

Final version

"Testing the impact of the anti-fracking movement in changing public policy"

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1. Introduction

In recent years social movements have emerged as a common feature of the political landscape (McAdam, McCarthy & Zald, 1996, p. 1). They function in a way of articulating underrepresented political interests. These interests are articulated by a group of individuals with a shared understanding of an issue. By doing so, social movements try to shape a part of public opinion. By using repeated performances and protests the groups organized around a certain topic, try to make claims on authorities (Della Porta, 2011, p. 2432). Claim making relies on collective action whereby groups of individuals forged alliances with influential members of respective polities, take advantage of existing regime opportunities and use a combination of institutional and extra-institutional routines to advance claims (Tilly & Tarrow, 2015, p.23) Claim making is done by social movements in the hope they bring about social and/or political change.

Political change is a consequence of the activity of a social movement. First of all the concept of movement impact requires a clear definition (Giugni, 1999, p. xx). Most scholars have paid attention to policy changes as a potential outcome of protest, due to the fact that change in public policy is more easy to measure than changes in social and cultural arenas (Giugni, 1999, p. xxii). In this research, changes in public policy will serve as an indicator for social movement impact. Empirical research conducted on this theme has mainly focused on labor and civil rights movements. Looking in retrospect, their impact is clear. On the contrary the impact of environmental movements is more difficult to define (Rucht, 1999, p. 204).

Dieter Rucht has tried to understand and explain the impact of the environmental movement by designing an explanatory model. The first assumption of this model is that it is not likely environmental movements can influence policy only by mobilizing through lobbying. This is possible but not very likely, because environmental movements usually do not have direct access to the arena of policy making. Thereby the mobilization of a movement can be neutralized by other societal forces, opposing the interests (Rucht, 1999, p. 211).

The model therefore focuses on a set of intervening factors who transform movement mobilization into public policy (Rucht, 1999, p. 211). Public opinion, individual attitudes and the presence of green parties are included in the model to mediate movement mobilization and the environmental policy of a state (Rucht, 1999, p. 215). The conceptual framework seems to offer a good model for explaining movement impact, however a remark on the research could be that the model is applied to study the environmental movement as a whole. While it consists of different groups lobbying on a variety of issues, the question arises whether it is realistic to investigate the environmental movements as a whole in order to make claims about their impact. The suggestion is

that it is better to conduct a comparative case study of a specific environmental movement to identify which factors can explain variation in movement impact (Giugni, 1999, p. xxvi).

An appropriate case for answering the research question is investigating the anti-fracking movement. The movement is part of the environmental movement and concerned about hydraulic fracking. A relatively new method for extracting gas from coal bed formations deep below the surface. Drilling is used to reach the coal and shale gas formations. After this the process proceeds horizontally. The rock formations are blasted with explosives, but to extract the gas from the formations a frac fluid is pumped into the borehole. This fluid is a combination of chemicals, water and fibres to let the gas escape under its own pressure. This method is seen as advancing the economy, because drilling for gas generates money and creates jobs. Thereby countries do not need to rely on other countries if they have their own gas and energy. On the other side fracking can have a serious impact on the health of people and the living environment. Chemicals used in the fracking process can contaminate water wells. Thereby it is likely that the extracting of gas has a positive influence on causing earthquakes (Feodoroff, Franco & Rey Martinez, 2013, p. 7). These disadvantages of fracking caused resistance against it. Relying on the data gathered by Trans National Institute (TNI) in 2013, resistance was present in multiple countries but led to different policy outcomes (Feodoroff et al, 2013, p. 8). In some cases this protests led to a ban on fracking and in others not. This makes the anti-fracking movement suitable for cross-national comparison.

Testing the impact of the anti-fracking movement using a cross-national comparison will be done by testing two hypothesis derived from the literature. The first one will test if movement mobilization is likely to influence public policy directly. According to Anderson (2011) movement mobilization contributes to raising awareness among elected officials, which is the first step in initiating the process of policy change. The strength of a movement to mobilize people will be measured as the number of participants present at protests. The data will be collected conducting a content analysis using articles in the database of Factiva. Cases with and without a ban on fracking will be compared with eachother in order to gain more insight in the relation of movement mobilization and public policy change.

