Was Elinor Ostrom wrong? The effect of heterogenous preferences in collective action during the Brexit negotiations

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Thesis Seminar:	Global Public Goods (GPG) and Commons
Title:	Was Elinor Ostrom wrong? The effect of heterogenous preferences in collective action during the Brexit negotiations
Supervisor:	R. Hagen MA
Second reader:	Dr. N.J.G. van Willigen
Date:	15/06/2021
Word Count:	10.330

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Was Elinor Ostrom wrong?

The effect of heterogenous preferences in collective action during the Brexit negotiations

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Abstract:

This master thesis analyses the conditions under which actor heterogeneity influences collective action in common-pool resource (CPR) management. This is done through a case study of the negotiations leading up to the EU-UK Trade & Cooperation Agreement (EU-UK TCA), delivered on 24 December 2020. Contrary to substantial agreement in academic literature, guided by the work of the first female Nobel Prize winner Elinor Ostrom, heterogenous preferences did not fail collective action in the case of the Brexit negotiations. Consequently, the following research question is presented: How did heterogenous preferences influence collective action during the Brexit negotiations? This effect is examined by applying a qualitative content analysis to negotiation positions on fisheries of the UK and the EU. The case study presents evidence for a game theoretical model of conflict called the chicken game, in which actors can achieve collective action despite their heterogenous preferences. Successful collective action has been possible in this case as an extremely costly common bad, a no-deal Brexit, was to be avoided at all cost.

Key words: collective action, heterogeneity, common pool, fisheries, preferences, Brexit

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Abbreviations

CFP	Common Fisheries Policy
CPR	Common-Pool Resource
CPRM	Common-Pool Resource Management
EEZ	Exclusive Economic Zone
EU	European Union
EU-UK TCA	The EU-UK Trade and Cooperation Agreement
LI	Liberal intergovernmentalism
UK	United Kingdom
UKIP	United Kingdom Independence Party

1. Introduction

We cannot leave the theoretical power to carve up our country — to divide it — in the hands of an international organization.

– Boris Johnson, Prime Minister of the UK (Johnson for The Telegraph, 2020)

Efforts of international economic cooperation are often reflected in the design of institutions. A shared preference to further develop European integration resulted in signing of the Treaty of Paris in 1951, setting up the European Coal and Steel Community, the origin of European Union (EU) institutions as we know it today (EUR-Lex, 2017). More recently, the EU and Canada realised mutual benefit by cutting down tariffs and reaching agreement on easier rules on export of goods and services in the Comprehensive Economic and Trade Agreement (European Commission, 2021). However, different interests can increase difficulty to achieve collaboration. The negotiations between the EU and the United States of America (USA) about The Transatlantic Trade and Investment Partnership (TTIP), an agreement on the elimination of tariffs for industrial goods, ended without conclusion in 2016 (European Commission, 2019). According to the EU, it was impossible to reach mutually acceptable commitments with the USA in areas selected as priority by the Union (Council of the European Union, 2019, p. 2).

Over the years, the EU has grown a wide range of policymaking responsibilities, while it only deals with a few policy areas at EU level exclusively (Lelieveldt & Princen, 2011). One of those traditional policy areas involves agriculture and fisheries (Lelieveldt & Princen, 2011). Membership of the EU involves regulation of fishing activity in European waters through its Common Fisheries Policy (CFP), a set of rules for managing European fishing fleets and preserving fish stocks (European Commission, 2020). The comprehensive legal framework of the CFP, introduced in 1970, implies that all significant decisions about fisheries are taken at EU level and that member states share a collective responsibility for sustainable management of fish stock (Philipson & Symes, 2018; European Commission, 2020).

The 2016 British referendum outcome to leave EU membership represents a new political boundary, which threatens the sustainability of European fisheries management. Since joining the EU in 1973, the British electorate has been the electorate with the strongest Eurosceptic voice, ultimately leaving up to this very same electorate to vote to leave the EU with a small majority of 51.9 percent of the votes (Hobolt, 2016). The outcome of the British referendum in

June 2016 echoes a lengthy history of animosity towards the CFP among a considerable but unidentified proportion of active fishers in the UK (Philipson & Symes, 2018). One of the main claims made by politicians and fisheries groups in the referendum was that Brexit, the departure of the UK from the EU, would allow 'taking back control' of own waters (Philipson & Symes, 2018). This would allow the fishing industry to deny access to EU fisherman, which would increase fish catches by UK fleet with almost €400 million (Philipson & Symes, 2018; Billiet, 2019).

