37)		(0.38)
Large firms x Salience	—	—	−2.28***	−2.59***
			(0.31)	(0.35)
Public authorities x Salience	—	—	−0.27	−0.11
			(0.30)	(0.31)
Other x Salience	—	—	−1.18***	−1.13***
			(0.28)	(0.29)
Conflict	0.92	0.91	1.06*	1.05*
	(0.59)	(0.59)	(0.61)	(0.61)
Number of responses	−0.04	−0.06	−0.12	−0.11
	(0.10)	(0.10)	(0.10)	(0.10)
Information supply	−0.47	−0.47	−0.43	−0.44
	(0.43)	(0.43)	(0.43)	(0.44)
EU-level	0.05	0.06	0.07	0.08
	(0.10)	(0.10)	(0.10)	(0.10)
Constant	1.36***	1.58***	1.85***	1.92***
	(0.52)	(0.52)	(0.54)	(0.54)
Constant 2	2.67***	2.89***	3.18***	3.25***
	(0.52)	(0.52)	(0.54)	(0.54)
Log Likelihood	-5691.84	-5686.87	-5654.75	-5649.45
AIC	11409.68	11405.75	11341.50	11336.90
Observations	6115	6115	6115	6115
n IG	402	402	402	402
n Issues	25	25	25	25
Variance: ID: (Intercept)	0.00	0.00	0.00	0.00
Variance: issue: (Intercept)	0.47	0.46	0.50	0.50

IG = interest group; Levels of significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table SM1.10: Main analysis with alternative statistical models (base group: SME)

	Model 1[a] (glme)	Model 2[b] (lme)	Model 3[c] (lme)
IG: Large firms	0.43**	0.09***	0.11***
	(0.19)	(0.03)	(0.03)
IG: Public authorities	0.27	0.06*	0.07**
	(0.19)	(0.03)	(0.03)
IG: Other	0.27	0.06**	0.08***
	(0.17)	(0.03)	(0.03)
Coalition size	4.70***	1.04***	1.10***
	(0.38)	(0.06)	(0.06)
Salience	−1.18*	−0.21*	−0.15
	(0.66)	(0.12)	(0.09)
Large firms x Coalition	−0.64	−0.05	−0.01
	(0.50)	(0.08)	(0.08)
Public authorities x Coalition	−1.27***	−0.19**	−0.17**
	(0.46)	(0.08)	(0.07)
Other x Coalition	−0.60	−0.07	−0.08
	(0.43)	(0.07)	(0.07)
Large firms x Salience	−1.02***	−0.26***	−0.37***
	(0.39)	(0.06)	(0.06)
Public authorities x Salience	0.66*	0.03	−0.00
	(0.34)	(0.06)	(0.05)
Other x Salience	−0.37	−0.12**	−0.17***
	(0.32)	(0.05)	(0.05)
Conflict	1.02	0.23*	0.08
	(0.71)	(0.13)	(0.10)
Number of responses	−0.06	−0.04*	−0.03
	(0.11)	(0.02)	(0.02)
Information supply	0.31	−0.07	−0.10
	(0.47)	(0.08)	(0.08)
EU-level	0.09	0.02	0.01
	(0.11)	(0.02)	(0.02)
Constant	−1.74***	0.04	0.12
	(0.63)	(0.11)	(0.09)
Log Likelihood	-3688.34	-2971.87	-2659.52
AIC	7412.69	5981.74	5357.05
Observations	6116	6116	6115
n IG	402	402	402
n Issues	25	25	25
Variance (Interest group)	0.00	0.00	0.00
Variance (Issue)	0.69	0.02	0.01
Variance (Residual)	—	0.15	0.14

IG = interest group; Levels of significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

[a] Generalised linear mixed-effects model. Coding of success: 1 = previously 1 or 0.5, 0 = previously 0.

[b] Linear mixed-effects model. Original coding of success (see discussion in paper).

[c] Linear mixed-effects model. Alternative coding of success (see discussion in paper).