The second hypotheses assumes that the third dimension in the political opportunity structure, the presence or absence of political allies is influential in changing policy. Based on the literature the assumption is made that elite allies are necessary for an issue to move further in the direction of policy formulation (McAdam, Tilly & Tarrow, 1996, p. 10). This concept is operationalized as the presence of left-wing parties in national governments. Justification for this operationalization is given in the method section.

Finally the impact of the strength of the social movement and the presence of elite allies will

be clustered as one intervening indicator. There will be looked whether the presence of these two variables together have a even larger influence on banning fracking. This is assumed because both variables are expected to have a positive influence on policy change. It is expected to find large number of participants present at protests and at the same time to find left-wing parties present in governments of countries where fracking is banned.

Testing the impact of the anti-fracking movement is valuable for the existing literature because applying cross-national research to explain variation on outcomes is rarely conducted (Giugni, 1999, p.xxvi). Usually this design is applied to explain variation in movement mobilization and forms of action. Thereby the phenomenon of the anti-fracking movement is not researched before in social movement studies. This research will pave the way for futher research by investigating if movement strength and political allies can influence public policy. Investigating the anti-fracking movement is not only relevant for the social sciences. On the other side the research is relevant for the anti-fracking movement itself. It provides insights in which factors are needed in order to succeed in banning fracking. This knowledge can be usefull for the movement to improve their resistance.

2. Literature Review

Social movements are formed to express dissatisfaction over a specific issue. Groups of individuals mobilize around an issue with the aim to make demands on the political system. The way social movements demand change differs. This can be done through violent or non-violent means.

However the shared opinions and beliefs within a social movement constitute public opinion.

Public opinion remains a vague concept. It is questioned by many scholars, scientists and journalists. Usually the concept is explained as the sum of individual opinions (Herbst, 1993, p. 439). While social movements express their opinions on a certain topic, it becomes possible to state that social movements form a part of public opinion within society.

Democracy is mentioned as an important condition for expressing public opinion. A democracy enable people to speak freely and thus to express themselves. Besides the fact that it is a condition, liberal governments function as an arena where actors can compete and try to dictate the agenda of problems to tackle. Within such an arena there is a battle for prioritizing issues who are among citizens and voters. Democracy is not only a condition where public opinion can exist, it can also be used as a tool to express opinions or concerns (Diamanti, 2017, p. 4-5). Within a democracy the right of association is usually present. This right can be used as a tool for people to unite around an issue. Usually these groups are individuals who are informally organized, but share the same beliefs and interests. When the mobilization of individuals takes place to make claims on authorities, we define these informal organized group of individuals as social movements (Della Porta, 2011, p. 2432).

Social movements are considered to be an important force for social change. This is why they are seen as part of the normal democratic political process (Burnstein, 1999, p. 3). On the other hand scientists and scholars question if social movements really have impact and in most of the cases they believe social movements have rarely impact. The first argument to think social movements do poorly is because governments are not truly democratic. It is difficult for social movements to gain entry because governments function as a members-only system. This means that governments keep the doors shut for challengers of the system. If this is the case governments are not responsive to movements and are selective in deciding which movement gains entry (Burnstein, 1999, p. 3). A second argument why social movements rarely have impact is because well-functioning governments only respond to the demands of the majority. This has to do with elected officials constantly striving for public support. This means social movements can only influence policy when they agree with the majority. If this is not the case, social movements can only influence policy directly on a subject the majority cares little about. An other way for a movement to change public

policy is indirectly by changing the public's policy preferences and the public's concerns about a particular issue (Burnstein, 1999, p. 4).

In this research there will be argued that the anti-fracking movement had indirect impact in changing public policy because they changed the public's concerns.

The first fracking technique was undertaken in 2002 in the American state of Texas. The first years the industry made people believe the technology was tried and tested (Feodoroff et al, 2013, p. 2). The industry claimed that the drilling for gas was a much cleaner energy source than any other fossil fuel. On the global level fracking was framed as a geopolitical game changer for some countries in the sense that some countries could gain independence from the Russian gas. The industry was promoting the method of fracking behind the scenes and soon fracking became a worldwide practice in many countries (Feodoroff et al, 2013, p. 3). Public and private transnational, national and international actors were involved in the scramble for unconventional gas exploration and extraction. The anti-fracking activists uncovered and highlighted the negative effects of fracking. They call the method a false solution for securing sustainable energy and securing energy independence (Feodoroff et al, 2013, p. 8) Thereby fracking causes immediate concerns for the environment. Framing this issue made it possible to organize strong civil society pressure on governments to ban fracking or impose a moratorium. According to the data collected by the Transnational Institute the governments of France, Germany, Czech Republic, Denmark, Bulgaria and Romania agreed on a ban. In other countries this was not the case and civil society pressure is still present (Feodoroff, 2013, p. 8).