Although the fishing industry in the UK is small, accounting only for about 0.1 percent of total economic output, fisheries quickly became a symbolic issue of disagreement in the Brexit negotiations (Billiet, 2019; Banks, 2020). The BBC reported several times about EU and UK negotiators clashing on each side about access to fishing waters and quota levels issues, and fisheries management was left as one of the last issues on the table near the end of the transition period on 31 December 2020 (Adler, 2020; 2020). Although the interests seemed so far dispersed, the negotiations resulted in successful delivery of the EU-UK Trade & Cooperation Agreement (TCA) on 24 December 2020 (European Commission, 2021).

The UK leaving the EU is extraordinary in many ways, not in the least as it is the first country that revokes its membership out of the most established institution of European cooperation. The different preferences did not fail negotiations with the EU. Instead, the TCA presents a new economic and social partnership between the EU and the UK, including a new framework for the joint management of fishing activity (European Commission, 2021). Many academics assume collective action to succeed only when actors have similar, or homogenous, preferences (Johnson & Libecap, 1982; Ostrom, 1992; Kanbur, 1992; Singleton & Taylor, 1992; McGinnis & Ostrom, 1992; Ostrom, 2010). If both the EU and UK would have acted purely rational during the negotiations, trying to maximize their own benefit without compromise, a 'no-deal' outcome was a more logical expectation.

So how did the UK and EU reach successful collective action despite these different interests? This analysis expects the answer to fit within the consequences of a game theoretical model of conflict called the chicken game, in which the UK and EU achieved collective action in order to avoid a no-deal Brexit. Therefore, my research question is:

How did heterogenous preferences influence collective action during the Brexit negotiations?

The following chapter presents an overview of academic literature dealing with factors that influence the likelihood of successful collective action. The third chapter presents a critical

reflection on theory of common-pool resources (CPR) management. To systematically outline the process where heterogeneity could have been of influence, the remainder of the thesis presents a qualitative content analysis of negotiating positions over fisheries. This case study serves two main goals. It contributes to the academic debate about success factors for collective action and zooms in on heterogeneity, where it uncovered a gap in literature about its perceived causal effect in CPR management. Moreover, this research can help negotiators and policy makers make smart choices in complex situations where nations operate strategically in order to safeguard their interests.

2. Literature Review

This chapter starts by presenting an overview of academic literature on disintegration from the European Union (EU), before dealing with factors that influence the likelihood of successful collective action in common-pool resource (CPR) management. The term CPRs is used to describe resources with open access and in need of regulation of their use (De Moor, 2011; Ostrom, 1992). Most frequently cited examples include fisheries, forests and grazing land (Ostrom, 1992). All CPRs share two characteristics. First, the size of CPRs makes it costly to exclude others from benefitting and second, consumption by one reduces availability for others (Hardin, 1968; Ostrom, 1992; Steins & Edwards, 1999). These two characteristics create potential dilemmas between individual interests and group interests and have split up the debate on how to achieve sustainable management of CPRs: privatization and government control on the one hand, and the potential of community-based management on the other. This review will first pay focus to Brexit and fisheries management. After, it will turn attention to the body of literature about sustainable CPR management and conditions underlying successful collective action.

2.1. Integration & Disintegration within the EU

Brexit represents a major readjustment in the European diplomatic strategy. After the most early stages of European integration (from 1950 to 1957), both crises and progress have shaped the debate between theories explaining EU integration (Lelieveldt & Princen, 2011). Integration has been central to Europe's international relations, reflected in growing membership, the design of the monetary union, and the implementation of border-free travel with the Schengen Agreement particularly since the 1990s (Schimmelfennig, 2018; Whitman, 2019).