SM2   United in Disagreement: Analysing Policy Networks in EU Policy-Making

SM2.1   Model Diagnostics
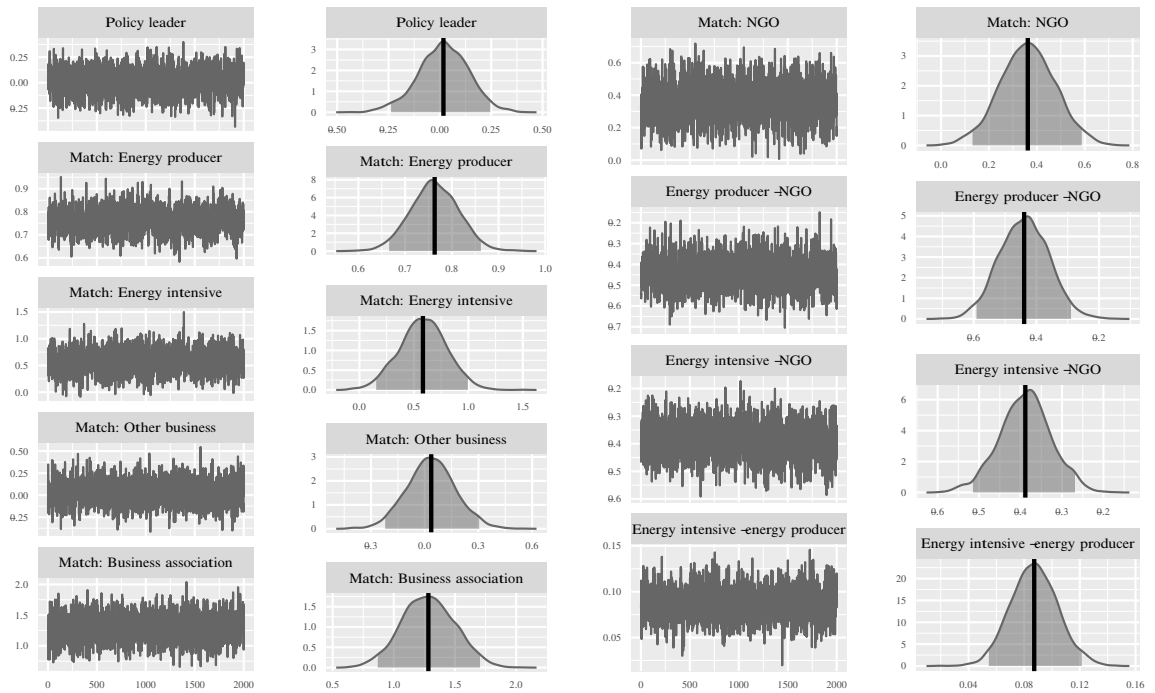
Figure SM2.3: Trace plots for AME Model 1 on issues with low potential for inter-group conflict shown in Table 3.1.
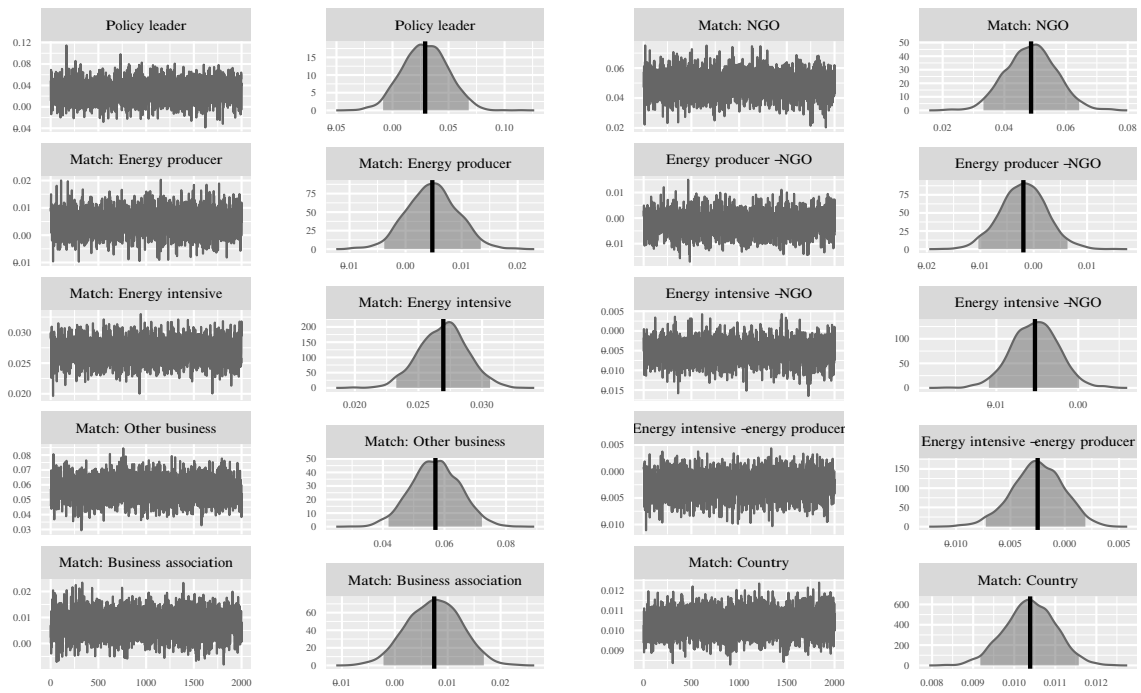
Figure SM2.4: Trace plots for AME Model 2 on issues with low potential for inter-group conflict shown in Table 3.1.
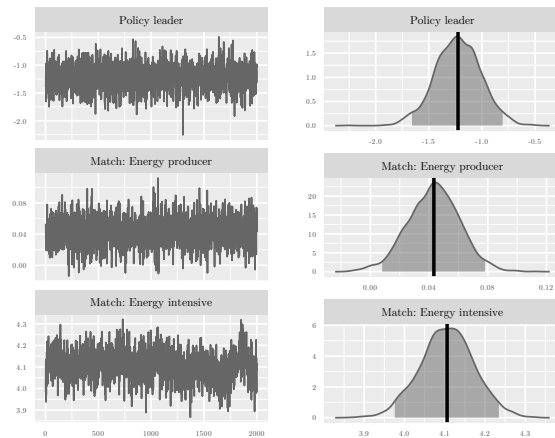
Figure SM2.5: Trace plots for AME Model 3 on issues with low potential for inter-group conflict shown in Table 3.1.
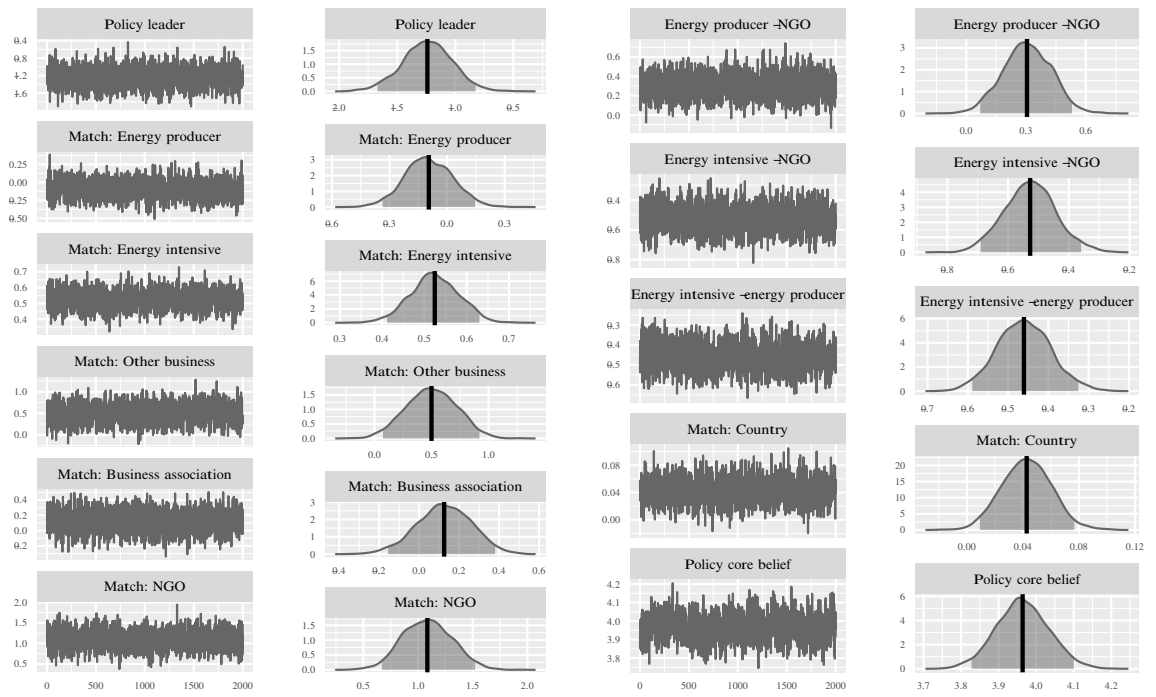
Figure SM2.6: Trace plots for AME Model 4 on issues with low potential for inter-group conflict shown in Table 3.1.