A model to explain the difference in impact of social movements in general is the political opportunity structure. The concept of political opportunity structure has been used as a key explanatory variable in regard to two dependent variables. The first dependent variable is the time of collective action and the second dependent variable is the outcome of movement activity (McAdam, 1996, p. 29). Typically the concept of political opportunity structure is employed in case studies to explain the emergence of a particular movement. Nowadays the concept is more often used in comparative studies. Scholars have begun to compare movements cross-nationally to explain variation in their size, form of organization and degree of success (McAdam et al, 1996, p. 17).

In order to compare movements cross nationally, a clear definition of the concept of the political opportunity structure is needed. While scholars have interpreted the term differently, consensus about the concept is lacking. To solve this problem, the definitions of the scholars Brockett, Kriesi, Rucht and Tarrow are compared and synthesized to set up a consensual list of dimensions of the political opportunity structure (MacAdam, 1996, p. 27). This has resulted in the

following list:

1. The relative openness or closure of the institutionalized political system;
2. The stability or instability of the broad set of elite alignments that typically undergird a polity;
3. The presence or absence of elite allies;
4. The state's capacity and propensity for repression.

(McAdam, 1996, p. 27).

The first dimension emphasizes the importance of the legal and institutional structure of a given polity by all the authors. Dimension 2 and 3 speak to the significance attached to the informal structure of power relations characteristic of a given system. The last dimension is only mentioned by Brocket but is included in the list of consensual dimensions because there is empirical evidence that state repression shapes the nature and level of movement activity (McAdam, 1996, p. 27-28).

Especially the third dimension of the political opportunity structure has been used as a variable to explain the impact of social movements on state policy (Anderson, 2011, p. 30). Political allies are necessary for issues to move forward. However in order to reform policy or create new policy, the issue first has to reach the political agenda (Van Dyke, 2003, p. 227). In most cases social movement mobilization around an issue helps making issues visible. Thereby movements can help to place an issue on the political agenda. The role movements play, is considered to be important in initiating the process of policy change. Especially issues with less priority can benefit from the presence of movement mobilization (Anderson, 2011, p. 12). In the case of fracking, industry promoted the unconventional method heavily within governmental bodies (Feodoroff et al, 2013, p. 5). In some countries the mobilization of citizens around the issue of fracking led to governments promising to ban fracking (Feodoroff et al, 2013, p. 8). The number of people mobilized to protest against fracking can be used as an indicator for the strength of movement to raise awareness on an issue. When awareness among the public and elected officials is raised the issue has a bigger chance to reach the political agenda. While this is the initial step in the process for changing public policy it is more likely for a movement to have impact. From this assumption the first hypothesis is derived.

H1: The more participants joining a protest, the larger impact the social movement has.

However it can be assumed that movement mobilization alone rarely translates directly into policy outcomes. The first reason is that social movements lack the access to the decision making process (Rucht, 1999, p. 211). Social movements have to use indirect channels of influence. A dimension having influence on the impact of a social movement is the presence or absence of political allies.

Political allies have access to the decision making process. It thus seems an important aspect to take into account to explain the difference of social movement impact. The dimension of the elite allies is measured in different ways. The most common way is to measure the presence or absence of elite allies by defining the movement sympathizers in a government at a particular point in time (Anderson, 2011, p. 31). Movement sympathizers are politicians who use their power to forward the demands of a movement and support a movement by attending a movement's protest. Still the difficulty remains to define whether a politician is a movement sympathizer. A more appropriate method is define which political allies are standing on the left of the political spectrum. The assumption is that parties on the left of the political spectrum are more favorable towards liberal and progressive policies (Anderson, 2011, p. 31).