Neo-functionalism has been one of the dominant theories explaining integration, rooted in the pluralist school and developed by Ernst Haas in the late 1950s (Lelieveldt & Princen, 2011). According to neo-functionalism, the process of integration is characterized by a clash of states over different national preferences, which results in a shift of political activity to a new supranational political community (Lelieveldt & Princen, 2011). Neo-functionalism assumes member states to collaborate together to advance their economic interests, setting in motion a process of ever more delegation to institutions that exert authority over the nation states (Lelieveldt & Princen, 2011).

The mid-1960s and the 'empty chair crisis' provoked a much more sceptical assessment on integration. Rooted in the realist approach of international relations, intergovernmentalism challenged the neo-functionalist theory by questioning how far governments would actually be willing to transfer sovereignty to a new supranational European institution (Hoffman, 1966; Lelieveldt & Princen, 2011). Intergovernmentalism expects member states to take decisions about cooperation autonomously and only collaborate to fulfil their self-interests (Lelieveldt & Princen, 2011). The increasing dynamic of integration in the 1990s led to a reformulation of theory and the development of liberal intergovernmentalism (LI). LI argues that member states don't form autonomous preferences, but are subject to economic interests of powerful domestic groups in a situation of international interdependence (Moravcsik, 1993; Lelieveldt & Princen, 2011; Schimmelfennig, 2015). LI theorizes collective action to be the result of a three step progress of domestic formulation of preferences, followed by bargaining between member states, and the creation of institutional arrangements as outcome to put these agreements into effect (Lelieveldt & Princen, 2011).

While these theories are able to explain the variation in European integration over time, they don't account for the reduction of UK integration, with Brexit as end-result. Rooted in a postfunctionalist explanation, concerns about the preservation of state sovereignty in core state areas and national identity can create a demand to 'opt out' of further European integration (Schimmelfennig, 2018; 2018). Hooghe and Marks (2009) theorize that national identity is decisive for regional integration. The growing number of referenda and Eurosceptic public opinions put pressure on the level and scope of further European integration (Hooge & Marks, 2009).

Differentiated disintegration is the selective reduction of a state's level and scope of integration within the EU (Schimmelfennig, 2018). It can occur when a member state withdraws from particular EU policies while remaining in the EU (Schimmelfennig, 2018). Typically, this position will yield strong bargaining power as EU treaty revisions require unanimity (Schimmelfennig, 2018). In exchange for waiving a nations veto, opt-outs do not threaten the EU's status quo of further integration (Schimmelfennig, 2018). As member state, it allowed the UK to opt out several times in the area of core state powers, such as when it refused to enter the Schengen free-travel zone, the euro, the Charter of Fundamental Rights and the Social Chapter of the Maastricht Treaty (Schimmelfennig, 2018). Externally, differentiated disintegration occurs when a member state withdraws from the EU but continues to engage in some EU policies (Schimmelfennig, 2018). Brexit illustrates this. The mobilization of the Eurosceptic

UK Independence Party (UKIP), fuelled by growing concerns about state sovereignty and immigration policies, increasing salience of the immigration issue, and Cameron's agreement to a referendum, all contributed to a change in the UK position from a defender, to a challenger of the status quo (Schimmelfennig, 2018).

When a state's negotiating status shifts from defender of the status quo to demander of disintegration, bargaining power declines (Schimmelfennig, 2018). As the UK has been a status-quo oriented member state historically, it enjoyed strong institutional bargaining power to demand opt-outs in previous negotiations on further integration (Schimmelfennig, 2018). Since the referendum, the UK has been a demander of disintegration. This means that respective bargaining power declined, as it can no longer threaten with using a veto, while the remaining states are in a favourable position to determine the terms of withdrawal and future relationship (Schimmelfennig, 2018). It is also very difficult for the UK to threaten the EU with no or outside agreements, as completely leaving the single market would force the UK to suffer greater losses than the EU as a whole (Schimmelfennig, 2018).