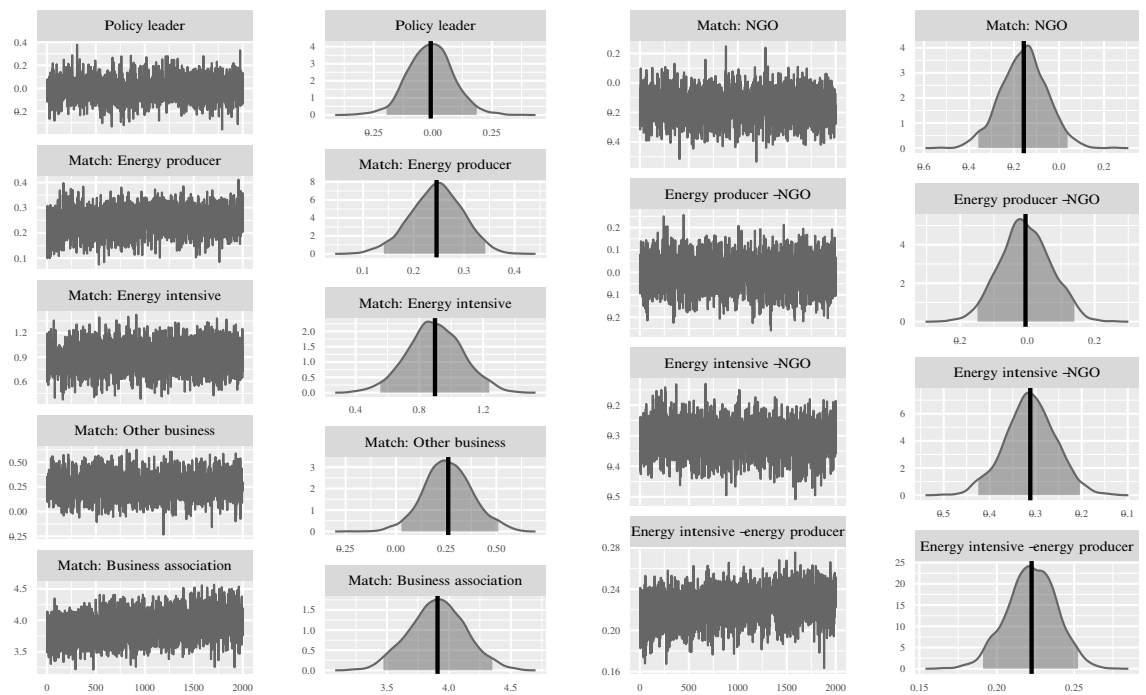
Figure SM2.7: Trace plots for AME Model 1 on issues with high potential for inter-group conflict shown in Table 3.2.
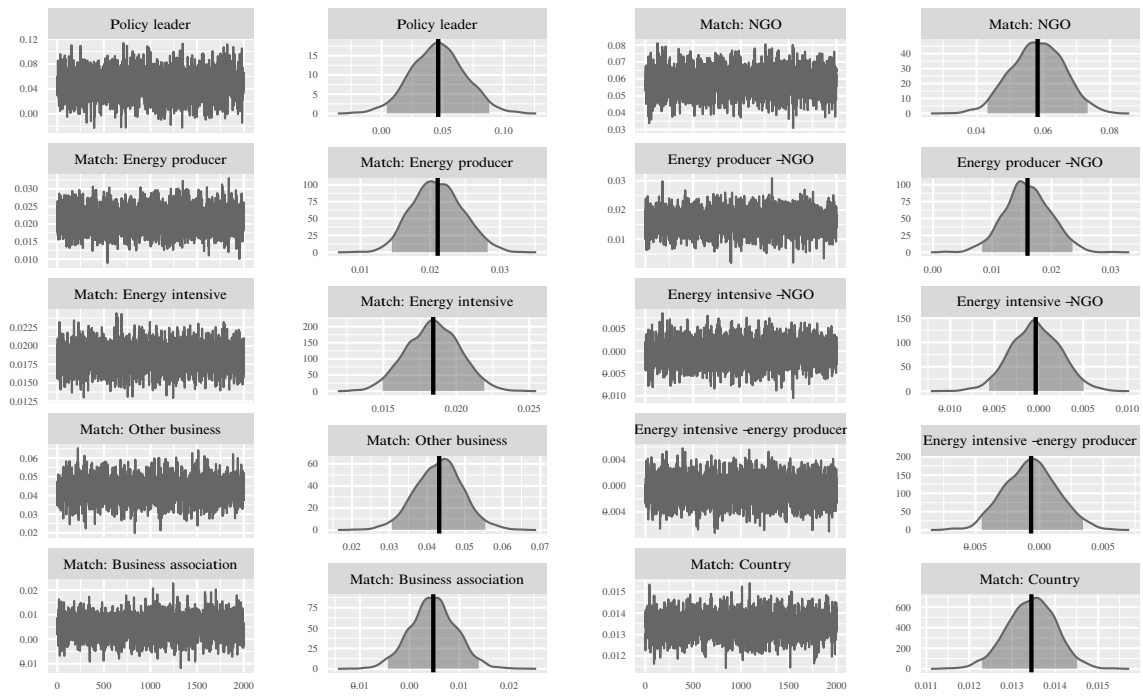
Figure SM2.8: Trace plots for AME Model 2 on issues with high potential for inter-group conflict shown in Table 3.2.
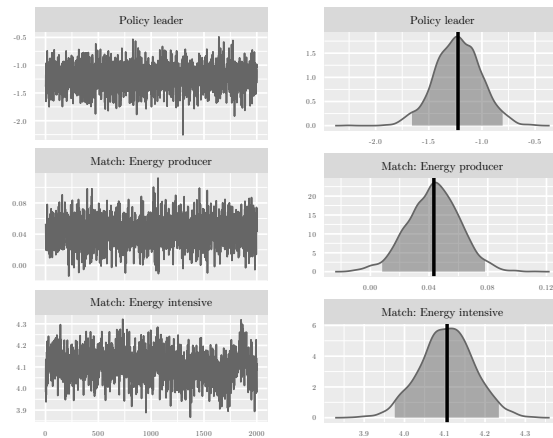
Figure SM2.9: Trace plots for AME Model 3 on issues with high potential for inter-group conflict shown in Table 3.2.
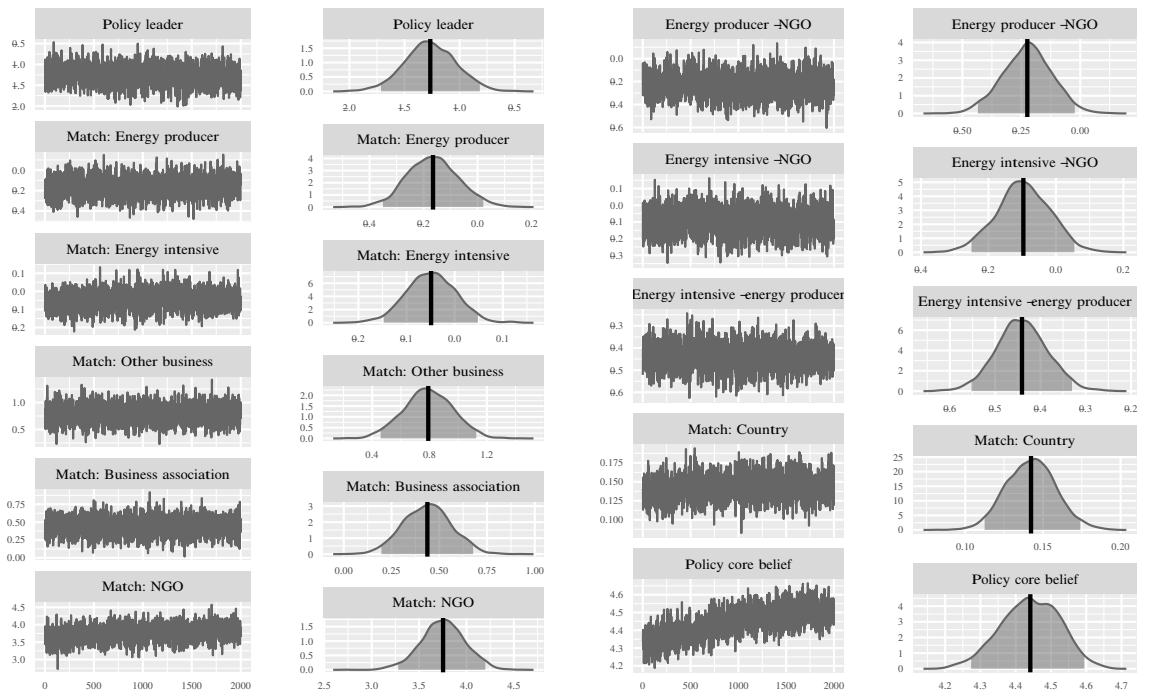
Figure SM2.10: Trace plots for AME Model 4 on issues with high potential for inter-group conflict shown in Table 3.2.