When it comes to the support of environmental movements green parties play an important role. They are seen as influential when it comes to promoting the demands of the environmental movement (Rucht, 1999, p. 213). The presence of green parties is considered to be an intervening factor which may or may not transform environmental movement mobilization into state activities or changing public policy (Rucht, 1999, p. 211). The strength of green parties is determined as the share of the vote. This indicator is changing over time and therefore average values are taken. Data on the strength of green parties are collected for most European Countries. The data does not contain information on the strength of green parties in Romania and Poland. This information is needed before it is possible to test the impact of the anti-fracking movement. Another critical note for using green parties as reflection for political allies could be that this indicator does not cover all possible movement supporters. Other parties can have ecologically oriented tendencies as well (Rucht, 1999, p. 218). Taking left wing parties as factor having influence on the movement impact is more complete. This research will therefore take left-wing parties as possible movement allies, instead of only looking at the presence of green parties. From this we can derive the second hypothesis.

H2: The presence of left parties within a government make it more likely a social movement has impact on changing public policy.

The mobilization of environmental movements and it's effect on environmental policy is not only mediated by the presence of green parties. According to the explanatory model of Dieter Rucht (1999), the relation between environmental movement activity and environmental policy is also influenced by the factors of public opinion and individual attitudes. Public opinion is an intervening factor because policy makers within the state administration cannot ignore public opinion. (Rucht,

1999, p. 212). The factor of individual attitudes and behaviors is of influence because many state-activities rely on the cooperation and acceptance of citizens. Especially when it comes to convincing people to play an active role in policy implementation. (Rucht, 1999, p. 212). Thus political parties want to take individual opinions into account, before taking decisions. The concept of individual attitudes and behavior is operationalized by using data of survey research.

Fracking is a relatively new topic, no surveys on this topic could be found. This is why the comparative research on the impact of the anti-fracking movement will leave this factor out. The second factor included in the model to explain impact is public opinion. Mass media is the most important forum to mirror public opinion. A content analysis will be the best option to measure public opinion (Rucht, 1999, p. 217). It is however difficult to take an indicator for public opinion. This is why this factor will not be included in the comparative research considering the impact of anti-fracking movements. While it is expected that public opinion positively influences policy impact, this factor can serve as an alternative explanation. Future research investigating the impact of the anti-fracking movement can take this variable into account.

Awareness on an issue alone, does not translate into public policy change. Access to the decision making process is needed for a movement. The factors of movement mobilization and the factor of political allies will be combined to test whether these variables combined have influence on policy change. It is assumed that a movement is more likely to change public policy when a movement is strong and political allies are present at the same time. We look at the number of participants per country and whether or not a left-wing party is present in government.

H3: More people joining a protest in combination with one or more left-wing parties present in government, increases the chance for a movement to have impact on public policy.

3. Research Method

This research is explanatory. From the literature three hypotheses are derived which will serve as starting point to test the impact of the anti-fracking movement. Much recent research is informed by a comparative perspective to explain the development of social movements. In particular cross-national comparison is used to explain variation in the mobilization, forms of action and more rarely outcomes (Giugni, 1999, p. xxvi). In this research European anti-fracking movements will be compared cross-nationally to explain the different outcomes. There is a divide between countries where resistance against fracking takes place. In some countries resistance led to a ban on fracking and in some other countries fracking is still allowed. Due to the fact that anti-fracking movements are a worldwide phenomenon, a large number of movements is available for a cross-national comparison.

The main goal of this research is to understand which variables contribute to the division in anti-fracking movement impact. In studying movement impact most scholars have paid attention to policy changes as potential outcome of protest. In conducting empirical study this definition of impact is more easy to measure than changes in social or cultural arenas (Giugni, 1999, p. xxii). There are multiple typologies of social movement outcomes. One of the best known is provided by Schumaker who defines scholar movement outcomes in terms of the responsiveness of the state (Giugni, 1999, p. xxiii). However changing public policy and getting demands addressed is the dependent variable in this research. In order to test which factors affect the dependent variable, a comparative case study will be conducted. Cases will be chosen to be dissimilar on the dependent variable to create an understanding of the relationship between movement activity and movement outcomes (Giugni, 1999, p. xxiv).