This is a bit more nuanced for the fishing industry. Brexit would allow the fishing industry to prosper as the number of fish available for the UK fleet to catch would increase significantly (Billiet, 2019). Other EU countries captured twelve times as more fish from UK North Sea waters in 2020, than the UK caught from non-UK sections of the North Sea (Heath & Cook, 2020). In the UK Exclusive Economic Zone (EEZ), 200 miles of sovereign national water in the North Sea, the UK only caught around a fourth of all fish and shellfish (Heath & Cook, 2020). Norway caught the other quarter, and the other EU member states caught the remaining half (Heath & Cook, 2020). Whereas the Common Fisheries Policy (CFP) safeguarded sustainability of shared fish stocks under a European framework, Brexit would imply a new shared fisheries management between EU and UK regulations (Phillipson & Symes, 2018). If the UK and other European nation states set their quotas unilaterally, cod stocks will fall 75 percent below sustainable limits in the North Sea (Heath & Cook, 2020). Without collaboration, the sustainability of shared fish stocks is in severe danger.

2.2. Management of Common-Pool Resources (CPRs)

In a CPR scenario, collective action typically occurs if users seek to overcome the problem of exclusion, being the open access of the resource, by deciding on an accord to govern it (Steins & Edwards, 1999). If the benefits of a collective good are open to everyone, including non-users, rational individuals are motivated to free ride on the benefits at the expense of others (Olson, 1965; Hardin, 1968; Oliver, 1993).

Rational choice theory is widely used in political literature as the foundation for the study of social dilemmas and collective action (Olson, 1965; Ostrom, 1998; Brando et. al, 2019). Rational choice sees actors as selfish and profit maximizing, and predicts collective action based on those assumptions. In *The Logic of Collective Action,* Olson (1965) exemplifies this with the "zero contribution theory", suggesting that no self-interested person would contribute voluntarily to achieve the common or group interest, even if it would realize mutual benefit. The debate on CPR management has been driven further by the *Tragedy of the Commons* (Hardin, 1968), which describes the rational individual user as not capable of overcoming collective action problems themselves, as they will pursue short-term interests instead. This causes a conflict with the long-term welfare of society, overexploitation and ruin of all commons resources (Hardin, 1968; Steins & Edwards, 1999). Since the *Tragedy of the Commons* (Hardin, 1968), scholars assumed that CPRs would become exhausted unless privatized, or if the state imposes top-down regulation (Olson, 1965; Hardin, 1968; Oliver, 1993; Steins & Edwards, 1999; Brando et. al, 2019).

Community-based management challenges the zero contribution theory with examples of cooperative behaviour without external rules or enforcement by public institutions (Ostrom, 2000; Ostrom, 2010). Rather than the state as central actor in managing overexploitation, CPRs can be managed sustainably if communities apply a polycentric and self regulated mode of governance (Ostrom, 1992; Ostrom, 1998; Ostrom, 2010; Brando et. al, 2019). A community does not require any particular altruistic feelings between members, but those that achieve successful collective action share certain characteristics that keep the transaction costs of identifying, negotiating and problem-solving low (Singleton & Taylor, 1993).

2.3. Conditions for Successful Collective Action

CPR scholars have developed a large body of literature about conditions underlying successful collective action, such as durable relations between groups or the number of participants involved (Ostrom, 1992; Taylor & Singleton, 1993; Steins & Edwards, 1999). Ostrom (1992) formalized this in a list of structural variables which make it more likely that a set of participants reach successful collective action. This challenges early scholarly assumptions of predicting collective action with rational choice theory as a single game theoretical model (Ostrom, 2010).

In a situation that does not depend on being repeated, variables that influence the likelihood of collective action are: (1) the number of participants, (2) whether benefits are subtractive or fully shared, (3) heterogeneity of participants and (4) face-to-face communication (Ostrom, 2010). Each variable will be briefly discussed. Larger groups increase difficulty in collaborating because of the size of the agreement, and because free riding behaviour is less likely to get noticed in a big group (Olson, 1965; Ostrom, 2010). This negative relation is particularly the case with CPRs as a subtractive resource. Subtractive resources, like fisheries, are subject to the problem of overexploitation as benefits to one decrease with consumption by another (Ostrom, 2010). Therefore, collective action is expected to be more difficult. Thirdly, likelihood to cooperate can reduce when users have substantially diverse interests, as costs of negotiating, monitoring, and enforcing rules are higher (Ostrom, 2010). According to Singleton & Taylor (1992), heterogeneity is the key variable that is able to destroy communities. Lastly, face-to-face communication is found to produce solidarity and trust, which increases the likelihood that participants keep their promises to cooperate together (Ostrom, 2010). Although there is no blueprint that leads to success, the principles are increasingly considered as prerequisites for achieving successful collective action (Steins & Edwards, 1999).