SM2.2 Model Specifications

The models used in our analysis (see Tables 3.1 and 3.2 in chapter 3) are specified in equations 5-8. They correspond to models 1-4 for both issues with low and high levels of inter-group conflict potential shown in the main analysis. In logical order, equation 5 describes model 1, equation 6 model 2, equation 7 model 3 and equation 8 model 4.

$$
\begin{aligned}
y_{ij} = \ & \beta_d type\_combination_{i,j} + \beta_d country_{i,j} + \beta_n leader_i + \\
& a_i + a_j + \mathbf{u}_i^T \wedge \mathbf{v}_j + \epsilon_{ij}
\end{aligned}
\tag{5.1}
$$

$$
\begin{aligned}
belief_{ij} = \ & \beta_d type\_combination_{i,j} + \beta_d country_{i,j} + \beta_n leader_i + \\
& a_i + a_j + \mathbf{u}_i^T \wedge \mathbf{v}_j + \epsilon_{ij}
\end{aligned}
\tag{5.2}
$$

$$
\begin{aligned}
y_{ij} = \ & \beta_d belief_{i,j} + \beta_d country_{i,j} + \beta_n leader_i + \\
& a_i + a_j + \mathbf{u}_i^T \wedge \mathbf{v}_j + \epsilon_{ij}
\end{aligned}
\tag{5.3}
$$

$$
\begin{aligned}
y_{ij} = \ & \beta_d type\_combination_{i,j} + \beta_d belief_{i,j} + \beta_d country_{i,j} + \\
& \beta_n leader_i + a_i + a_j + \mathbf{u}_i^T \wedge \mathbf{v}_j + \epsilon_{ij}
\end{aligned}
\tag{5.4}
$$

SM2.3   Survey Content

Table SM2.11: Exemplary responses by three actors to the question: "Do you think that the EU ETS helps the EU industry to become more energy efficient, and thus contributes to increasing the competitiveness of European industry in the long-term?"

Actor	Preference	Explanation
AB SANDVIK MATERIALS TECHNOLOGY	No	"The EU ETS is an extremely laborious system which was intended to be a market system, but is changed by EU and governmental authorities, leaving companies with high energy costs and plans for reduction of production to meet EU emission targets. This decreases the competiveness of the Swedish steel industry and the steel industry in Europe as a whole. The steel industry is energy intensive and constantly works to reduce energy use. Plants reducing iron ore are not given time to develop CO_2-neutral technology and even plants which use best available technology face danger of losing competitiveness on the world market. If adding the insecurity of electricity supply within Europe in the future, the conditions for development and investment in the steel industry in Europe are very unfavorable. Energy efficiency is a continuous work within energy intensive industry."
STATOIL ASA	Yes	"A market based instrument as the EU ETS is considered the most cost efficient tool to reduce CO_2 emissions. It is crucial to avoid overlapping and double regulation that undermines this mechanism. By improving its energy efficiency European industry becomes more cost efficient and better prepared to manage even stricter climate regulations in the future."
GREENPEACE EUROPEAN UNIT	Yes	"In principle the ETS can (complementary to an energy savings target and policies) help energy efficiency and increase competitiveness. However, due to a large surplus of emissions allowances, the CO_2 price in the ETS has been too low to give a meaningful incentive to investors. The surplus was created by the large inflow of international credits (JI, CDM) and reduced industrial output as a result of the economic downturn. The 2014 Thomson Reuters Point Carbon Survey shows that 40% of the respondents perceive that the ETS hasn't caused their company to reduce any emissions. Moreover, generous free allocation (without investment conditions attached) has prevented a clear incentive for more energy efficiency. 97% of industrial emissions qualify for the carbon leakage criteria due to imprecise selection criteria and the use of a €30 carbon price assumption. Furthermore, some of the sectors included in the carbon leakage list have passed on their carbon costs to consumers (CE Delft, 2010)."

Table SM2.12: Survey questions and policy type classification

No.	Question	Conflict Potential
Q1	Do you think that EU industry is able to further reduce greenhouse gas emissions towards 2020 and beyond, without reducing industrial production in the EU?	Low
Q2	Do you think that the EU ETS helps the EU industry to become more energy efficient, and thus contributes to increasing the competitiveness of European industry in the long-term?	Low
Q3	Do you think the EU needs to provide special (transitional) measures to support EU industry covered by the EU ETS, in order to address potential competitiveness disadvantages vis-à-vis third countries with less ambitious climate policy?	Low
Q4	In your view, how adequate a policy instrument is free allocation and, in particular, increased free allocation for certain industrial sectors to address the risk of carbon leakage?	High
Q5	In your view, how does free allocation impact the incentives to innovate for reducing emissions?	High
Q6	In your view, is the administrative burden for companies to ensure the free allocation via the implementation of the benchmarking provisions proportionate to the objectives?	Low
Q7	What share of the post-2020 allowance budget should be dedicated to carbon leakage and competitiveness purposes?	High
Q8	Currently the European Commission implements the NER300 programme to provide from EU ETS specific support for large-scale demonstration of Carbon Capture Storage (CCS) projects and innovative renewable energy. 300 million allowances, representing ca. 2% of total phase 3 allowances, are dedicated for this purpose. What share of the post-2020 allowance budget should be dedicated to such innovation support?	Excluded
Q9	At the moment, EU ETS rules do not contain a specific support scheme for industrial innovation and deployment of new low-carbon technologies (apart from support for CCS and renewables under the NER300). Do you think there should be such a financial support scheme?	Excluded
Q10	If innovative low carbon technologies in the industry are to be further supported, which could be possible sources of funding?	Excluded
Q11	In your view, is there a need for additional measures beyond free allocation and EU-level innovation support to address the risk of carbon leakage for energy intensive sectors covered by the EU ETS, post-2020?	High
Q12	Currently there are two categories for sectors in terms of exposure to the risk of carbon leakage: sectors are either deemed to be exposed to such risk (the sectors on the carbon leakage list) or not (sectors not on the carbon leakage list). Should the system continue with two carbon leakage exposure groups or is some further differentiation needed?	High
Q13	Under the current system, exposure of sectors to the risk of carbon leakage is primarily measured by the share of 'carbon costs' in their gross value added (GVA) and by the intensity of trade with third countries. What carbon leakage criteria should be defined for the post-2020 period?	High

Table SM2.13: Survey questions and policy type classification (continued)