The anti-fracking movement is selected for this research because it can be considered as a part of the environmental movement. The environmental movement is a broad international social and political movement addressing diverse environmental issues. The anti-fracking movement protests on the environmental damage hydraulic fracking can cause (Feodoroff et al, 2013, p.8). The Transnational Institute did research on fracking and published data in which countries protest against fracking was present in 2013. A map made a distinction between countries where a ban or moratorium was imposed, countries where companies suspended their activities and countries where campaigns are conducted. To make it more easy to test which factors contribute to different movement impact. The dependent variable of movement impact will be operationalized as countries banning fracking and countries not banning fracking. Countries where companies suspended their activities will be categorized as countries who did not ban fracking yet. Table 1.0 shows the division made on the dependent variable.

Tabel 1.0 National anti-fracking movements divided according to movement impact

COUNTRIES WITH A BAN ON FRACKING	COUNTRIES WITH NO BAN ON FRACKING
France	England
Germany	Poland
Bulgaria	Spain
Czech Republic	Ireland
Denmark	U.S.
Romania	Canada
	New Zealand
	The Netherlands
	Austria
	Sweden

The list of countries with resistance against fracking will be used as a sampling frame. This is a set of units we can draw samples from. The best scenario is to draw a representative sample that reflects the population. This is difficult in the case of the anti-fracking movement, because sampling depends on the available information (Bryman, 2016, p. 173). While the impact of anti-fracking movements is never tested before this comparative analysis using non-probability sampling can provide a springboard for further research on this topic (Bryman, 2016, p. 187).

The focus of this research is investigating the impact of the anti-fracking movement on changing national public policy, this is why countries with resistance on state level are excluded. This is the case for the countries of Canada, the United States and Australia. During the second part of the case selection cases need to meet a few requirements in order to be included in the case study.

- The anti-fracking movement protest needs to be covered by the news media.
- The number of participants joining a protest must be available

It is required for an anti-fracking movement to be covered in the news media, because the media is an important forum to mirror public opinion. According to the model of Dieter Rucht (1999) public opinion is seen as an intervening variable changing public policy (Rucht, 1999, p. 217). Selecting the cases on this criteria make sure this intervening variable is taken into account and cases do not differ in this aspect.

It is required that the number of participants joining a protest are available in order to tell something about the movement strength. It is likely that the strength of a movement can raise awareness on an issue and place it on the political agenda (Anderson, 2011, p.12). The greater the number of participants the more likely policy change will happen.

Sources of information

The source of information used to check which countries meet the requirements, is the database of Factiva. This database collects newspaper articles from newspapers and journals around the world. The search for the words protest AND fracking on all dates results in over a thousand articles on this issue. After this the search is specified per country. The countries of the sampling list covered in the media and with data available on the number of participants are Romania, Poland, Germany, England, France and Spain. Per country a time span of one year will be analyzed. For countries with a ban on fracking the year in which fracking is banned will be analyzed. The assumption is that in the year before a ban most articles are published. To keep things equal, for countries without a ban on fracking the year where most articles are published will be analyzed. Thereby it is expected that analyzing articles in a time-period of one year will represent anti-fracking movement protests well enough. In the cases of France and Spain the selected filter did not result in data about participants present at protests. Searching in French for the words 'Gaz de schiste' AND 'protestation' did not result in viable information either. The data about the number of protests is gathered via a scientific article. An ethnographic article exploring anti-fracking movement camps in England and France mentioned the number of participants joining the movement (Oloffson, 2014, p. vi). In the case of Spain the information on the number of participants is collected via the article of Feodoroff, Franco and Rey Martinez (2013).

How does movement strength and the presence of political allies affect the impact of the anti-fracking movement? Two hypotheses guide the comparison of anti-fracking movements in Romania, Spain, Poland, England, Germany and France. The first hypothesis assumes that movement strength is one of the variables having a positive influence on movement impact. The strength of a movement can also be described as the success of a movement to raise awareness on an issue. This concept is measured using two indicators. The first is the number of participants joining a protest. The more awareness on an issue, the more likely people would join a protest. The second indicator measuring movement strength is whether or not anti-fracking movement protests are covered by the media. The media is a forum to inform the mass about important issues. According to theory, mass media can set the political agenda. Placing an issue on the political agenda is seen as an important first step before influencing political decision making. (Anderson, 2011, p. 12). Both indicators for the variable of movement strength will be measured analysing articles on factiva. Table 1.0 makes visible which search strategy is used to retrieve data.