2.4. Actor Heterogeneity & Collective Action

Many scholars only assume collective action to succeed when actors are homogenous (Johnson & Libecap, 1982; Ostrom, 1992; Kanbur, 1992; Singleton & Taylor, 1992; McGinnis & Ostrom, 1992; Ostrom, 2010). Heterogeneous preferences can evolve from economic inequalities and social-cultural differences between states (Martin, 1994; Ruttan, 2008). They are ought to increase complexity to the decision making process (Olson, 1965; Ostrom, 1992; Ostrom, 2010). This, in turn, can reduce likelihood to cooperate internationally. Moreover, regime stability is at risk if not all participants' interests are incorporated in an agreement, as

the excluded group will undermine the agreement going forward (McGinnis & Ostrom, 1992). The most successful regimes are therefore those with common and shared interests and who are relatively symmetric in terms of power (McGinnis & Ostrom, 1992).

However, literature lacks voices countering homogeneity as a prerequisite for successful CPR management. Martin (1994) argues that heterogeneity affects international state cooperation, but does not make it less likely. A manifestation of different preferences will lead to unanimous decisions on important institutional matters, creating issue linkage between states in turn (Martin, 1994). Economic heterogeneity is found to have a positive effect on CPR management and the provision of collective goods, if the economically advantaged actor gains, and if they have the desire to provide the good (Ruttan, 2008). And only if divisions can be bridged by well-established relations that tie a community together, modest amounts of heterogeneity are not problematic (Singleton & Taylor, 1992). So far, only a few studies have linked actor heterogeneity and positive, or to say not negative, effects on collective action in CPR management. This thesis aims to contribute to scholarship by linking the variable of heterogeneity to the case of the Brexit negotiations.

3. Theoretical Framework

This theoretical framework proposes theory which explains heterogeneity and its prominent assumptions that could influence collective action. In a CPR scenario, like shared fisheries in the North Sea, collective action typically occurs if users seek to overcome the problem of exclusion by deciding on an accord to govern it (Steins & Edwards, 1999). The chapter presents a game theoretical model of conflict called the chicken game, followed by four expectations about heterogeneity and its impact on the Brexit negotiations and the delivery of the EU-UK Trade & Cooperation Agreement (TCA).

3.1. The Chicken Game

A mixed-motive game is a scenario in which rational actors involved seek to achieve some goal(s) that are partially aligned and partially in conflict (Gallo & McClintock, 1965). Their success or failure is determined not just by their own strategy choices, but also by those of the other participants in the scenario (Gallo & McClintock, 1965). In a chicken game (Rapaport & Chammah, 1966), two cars race at each other at high speed. The first driver to blink and pull to the side loses and is 'the chicken'. However, if neither driver turns the steering wheel, the cars crash into each other, causing damage to both sides. According to game theory, the driver of the weaker car is most likely to give in first as he would suffer the greatest damage (Rapaport & Chammah, 1966). As illustrated in the payoff matrix, each of the two players has a choice between two strategies. Cooperation (C) results in maximal joint reward (R), or the daring strategy (D) for which non-cooperation on both sides is punished (P), temptation to race for the largest individual payoff was higher (T), or where one of the players went for unilateral cooperation and was the chicken (C) (Rapaport & Chammah, 1966).

	C2	D2
C1	R, R	C, T
D1	T, C	P, P

Figure 1. Payoff Matrix for a Chicken Game (from Rapoport & Chammah, 1966).

Chicken game situations include two distinguishing characteristics (Rapaport & Chammah, 1966; Schimmelfennig, 2015). First, the actors share a strong joint preference to avoid an

extremely costly common bad, while also avoiding the cost of backing down first (Schimmelfennig, 2015). This is called hard bargaining (Schimmelfennig, 2015). Second, chicken games often result in negotiation behaviour that is characterized by 'brinkmanship' (Rapaport & Chammah, 1966). As negotiating parties move closer to a cliff edge, the actors send each other signs of resolve and make cooperative manoeuvres at the last possible moment to avoid disaster (Schimmelfennig, 2015). Actors who most convincingly portray that their hands are tied can persuade the opposing side to back down (Rapaport & Chammah, 1966; Schimmelfennig, 2015). However, if the cost of disaster and backing down are the same for both actors, it is difficult to anticipate who will be back down (Schimmelfennig, 2015). Schimmelfennig (2015) defines this as a 'symmetrical chicken game'.