No.	Question	Conflict Potential
Q14	What thresholds should be defined for the criteria measuring the risk of carbon leakage?	High
Q15	In the current system, there is a possibility to assess the exposure of sectors to the risk of carbon leakage also based on qualitative criteria (abatement potential, market characteristics and profit margins). Do you think that similar qualitative criteria should be maintained to complement the quantitative criteria?	High
Q16	Currently, the list of sectors exposed to the risk of carbon leakage is valid for five years. What should be the validity of the list for the post-2020?	Low
Q17	Currently benchmarks are set to the average greenhouse gas emission performance of the 10% best performing installations in the EU for a given product. What adaptations of benchmarks for 2021 onward should be considered, if any?	High
Q18	Should the benchmarks be revised to reflect the technological state of the art?	High
Q19	Currently, historical production data are used to determine the allocation due to each installation. Operators had the possibility to choose between 2005-2008 or 2009-2010 as basis years. Should the production data used to calculate allocations in Phase 4 (post 2020) be updated?	Excluded
Q20	Is there a case for any deviations from general harmonised allocation rules, and what would be the risks involved?	High
Q21	Should there be a harmonised EU-wide compensation scheme for indirect costs, i.e. for increases in electricity costs resulting from the ETS?	High
Q22a	In your view, at which stage of the innovation process is there a particular need to strengthen the EU's innovation support?: a) to implement a small-scale prototype	Low
Q22b	In your view, at which stage of the innovation process is there a particular need to strengthen the EU's innovation support?: b) at the conception stage	Low
Q22c	In your view, at which stage of the innovation process is there a particular need to strengthen the EU's innovation support?: c) to implement a large-scale pilot	Low
Q22d	In your view, at which stage of the innovation process is there a particular need to strengthen the EU's innovation support?: d) at the commercialisation stage	Low
Q23	Should the allowances funding low-carbon innovation support come from the Member States' auction budgets or from free allocation?	Low

SM2.4   Robustness Checks

Table SM2.14: AME results for ally networks on policies with low potential for inter-group conflict excluding all respondents with identical submissions (standard errors in parentheses)

	Model 1	Model 2	Model 3	Model 4
Nodematch				
Business: energy intensive	0.645***	0.016***	—	0.510***
	(0.051)	(0.002)		(0.056)
Business: energy producer	−0.019	0.003	—	−0.083
	(0.123)	(0.005)		(0.121)
Business: other	0.567**	0.052***	—	0.525*
	(0.213)	(0.008)		(0.218)
Business association	0.094	0.018***	—	0.140
	(0.135)	(0.005)		(0.136)
NGO	1.251***	0.045***	—	1.090***
	(0.219)	(0.008)		(0.227)
Nodemix				
Business: energy producer — NGO	0.333**	0.001	—	0.284*
	(0.115)	(0.004)		(0.118)
Business: energy intensive — NGO	−0.346***	−0.012***	—	−0.422***
	(0.082)	(0.003)		(0.083)
Business: energy producer — business: energy intensive	−0.303***	0.000	—	−0.373***
	(0.063)	(0.002)		(0.066)
Mediator				
Belief	—	—	2.585***	2.507***
			(0.071)	(0.073)
Controls				
Country	0.071***	0.012***	0.047**	0.042*
	(0.019)	(0.001)	(0.019)	(0.018)
Policy leader	−0.300	0.046*	−0.769***	−0.826***
	(0.160)	(0.019)	(0.184)	(0.180)
Intercept	—	0.339***	—	—
		(0.014)		
N_{issues}	7	7	7	7
N_{actors}	308	308	308	308

Levels of significance: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

Table SM2.15: AME results for ally networks on policies with high potential for inter-group conflict excluding all respondents with identical submissions (standard errors in parentheses)

	Model 1	Model 2	Model 3	Model 4
Nodematch				
Business: energy intensive	0.156**	0.024***	—	0.026
	(0.052)	(0.002)		(0.052)
Business: energy producer	−0.048	0.014**	—	−0.097
	(0.102)	(0.004)		(0.100)
Business: other	0.849***	0.040***	—	0.794***
	(0.171)	(0.007)		(0.164)
Business association	0.305*	−0.011*	—	0.367**
	(0.120)	(0.005)		(0.121)
NGO	3.833***	0.057***	—	3.670***
	(0.226)	(0.008)		(0.222)
Nodemix				
Business: energy producer — NGO	−0.233*	0.015**	—	−0.281**
	(0.106)	(0.004)		(0.107)
Business: energy intensive — NGO	−0.001	0.000	—	−0.011
	(0.078)	(0.003)		(0.080)
Business: energy producer —	−0.339***	−0.002	—	−0.392***
business: energy intensive	(0.057)	(0.002)		(0.058)
Mediator				
Belief	—	—	2.814***	2.771***
			(0.061)	(0.066)
Controls				
Country	0.217***	0.012***	0.167***	0.164***
	(0.017)	(0.001)	(0.017)	(0.017)
Policy leader	−0.238	0.049*	−0.766***	−0.751***
	(0.174)	(0.020)	(0.205)	(0.203)
Intercept	—	0.331***	—	—
		(0.014)		
N_{issues}	12	12	12	12
N_{actors}	322	322	322	322

Levels of significance: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

Table SM2.16: AME results for ally networks using Smith-Waterman alignment scores (standard errors in parentheses)

	Low conflict potential		High conflict potential	
	Model 2	Model 4	Model 2	Model 4
Nodematch				
Business: energy intensive	13.989***	0.698***	14.149***	0.189**
	(1.815)	(0.054)	(2.113)	(0.055)
Business: energy producer	8.182	0.082	21.982**	0.011
	(5.481)	(0.133)	(7.120)	(0.107)
Business: other	83.831***	0.700***	81.212***	0.858***
	(10.735)	(0.219)	(14.031)	(0.176)
Business association	16.707*	0.090	22.695*	0.434**
	(6.627)	(0.139)	(11.050)	(0.127)
NGO	9.042	1.429***	56.847***	4.231***
	(10.660)	(0.229)	(16.271)	(0.226)
Nodemix				
Business: energy producer — NGO	3.516	0.464***	12.808	−0.084
	(5.458)	(0.126)	(7.523)	(0.111)
Business: energy intensive — NGO	−3.639	−0.486***	−7.963*	0.009
	3.144	(0.085)	(4.042)	(0.083)
Business: energy producer —	−3.822	−0.379***	−6.852*	−0.444***
business: energy intensive	(2.446)	(0.069)	(2.845)	(0.062)
Mediator				
Belief	—	0.002***	—	0.002***
		(0.000)		(0.000)
Controls				
Country	8.493***	0.060***	24.163***	0.167***
	(0.849)	(0.018)	(1.405)	(0.017)
Policy leader	−0.054	−0.417*	−0.983	−0.268
	(2.028)	(0.167)	(2.201)	(0.181)
Intercept	−7.127***	—	−8.875***	—
	1.804		(1.938)	
N_{issues}	7	7	12	12
N_{actors}	328	328	331	331

Levels of significance: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

SM2.5   Statistical Software

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SM3 The Political Economy of Local Government Financialisation and the Role of Policy Diffusion