Table 2.0 Search Strategy

Database Factiva

Search Keywords as typed on search box	Search date	Search source	Search languages	Filter 1: Region	Filter 2 Year with most published articles	Hits
Fracking AND protest	All dates	All sources	All languages	England	1 january 2013 – 31 december 2013	398
Fracking AND protest	All dates	All sources	All languages	Poland	1 january 2013 – 31 december 2013	25
Fracking AND protest	All dates	All sources	All languages	Germany	1 january 2015 – 31 december 2015	218
Fracking AND protest	All dates	All sources	All languages	Spain	1 january 2013 – 31 december 2013	40
Fracking AND protest	All dates	All sources	All languages	Romania	1 january 2013 – 31 december 2013	61
Fracking AND protest	All dates	All sources	All languages	France	1 january 2011 – 31 december 2011	26

How does movement strength and the presence of political allies affect the impact of the anti-fracking movement? Two hypotheses guide the comparison of anti-fracking movements in Romania, Spain, Poland, England, Germany and France. The first hypothesis assumes that movement strength is one of the variables having a positive influence on movement impact. The strength of a movement can also be described as the success of a movement to raise awareness on an issue. This concept is measured using two indicators. The first is the number of participants joining a protest. The more awareness on an issue, the more likely people would join a protest. The second indicator measuring movement strength is whether or not anti-fracking movement protest are covered by the media. The media is a forum to inform the mass about important issues.

According to theory mass media can set the political agenda. Placing an issue on the political agenda is seen as an important first step before influencing political decision making. (Anderson, 2011, p. 12). Both indicators for the variable of movement strength will be measured analysing articles on Factiva. Table 1.0 makes visible which search strategy is used to retrieve data.

The second hypothesis leads us to expect that state response covary with the presence of elite allies. In the beginning of the emergence of new social movements European parties did not respond well to the issues generated. Most parties were reluctant to place issues generated by social movements in their programs. Even when the force of environmental movement grew and expanded from the local to the national level, parties responded to the demands by minimizing environmental problems. This resulted in the emergence of green parties in the mid 1970's. The electoral success of green parties made leftist parties realize the importance of responding to the demands of environmental movement (Rohrschneider, 1993, p. 162). The responsiveness of left-wing parties towards environmental movements means that they can be seen as political allies. According to the theory of the political opportunity structure, political allies in government make it more likely for an issue to reach the decision making process and to change public policy (Anderson, 2011, p.30)

Before it is possible to elaborate on the presence of political allies, the research must be able to demonstrate left-wing parties are part of the government. The first step in measuring this variable is identifying which political groups are considered standing on the left of the political spectrum. Using the article of Castle & Mair (1984) the communist, socialists and social democrats are defined as left political groups. The European Parliament is also composed of political groups. These groups are cross-national which means that national political parties join a political group with the same ideological conviction (Burns, 2016, p. 161). Left political parties within the European Union are The Group of the Progressive Alliance of Socialists and Democrats (S&D) and the confederal Group of European United Left/Nordic Green Left (EUL/NGL). For every political group information is available which national parties are part of it. This information will be placed in table 2.0 to create a clear overview of the collected data. Then information will be collected about national parties present in government coalitions in the same year as the articles were analyzed. Political allies are present if the political parties present in government match with the parties present in the left-political groups. If a match is found the presence of political allies can be confirmed.

Table 3.0 Political allies

Country, Analyzed year Factiva	Radical Left	Socialists / Social Democrats	Parties in government coalition in the analyzed year	Political Allies: Yes/No
Germany 2015	Die Linke	Sozialdemokratische partei Deutschlands (SPD)	CDU / SPD	Yes
France 2011	Front de Gauche	Parti Socialiste (PS)	Union pour une mouvement populaire (UMP)	No
Spain 2013	La Izquierda Plural Podemos Los Pueblos Deciden	Partido Socialista Obrero Español	Partido Popular, Popular Party	No
Poland, 2013		Sojusz Lewicy Demokratycznej-Unia Pracy (SLD-UP)	Platformarna Obywatelska	No
Great Britain, 2013	Sinn Fein	Labour Party	Conservatives	No
Romania 2013		Partidul Social Democrat (PSD)	PSD and National Liberal Party	Yes

The radical left and the socialist are political groups within the European Parliament. These groups are used to define per country which national party is member of one of the political groups. The groups written down in table 2.0 define the concept left political parties.