3.2. The Role of Bargaining Power

In classic realist theory, international politics is typically characterized as relations between sovereign entities that struggle for their survival. States are considered to be rational and strategic actors in a system of anarchy (Waltz, 1979; Stein, 1982). Anarchy implies that there is no world government or power above the sovereign state, which causes states to consider every option available to them and pursue self-interested decision making in order to maximize their returns (Waltz, 1979; Stein, 1982). While all states struggle to survive, not all states do so equally because of their variations in the "capabilities of units", being resources (Waltz, 1979). Self-interested decision making is grounded in states interests and preferences, and the interaction between states about these decisions can form stability or conflict (Stein, 1982). However, the international system no longer simply consists of a system of states, but deals with common interests. Globalization increased interdependence and changed the payoffs states face in rationally evaluating their options (Cerny, 1995). This increases transnational and multinational political and economic structures bigger than the sate (Cerny, 1995). Globalization pushes independent decision making off the table, as self-interested behaviour can result in undesirable or suboptimal outcomes (Stein, 1982; Cerny, 1995).

International cooperation theory identifies two types of collective-action problems that confront states dealing with common interests, these being *collaboration* and *coordination* dilemmas (Stein, 1982). As typically demonstrated in *The Tragedy of the Commons* (Hardin, 1968), collaboration dilemmas concern situations of market failure, where the highest pay-off for states is to be non-cooperative and pursue short-term self interests (Hardin, 1968; Stein, 1982; Martin, 1994). International commons problems, like overfishing of a common sea, is an example of a

dilemma of common interests (Stein, 1982). In order to solve such collaboration dilemmas, all actors must collaborate, find a way to unify their interests, and formalize what cooperation entails, but also what cheating means and how you can spot others' cheating instantly (Stein, 1982). The nature of power in such a formalized institution can be defined as 'power-with', meaning actors take part in egalitarian and open communication (Brando et. al, 2019).

If states manage to solve a collaboration dilemma, a second step is to decide on the form of joint coordination of this solution (Stein, 1982; Martin, 1994). States need to negotiate over the benefits of the suggested solution to the cooperation problem in order to avoid a suboptimal outcome (Martin, 1994). On the one hand, power asymmetries may facilitate a solution to this problem. The most rapid way would be for the most powerful actor to choose an equilibrium it prefers, at the cost of others (Martin, 1994). International cooperation theory thus shows that heterogeneity is central to successful collective action, as it influences power distribution.

As the UK shifted its position from a defender to challenger of Europe's status-quo, the EU's bargaining power increased relative to that of the UK (Schimmelfennig, 2018). Article 50 presents the remaining member states with an institutionally advantageous position through the limit of 2 years on the duration of the Article 50 negotiations, national ratification of a new agreement, and the required consent of the European parliament (Schimmelfennig, 2018). The UK first negotiates with the EU as a whole, as represented by the European Commission, which strengthens the EU's cohesiveness and bargaining power even further (Schimmelfennig, 2018). The Brexit negotiations also represent a wish of the UK government to not completely break connections with the EU, but keep a free-trade zone and preferential market access in certain sectors (Schimmelfennig, 2018). According to game theory, the driver of the weaker car in a chicken game is most likely to give in first as he would suffer the greatest damage (Rapaport & Chammah, 1966). Over the course of the Brexit negotiations, it is expected that the UK as demander of disintegration tempers its demand and makes compromises to EU preferences. Therefore:

H1: The UK moderates its demand and makes concessions to the EU over the course of the Brexit negotiations.