SM3.1 Descriptive Statistics

Table SM3.17: Variable descriptions and descriptive statistics

Variable	Description	Mean	St. Dev.
Lobo use (total)[a]	Variable coded = 1 if local government used Lobo loans (constant across time). Set = 0 if no Lobos were used.	0.395	0.489
Lobo use (year)[a]	Dependent variable set = 1 if a Lobo was taken out. (per year). Set = 0 if no Lobos were used.	0.071	0.256
Party: Conservatives[b]	Categorical variable of party in office per year.	0.499	0.490
Party: Labour[b]	Categorical variable of party in office per year.	0.246	0.431
Party: Other[b]	Categorical variable of party in office per year. Including Liberal Democrats, Independent and No overall control.	0.069	0.255
Finance Power[c]	Relation of gross value added (GVA) of the financial sector to the total GVA of a local authority per year.	0.435	0.436
Neighbour$_{t-1}$[a,c]	Relation of contiguity neighbours of the observation who previously used Lobos to the total number of neighbours (calculation of queen-style contiguities).	0.046	0.101
Public debt $_{t-1}$[d]	Total debt per year. Lagged for $_{t-1}$.	5.422	6.953
Deprivation $_{t-1}$[f]	Economic deprivation score. Lagged for $_{t-1}$.	1.633	0.938
Previous adoptions[a]	Number of previous adoptions.	0.621	1.373
Year of election $_{t-1}$[b]	Coded = 1 if an election was held in the given year. Coded = 0 if no election was held.	0.438	0.496
ln population[c]	Logarithm of local authority population (in 100,000s) per year.	4.893	0.530
Type [e]	Categorical variable of type of local authority in each year (rare changes due to conversion to other type).	0.632	0.482

[a] Constructed by the authors using data from Freedom of Information Requests.
[b] Constructed using data from the British Local Election Database (2015).
[c] Constructed by authors using data from the Office for National Statistics.
[d] Constructed using data purchased by CIPFA (2018) and acquired from the DCLG (2018).
[e] Constructed using data by UK government (2018).
[f] Constructed using data from the Economic Deprivation Index (EDI) published by MHCL (2018).

SM3.2 Additional Models

Table SM3.18: Repeated event survival analysis (alt. specifications for party variable)

	Model 1	Model 2	Model 3	Model 4
Independent variables				
Party: Labour	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.01)	(0.01)
Party: Conservative	−0.01*	−0.01	−0.01	−0.01
	(0.00)	(0.00)	(0.01)	(0.01)
Public debt$_{t-1}$	−0.11***	−0.11***	−0.11***	−0.11***
	(0.04)	(0.04)	(0.04)	(0.04)
Public debt$_{t-1}$ * ln(t)	0.01***	0.01***	0.02***	0.01***
	(0.01)	(0.01)	(0.01)	(0.01)
Deprivation$_{t-1}$	0.15***	0.15***	0.14***	0.15***
	(0.04)	(0.04)	(0.04)	(0.04)
Deprivation$_{t-1}$ * ln(t)	−0.02***	−0.02***	−0.02***	−0.02***
	(0.01)	(0.01)	(0.01)	(0.01)
Finance power	−0.14	−4.93***	−0.16	−4.37***
	(0.15)	(1.57)	(0.16)	(1.60)
Finance power * ln population	—	0.87***	—	0.76***
		(0.28)		(0.29)
Neighbour	0.97**	1.09***	1.02**	1.10***
	(0.41)	(0.41)	(0.41)	(0.41)
Controls				
Number previous adoptions	0.22***	0.21***	0.22***	0.21***
	(0.04)	(0.04)	(0.04)	(0.04)
ln population	0.49***	−0.10	0.39**	−0.11
	(0.16)	(0.24)	(0.18)	(0.25)
Election year	−0.10	−0.10	−0.11	−0.11
	(0.15)	(0.15)	(0.15)	(0.15)
Type of local government	−1.96***	−2.18***	−2.03***	−2.23***
	(0.29)	(0.29)	(0.28)	(0.29)
AIC	2626.30	2621.40	2628.67	2625.27
Number of events	286	286	286	286
Number of observations	4211	4211	4211	4211
PH test	0.61	0.51	0.55	0.45

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$ Standard errors clustered by local authority in parentheses.

Operationalisation of party variable in Model 1 and 2: Relative share of council seats per party in per cent.

Operationalisation of party variable in Model 3 and 4: Absolute number of council seats per party.

	Weibull	loglogistic	exponential	lognormal	Gompertz
Independent variables					
Party: Labour	0.36**	0.28**	0.29**	0.31**	0.32**
	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
Party: Other	0.44***	0.40**	0.38**	0.41**	0.40**
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Public debt$_{t-1}$	−0.14***	−0.14***	−0.12***	−0.14***	−0.12***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Public debt$_{t-1}$ * ln(t)	0.02***	0.02***	0.02***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Deprivation$_{t-1}$	0.06***	0.07***	0.06***	0.07***	0.06***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Deprivation$_{t-1}$ * ln(t)	−0.01***	−0.01***	−0.01***	−0.01***	−0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Finance power	−5.17***	−4.00**	−4.83***	−4.51**	−5.00**
	(1.76)	(1.81)	(1.75)	(1.79)	(1.79)
Finance power * ln population	0.89***	0.67**	0.84***	0.77**	0.87**
	(0.32)	(0.33)	(0.32)	(0.32)	(0.32)
Neighbour	3.26***	3.46***	2.63***	3.32***	2.71***
	(0.35)	(0.37)	(0.34)	(0.36)	(0.36)
Controls					
Number previous adoptions	0.42***	0.41***	0.32***	0.41***	0.39***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ln population	−0.09	0.03	−0.12	−0.03	−0.12
	(0.24)	(0.25)	(0.25)	(0.25)	(0.25)
Election year	0.03	0.01	0.02	0.01	0.03
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Type of local government	−3.07***	−2.83***	−2.88***	−2.93***	−2.94***
	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)
ln Scale	5.79***	3.83***	6.21***	4.37***	—
	(0.85)	(0.09)	(1.35)	(0.37)	
ln Shape	0.44***	1.10***		0.21	—
	(0.05)	(0.08)	—	(0.14)	
ln Level	—	—	—	—	−6.37***
					(1.42)
Intercept	—	−3.25**	—	−2.00	—
		(1.37)		(1.44)	
Log Likelihood	-2023.45	-1976.82	-2055.94	-1993.73	-2054.3
Number of events	4211	4211	4211	4211	4211
Number of observations	286	286	286	286	286

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$ Reference group for Party is: "Conservative".