Table 3.0 defines which national parties were present in government during the years protest against fracking took place. Combining these two tables will give answer whether or not the presence of left parties could explain a change in public policy. In Germany, France and Romania a ban on fracking was imposed. The assumption is that in these countries left government parties were present before the ban succeeded. Reason is that left parties are more progressive and more willing to change the status quo. In Germany the SPD was present as a left party in government in advance of the ban. In France the government was led by president Nicholas Sarkozy. His centre-right

government responded to the demands of the movement. This was not in line with the expectations deriving from hypothese 2. In Romania the PSD and National Liberal Party were leading the government. The PSD can be considered as a socialist and thus left party. This is in line with the assumption of hypothese 2.

4. Results

Tabel 4.0: Overview of key data collected

Country	Ban	Movement strength	Political Allies
France	Yes	20	No
Germany	Yes	>1000	Yes
Romania	Yes	7000	Yes
Spain	No	13000	No
Poland	No	200	No
England	No	>1000	No

The database of Factiva is used as a source to gain information about the number of participants present at protests. The number of participants tells something about the strength of a movement to place an issue on the political agenda. This process is an important first step in initiating the process of policy change (Anderson, 2011, p.12). The first hypothesis assumes when more people join a protest it will be more likely for a social movement to have impact. The hypothesis finds support when the protest with the largest number of participants, corresponds with the cases where fracking is banned. The largest protest was held in France with 20,000 people. In Romania also a large number of people joined the anti-fracking movement. The outlier is Spain. A large number of protesters joined the movement, but this did not result in a ban. These results do not suggest that movement mobilization directly impacts public policy. This is in line with the assumption Dieter Rucht (1999) made in his research about the impact of environmental movements.

Hypothesis 2 tests one of the dimensions of the political opportunity structure. It is expected that the presence of political allies benefits a social movement in reaching the decision making process. As a consequence it is more likely for a movement to have impact. The results of the data-research are coded in table 4.0. Comparing cases on the dependent variable shows that in two out of three countries political allies are identified. This suggest that the hypothesis finds support in the empirical research.

The third hypothesis tests if movement strength in combination with the presence of political allies makes it more likely for a movement to have impact. The case of France shows that it is not necessary to have political allies in order to change public policy. However France had a larger number of citizens mobilized compared to the cases of Germany and Romania. Further research needs to be done to test if movement strength and the presence of elite allies makes it more likely for a movement to have impact. Per country the results will be discussed in more detail.

Germany

According to the data collected by the Fracking research team consisting of Feodoroff, Franco and Rey Martinez (2013) fracking was banned when the article was published in January 2013. Searching for 'Fracking' AND 'protest' resulted in 861 articles in a period between 2010 and 2017. It is expected that most articles are published in the year fracking was banned. In the case of Germany most articles were published in the years after the year 2013. An explanation is that it took years of dispute before a law to ban fracking could be approved (Guardian, 2016). The topic remained relevant until fracking was banned completely. This explains why most articles were published in 2015. In this time period articles are analyzed and seven different protests on fracking were mentioned. The participants present per protest differed in number. The largest number of people gathered in Bremen and the province of Niedersachsen with more than 1000 participants protesting against shale gas. In the same year the government coalition consisted of the national parties CDU and SPD. The SPD can be defined as a social democratic party and can thus be qualified as a political ally in this research.

France

Using the search strategy, no data about the number of participants present at a protest could be found. Even searching with the French words 'gaz de schiste' AND 'protestation' gave no results. Because France was the first country where fracking was banned, fracking could not be excluded as a case. Luckily a scientific article was available describing anti-fracking movements protests in France (Olofsson, 2014, p.vi). The centre-right government of Nicholas Sarkozy authorized the exploration for shale gas (Keeler, 2015, p. 1). An administrative blunder sparked massive resistance. In 1994 In France the requirement to do an environmental impact assessment and inform the public about exploratory research without informing anyone. For a period of 17 years it was possible for companies to do exploratory research without informing anyone. In retrospect the exploratory research in shale gas could have extreme grave risks for the environment (Keeler, 2015, p. 4). The media eventually played a big role in spreading the message about the possible risks for fracking. This sparked a resistance against fracking among the mass. With the help of social media, people managed to organize themselves. In the Ardeche, 20,000 people gathered to demonstrate in Villeneuve-de-berg. This was the largest campaign against fracking organized in France. Even though France was led by the centre-right government of Nicholas Sarkozy a ban was imposed. This is not in line with the assumption political allies need to be present.