Another important matter is whether the EU would be willing to change the terms of negotiations or make concessions to the UK. Here, the chicken game presents a dilemma as represented in figure 2. If the EU assumes that the UK is 'chicken' (C) and that the UK will cooperate because of its relatively weak bargaining position, the EU might feel safe to play the

daring strategy to pursue a higher payoff for its own preferences (T, C). If the EU assumes that the UK also uses the daring strategy, it is unlikely use the same negotiating style as this would mean a worst-case scenario of double punishment (P, P). Therefore:

H2: The EU puts strong pressure on escaping from a situation of non-cooperation at all cost, but will play a daring strategy if the UK gives in on cooperation first.

	UK Cooperates (C2)	UK Dares (D2)
EU Cooperates (C1)	R, R	C, T
EU Dares (D1)	T, C	P, P

Figure 2. Payoff Matrix for a Chicken Game applied to the EU-UK negotiations

3.3. The Role of Negotiation Behaviour

Actors with heterogenous preferences will present an unbalanced view of important matters on a shared agenda (Martin, 1994). In order to come to an agreement despite these asymmetries, issue linkage is often regarded as a means to achieve or improve international cooperation (Haas, 1980; Martin, 1994). Issue-linkage can be attempted to maintain cohesion, which is in turn held together by a commitment to an overarching social goal (Haas, 1980). Weiss and Blockmans describe the EU-UK negotiations in their report as driven by an overarching "fundamental desire" to reach an agreement (2016). Heterogeneity is expected to be an important moderating factor which creates issue linkage in turn.

In a chicken game scenario, both actors share a strong joint preference to avoid an extremely costly common bad, while also avoiding the cost of backing down first (Schimmelfennig, 2015). Whereas both the UK and EU perceived a no-deal as a worst case scenario, the EU would benefit most from shifting the burden of Brexit to the UK, and the UK would benefit from retaining as much access to the EU as possible, while leaving the single market (Schimmelfennig, 2015). This would lead to expect that the negotiations are characterized by hard bargaining and brinkmanship, while an overarching goal ties heterogenous preferences together. Therefore:

H3: The importance of avoiding a costly common bad transcends heterogeneous preferences, in turn establishing cohesiveness between the EU and UK.

3.4. The Role of Economic Heterogeneity

Heterogeneous preferences can evolve from economic inequalities and social-cultural differences between states (Martin, 1994; Ruttan, 2008). Homogeneity of preferences, as opposed to heterogeneity, is found to have a positive effect on collective action (Poteete & Ostrom, 2004; Ostrom, 2010). This because it reflects common interests, but also as it increases predictability and in turn promotes trust (Poteete & Ostrom, 2014). Theory assumes that heterogeneity in general negatively effects collective action and the performance of CPR management (Poteete & Ostrom, 2004; Ruttan, 2008). This as costs of negotiating, monitoring, and enforcing rules are higher (Ostrom, 2010). In a CPR scenario, collective action typically occurs if users seek to overcome the problem of exclusion, being the open access of the resource, by deciding on an accord to govern it (Steins & Edwards, 1999).

Despite economic inequality, the collective good can still be provided by the most wealthy actor (Ruttan, 2008). According to Ruttan (2008), this factor has been largely overlooked in studies of the impact of heterogeneity. When there is relatively little inequality, all actors share the same motivations to solve the problem. At moderate levels of inequality, incentives for the most wealthy actor might not be strong enough to entirely provide the good, while the poorest actor is already motivated to free ride on the benefits at the expense of others (Olson, 1965; Ruttan, 2008). However, even if economic inequality creates difficulty collaborating, the collective good may still be provided if the most wealthy actor can provide it while producing benefits to the less advantaged to free-ride (Ruttan, 2008).

Fisheries management under the CFP represents such economic inequalities well. Under the CFP, EU coastal states have had equal access and responsibility for the living resources since the 1970s (Phillipson & Symes, 2018). Whereas the Common Fisheries Policy (CFP) safeguarded sustainability of shared fish stocks under an European framework, the EU captured twelve times as more fish from UK North Sea waters in 2020, than the UK caught from non-UK sections of the North Sea (Heath & Cook, 2020). The Referendum campaign paid considerable attention to the unfair treatment of the UK under the quota system of the CFP, and claimed that 80 percent of UK fish was thrown away to the rest of Europe (Heath & Cook, 2020). Brexit would end CFP regulations to apply to the UK and make the UK an independent

coastal state with the autonomy to decide who fishes within 200 nautical miles of it's waters (Billiet, 2019).