Table SM3.20: Repeated event survival analysis (alt. specifications for neighbour variable)

	Model 1	Model 2	Model 3
Independent variables			
Party: Labour	0.510**	0.445**	0.558***
	(0.213)	(0.216)	(0.208)
Party: Other	0.358*	0.319*	0.369*
	(0.192)	(0.193)	(0.191)
Public debt$_{t-1}$	−0.095**	−0.103***	−0.163***
	(0.040)	(0.039)	(0.044)
Public debt$_{t-1}$ * ln(t)	0.012**	0.014***	0.021***
	(0.005)	(0.005)	(0.006)
Deprivation$_{t-1}$	0.136***	0.142***	0.162***
	(0.043)	(0.043)	(0.045)
Deprivation$_{t-1}$ * ln(t)	−0.018***	−0.019***	−0.021***
	(0.006)	(0.006)	(0.006)
Finance power	−3.947**	−4.163***	−3.459**
	(1.549)	(1.552)	(1.611)
Finance power * ln population	0.677**	0.716**	0.599**
	(0.280)	(0.280)	(0.292)
Neighbour (second-order contiguity)	1.781*	—	—
	(1.008)		
Neighbour (inverse distance)	—	6.098	—
		(4.020)	
Neighbour (PWP)	—	—	0.081
			(0.464)
Controls			
Number of previous adoptions	0.242***	0.236***	—
	(0.037)	(0.037)	
ln population	0.021	0.003	−0.015
	(0.246)	(0.242)	(0.255)
Election year	−0.009	−0.092	−0.032
	(0.151)	(0.154)	(0.145)
Type of local government	−2.187***	−2.163***	−1.931***
	(0.287)	(0.288)	(0.304)
AIC	2632.105	2632.636	1720.538
Num. events	286	286	286
Num. obs.	4211	4211	4211
PH test	0.341	0.454	0.453

Model 3 = PWP-Model.

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

SM3.3 Correlation Matrix

Table SM3.21: Correlation matrix of all covariates

	Labour	Conservative	Other	Debt	Deprivation	Finance
Labour	1	−0.466	−0.424	0.419	0.530	0.005
Conservative	−0.466	1	−0.604	−0.309	−0.436	−0.004
Other	−0.424	−0.604	1	−0.072	−0.017	−0.0001
Debt	0.419	−0.309	−0.072	1	0.546	0.209
Deprivation	0.530	−0.436	−0.017	0.546	1	0.044
Finance	0.005	−0.004	−0.0001	0.209	0.044	1
Neighbour	0.152	−0.155	0.022	0.300	0.347	0.050
Previous adoptions	0.193	−0.165	−0.006	0.400	0.343	0.061
ln Population	0.263	−0.173	−0.060	0.534	0.387	0.246
Election year	0.079	−0.091	0.022	0.053	0.086	0.047
Type	−0.365	0.266	0.056	−0.594	−0.481	−0.183

Table SM3.22: Correlation matrix of all covariates (contin.)

	Neighbour	Prev. adoptions	ln Population	Election year	Type
Labour	0.152	0.193	0.263	0.079	−0.365
Conservative	−0.155	−0.165	−0.173	−0.091	0.266
Other	0.022	−0.006	−0.060	0.022	0.056
Debt	0.300	0.400	0.534	0.053	−0.594
Deprivation	0.347	0.343	0.387	0.086	−0.481
Finance	0.050	0.061	0.246	0.047	−0.183
Neighbour	1	0.539	0.293	0.064	−0.356
Previous adoptions	0.539	1	0.429	0.045	−0.457
ln Population	0.293	0.429	1	0.075	−0.737
Election year	0.064	0.045	0.075	1	−0.058
Type	−0.356	−0.457	−0.737	−0.058	1

SM3.4 Organisation of Local Governments in England

In England, the majority of local governments are organised in a two-tier system. The Counties as an upper level are composed by Districts at the lower tier. The table below lists their respective responsibilities.[1] Apart from this system, there are also single-tier authorities that combine both levels and services. These are mainly Unitary Authorities, Metropolitan districts and London Boroughs. Furthermore, the City of London and the Isles of Scilly form two sui generis authorities.

Table SM3.23: Types of English local governments

Type	Services	Total	Relative
County	Economic development, highways, streets, waste disposal, transport, social services, education, libraries, public health	27	0.08
Shire District	Building, council tax, business rates, environment, housing, waste collection, street cleaning	201	0.57
Unitary Authority	All local government services	55	0.16
Metropolitan Districts	All local government services, although certain conurbation wide services (fire, civil defence, police, waste disposal, passenger transport) are provided through joint authorities (districts acting jointly)	36	0.10
London Boroughs	All local government services, although the Greater London Authority provides certain London-wide functions (police, fire and transport)	32	0.09
City of London	Economic development, education, environment, highways, housing libraries, police, social services, waste collection, town planning	1	<0.01
Isles of Scilly	Provides same services as Unitary Authorities, but some services are being provided in conjunction with Cornwall Council.	1	<0.01
Total		353	100

Source: Constructed by authors based on data by the UK government: https://www.gov.uk/guidance/local-government-structure-and-elections.

Local authorities are governed following the 'leader and cabinet model' or the 'elected-mayor model.'[2] In the former, the leader is appointed by councillors whereas the latter describes the election of a mayor directly by local residents. In both systems, the chosen mayor or leader appoints a cabinet; together they form the Executive of the council to govern the municipality. They are held to account by an Overview and Scrutiny Committee, whose members are not part of the cabinet. Full council meetings are only held for key decisions such as significant cuts or spending, appointing chief officers, the policy framework and budget setting. Currently, only sixteen local authorities have an elected-mayor. He has more administrative powers than a leader since changes to his budget and major policy decisions require a two-third majority, as opposed to a simple majority in the 'leader and cabinet model.'

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[1]House of Commons (2017): Local government in England: structures, p. 15.
[2]Local Government Act (2000), the 'committee system' was reintroduced in 2011 but is neglected in this analysis due to its marginality.

SM3.5 Expert Interviews

Table SM3.24: Actor types and date of expert interviews with abbreviations as cited in the main manuscript. Names and more detailed type descriptions have been anonymised due to issues of confidentiality.

Nr.	Abbreviation[a]	Actor type	Date
1	INT_1	Treasury Management Advisor	November 2017
2	INT_2	Member of Parliament	November 2017
3	INT_3	Former Investment Banker	November 2017
4	INT_4	Councillor (London Borough)	November 2017
5	INT_5	Campaigner	November 2017
6	INT_6	Councillor (Shire District)	November 2017

[a] Abbreviations as cited in the manuscript. Interviews listed in the order they were conducted.

SM3.6   Additional Literature and Data Sources

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Eidesstattliche Erklärung
nach § 8 Abs. 3 der Promotionsordnung vom 17.02.2015

Hiermit versichere ich an Eides Statt, dass ich die vorgelegte Arbeit selbstständig und ohne die Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe. Die aus anderen Quellen direkt oder indirekt übernommenen Aussagen, Daten und Konzepte sind unter Angabe der Quelle gekennzeichnet. Bei der Auswahl und Auswertung folgenden Materials haben mir die nachstehend aufgeführten Personen in der jeweils beschriebenen Weise entgeltlich/unentgeltlich (zutreffendes unterstreichen) geholfen:

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Ort, Datum   Unterschrift

Köln, 27.11.2019

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Date of Birth: *14.11.1989* · ***Place of Birth:*** *Bergisch-Gladbach* · ***Nationality:*** *german*

Academic Education

PhD Political Science (Dr. rer. pol.)
Cologne, DE

COLOGNE GRADUATE SCHOOL IN MANAGEMENT, ECONOMICS AND SOCIAL SCIENCES (CGS), UNIVERSITY OF COLOGNE

COLOGNE CENTER FOR COMPARATIVE POLITICS (CCCP), UNIVERSITY OF COLOGNE

Since Oct. 2016

- Focus: Comparative Political Economy, Computational Social Science, Business Power, Financialization, European Politics
- Supervisor: Prof. Dr. Christine Trampusch