Romania

According to the data of the Transnational institute, Romania banned fracking. In the year 2013 most articles were found on this issue. Analyzing the articles made clear that 12 demonstrations throughout the country took place. With an average of hundreds of people joining a protest. The largest gathering found took place in the city centre of Bukarest where 7000 people took the streets to protest against shale gas exploration ('Thousands protest in Romania against shale gas gold mine', 2013). In this year the government coalition consisted of the parties Partidul Social Democrat (PSD) & National Liberal Party. The PSD is part of the social democratic party within the European Parliament and can thus be considered as a left-wing party and political ally.

England

A number of 1578 articles were found searching for the words protest and fracking, filtering on the region of England. 2013 was the year with most articles on this topic. Compared to the year 2012 the number of articles increased considerably. In the period between the 1st of January and the 31th of December, the media reported about nine different protests. Most striking was the event taking place in West-Sussex, near the village of Balcombe. The protest was organized by the movement Frack-off, because concerns existed that the company Caudrilla, active in exploring shale gas in Britain, could seek to frack in Sussex (Young, 2013). Even though protests were held across the country, banning fracking did not succeed. Looking at the parties in government this is expected because the conservatives are considered to be a right-wing party. They can not be defined as political ally.

Poland

Most articles on fracking protests were published in the year 2013. An analysis of this year shows only one protest was held. More than 100 activists in the village Zurawlow (Deutsche Welle, 2013). Poland did not ban fracking. Thereby the research did not identify left-wing parties present in government.

Spain

Spain also experienced resistance against fracking in the year 2013, according to the number of articles. No appropriate articles were found on the number of protesters. This is salient, because protest in Spain took place. In the article of Feodoroff et al (2013) an event is mentioned where 13.000 people took the street to protest against fracking. Despite this large protest, the government did not include left-wing political parties.

5. Conclusion & Discussion

The aim of the research is to test two factors which can explain the different impact of anti-fracking movements. The first one looks at the strength of a movement to place an issue on the political agenda. Before an issue reaches the political agenda awareness among elected officials is necessary. The assumption is that number of mobilized people positively influences this process and helps to initiate the process of policy change.

The number of participants present at anti-fracking protests is measured using media coverage. As a tool for analyzing the media the database of Factiva is used. The assumption made is that this source represents media coverage well because almost all newspapers are included. In the case of France no suitable information could be found via Factiva. In order to test the validity of this instrument, other data bases can be used to check if there is more information available on a topic, which is not included in Factiva. Retrieving data via this database a search strategy was required. The content analysis is conducted in the year with most articles published on the topic of fracking. Using this criteria makes sure every country received the same amount of media coverage. It is important to keep the cases equal in this aspect, because this makes sure the variable of movement strength is measured consistently across movements.

The second hypothesis is testing the presence of elite allies having impact on changing public policy. The case of Spain shows that even with a large number of participants protesting against fracking, there is no guarantee fracking will be banned. On the contrary, the results on the variable of movement strength are in line with the assumption of Rucht (1999) who states that movement mobilization alone does not translate into public policy. Access to the decision making process is needed to change public policy. Elite allies can help movements to gain access. This concept is more often used to explain the impact of movements on state policy (Anderson, 2011, p. 30). It was thus an important factor to include in this research. Looking at the results it is difficult to say if the presence of elite allies had impact on banning fracking.

In the countries with elite allies, fracking was banned. France did not have political allies in government but did also manage to impact policy change. The centre-right government of Nicholas Sarkozy supported the demands of the movement. An alternative explanation for the results found in this research is that public opinion can be an important variable in explaining when states are able to transform their demands into public policy change. Further research can take this variable into account by conducting a content analysis and code statements released in the media (Rucht, 1999,p. 217).

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