M.A. Political Science / Economic Geography (Ø 1,1, best graduate)
Cologne, DE

FACULTY OF ECONOMICS, MANAGEMENT AND SOCIAL SCIENCES, UNIVERSITY OF COLOGNE

Oct. 2014 - Sep. 2016

- Focus: Comparative Political Economy, Statistics
- Master's thesis: "Transposing the European Savings Tax Directive - Domestic Preferences and the Correct Transposition of EU Provisions" (Grade: 1,0)

B.A. History / Political Science (Ø 1,1, top 5%)
Düsseldorf, DE

HEINRICH-HEINE-UNIVERSITY, DÜSSELDORF

Oct. 2011 - Sep. 2014

- Focus: Economic History, Statistics
- Bachelor's thesis: "Scotland, Dárien and the Union of 1707" (Grade: 1,0)

Semester Abroad (Ø 1,4)
Prague, CZ

CHARLES UNIVERSITY, PRAGUE

Oct. 2013 - Apr. 2014

- Focus: Economic History, Economic Policy, Statistics

Experience

Research Associate
Cologne, DE

DFG PROJECT: MUNICIPALITIES AND THEIR EXPECTATIONS ON PAY-OFFS OF SWAP DEALS, CCCP

Oct. 2017 - Nov. 2018

- Data collection: Large scale data collection and maintenance of time-series data
- Data analysis: Implementation of survival analysis in R
- Communication: Presentations at international conferences and DFG-Workshops
- Project management: Organizational tasks and instruction of research assistants

Research Assistant
Wuppertal, DE

WUPPERTAL INSTITUTE FOR CLIMATE, ENVIRONMENT, AND ENERGY

Aug. 2015 - May. 2016

- Data collection: Conduction and evaluation of surveys
- Data analysis: Statistical data analysis and data visualization
- Reports: Preparation of research reports

Digital Library
Prague, CZ

NATIONAL LIBRARY OF THE CZECH REPUBLIC

Oct. 2013 - Jan. 2014

- Administration: Public relations
- Scripting: Digitalization with XML
- Database: Database maintenance

Publications

JOURNAL ARTICLES (PEER-REVIEWED)

The political economy of local government financialization and the role of policy diffusion
   A. Mertens, C. Trampusch, F. Fastenrath, R. Wangemann
   Regulation & Governance, online first: https://doi.org/10.1111/rego.12285 (Oct. 2019) pp. 1–18.

Regulating the audit market in the European Union: who dominates, who loses?
   A. Mertens
   Journal of European Public Policy, 26.12 (Dec. 2018) pp. 1818–1835.

Conference Proceedings (Peer-reviewed)

As the tweet, so the reply? Gender bias in digital communication with politicians
A. Mertens, F. Pradel, A. Rozyjumayeva, J. Waeckerle
Proceedings of the 11th ACM Conference on Web Science (WebSci'19), 2019, Boston, MA, USA, pp. 193–201.

Research Reports

Modellprojekt E-Carflex Business – Begleitforschung, Schlussbericht
G. Wilke, C. Schneider, J. Drach, J. Greibel, P. Hillebrand, A. Mertens, S. Neumann
Wuppertal Institut gGmbH, 2017

Contributions to Conferences

CCCP Workshop – Advances in Comparative Politics   Cologne, DE
PAPER PRESENTATION   *Sep. 2019*
"United in disagreement: Analyzing policy networks in EU policy-making"

11th ACM Conference on Web Science   Boston, US
PAPER PRESENTATION   *Jun. 2019*
"As the tweet, so the reply? Gender bias in digital communication with politicians"

MIT Media in Transition Conference – Democracy and Digital Media   Boston, US
PAPER PRESENTATION   *May 2019*
"As the tweet, so the reply? Gender bias in digital communication with politicians"

ECPR Joint Sessions   Mons, BE
PAPER PRESENTATION   *Apr. 2019*
"United in disagreement: Analyzing policy networks in EU policy-making"

2nd European Symposiumon Societal Challenges in Computational Social Science   Cologne, DE
DATA CHALLENGE PARTICIPATION   *Dec. 2018*
"Gender bias in digital communication"

Futures of Finance and Society Conference   Edinburgh, UK
PAPER PRESENTATION   *Dec. 2018*
"The Financialization of the State: Why are English Local Authorities Betting on Interest Rate Fluctuations?"

25th Council for European Studies   Chicago, US
PAPER PRESENTATION   *Mar. 2018*
"The Financialization of the State: Why are English Local Authorities Betting on Interest Rate Fluctuations?"

SASE 29th Annual Meeting   Boston, US
PAPER PRESENTATION   *Jun. 2017*
"Regulating the Audit Market in the European Union - Who Dominates, Who Loses?"

Skills

Programming   R, SQL, Python, Spark, LaTeX
Development   Git, Github, RStudio
Languages   German, English, Czech, Latin
Soft-skills   Organizational consulting, project management, presentation

Honors & Awards

2019   **Best Paper Award**, 11th International ACM Conference on Web Science   Boston, US
2018   **1st Place Data Challenge**, ESS Computational Social Science, EPJ Data Science   Cologne, DE
2016   **PhD Scholarship**, Cologne Graduate School in Management, Economics and Social Sciences   Cologne, DE
2015   **Dean's Award for outstanding academic achievements**, WiSo Faculty, University of Cologne   Cologne, DE
2013   **Erasmus scholarship**, Mobility scholarship granted by the European Union   Prague, CZ

Extracurricular Education

Complete SQL Bootcamp   Online course
UDEMY, JOSE PORTILLA   *Jun. 2019*
• Using PostgreSQL to query databases

Introduction to Bayesian Models in the Social Sciences

Cologne, DE

Mar. 2019

GESIS, Prof. Dr. S. Shikano, Dr. T. Kim

- MCMC using JAGS, Regression, Multilevel models

Data Scientist with R (Track)

Online courses

Apr. 2018 - Nov. 2018

Datacamp

- Data wrangling in the tidyverse
- Data visualization with ggplot2, base R and grid graphics
- Supervised and unsupervised machine learning techniques

Machine Learning for the Social Sciences

Bamberg, DE

Feb. 2018 - Mar. 2018

ECPR Winter School, Dr. Bruno Castanho

- Supervised learning: Random forest, boosting, lasso regression
- Unsupervised learning: PCA, clustering algorithms
- Deep Learning: Neural networks with keras

Big Data Module: Introduction to Data Science with Python

Cologne, DE

Jul. 2018

GESIS, Dr. A. Bleier, Dr. F. Flöck, Dr. Heiko Lietz, Dr. F. Lemmerich

- Data exploration and pre-processing with pandas
- API-scraping, screen scraping, data visualization with matplotlib
- Machine learning with numpy and sklearn
- Network analysis with networkx

Interests

Music	Jazz and classical music, saxophone, piano
Sports	Rock climbing, running
Literature	Fiction & non-fiction

Köln, 27.11.2019

Place, date

Signature