In comparison to the EU as a whole, each individual member state's market and economy are relatively small. Moreover, the importance of being part of the EU single market typically outweighs the relevance of alternative economic relations (Schimmelfennig, 2015). Although the UK is one of the largest member states with a strong economy, literature reveals that the UK is worse off economically because of new barriers to trade, foreign direct investment, and immigration (Sampson, 2017). In 2019, the EU accounted for 43 percent of UK exports (goods and services) and 52 percent of UK imports (House of Commons Library, 2020). The UK, on the other hand, only accounted for 15 percent of EU exports and 10 percent of EU import (Eurostat, 2020). The costs of Brexit are estimated to total between 1 and 10 percent of the UK's income per capita, while the losses are expected to be much smaller for the European Union (Sampson, 2017).

The EU has economic advantage over the UK under the status quo. The EU would benefit most from maintaining existing reciprocal access and quota shares, while the UK intends to increase in its catches with almost €400 million worth of fish, by blocking EU fishers from its waters (Billiet, 2019). If the EU offers a provision on fisheries management, where the UK can free-ride on additional benefits, it leads to expect a successful arrangement on fisheries management. Therefore:

H4: Where opportunity to free-ride is high, economic heterogeneity is expected to positively influence collective action.

4. Research Design

This thesis aims to contribute to scholarship by linking the variable of heterogeneity to the Brexit negotiations of the UK leaving EU membership. These negotiations successfully concluded on 24 December 2021 with the delivery of the EU-UK Trade & Cooperation Agreement (European Commission, 2021). The dependent variable in this thesis is the extent of collective action during the Brexit negotiations, specifically the level and scope of joint fisheries management over the period March 2018 to December 2020.

4.1. Research Question & Hypotheses

As stated in the introduction, this thesis seeks to answer the following central research question: *how did heterogenous preferences influence collective action during the Brexit negotiations?* On the basis of the previous chapters, the following hypotheses have been formulated.

H1: The UK moderates its demand and makes concessions to the EU over the course of the Brexit negotiations.

H2: The EU puts strong pressure on escaping from a situation of non-cooperation at all cost, but will play a daring strategy if the UK gives in on cooperation first.

H3: The importance of avoiding a costly common bad transcends heterogeneous preferences, in turn establishing cohesiveness between the EU and UK.

H4: Where opportunity to free-ride is high, economic heterogeneity is expected to positively influence with collective action.

4.2. Method

A content analysis is proposed in order to study the influence of heterogenous preferences on collective action in the case of the negotiations over the EU-UK Trade and Cooperation Agreement. Content analysis is a method of qualitative data analysis (Schreier, 2013). Qualitative data analysis renders statements about implicit and explicit dimensions and structures of meaning-making in linguistic material (Schreier, 2013). It does so by the classification and interpretation of linguistic material, and by comparing various materials, in order to make generalizable statements (Schreier, 2013). Content analysis is a research technique for making replicable and valid inferences from texts to the context of their use (Krippendorf, 2004). I will analyse preferences of the EU and UK as themes, to analyse what

the UK as challenger of the status quo wanted and got. To code the themes, I developed a series of yes or no questions. The set of coding questions is summarized in table 1. If a question, or set of questions, can be answered with a 'yes' I suggest that the theme is present.

Theme	**Conceptualisation**	**Operationalization** ***Does content mention:***
Heterogeneous Preferences: Fisheries	Level of access to fishing waters	Leaving the Common Fisheries Policy
		Maintaining access to fishing waters
		Ability to negotiate on access with neighbouring countries
		Rules of access on EU vessels to UK water
	Shares of stock for EU and UK fishers	Ability to negotiate on quotas with neighbouring countries
		Value of catch in UK Economic Exclusion Zone (EEZ)
		Sustainability of resources and fishermen
	Duration of the fisheries agreement	Fixed-term
		Annual negotiations
Chicken Game	Overarching common interest in avoiding worst case scenario	No access to shared waters UK-EU/failure of EU-UK TCA
	Hard bargaining	Narrative of near misses as a consequence of disagreement over fisheries
	Brinkmanship	Signals of incapacity or irrationality increases near the end of the negotiations
	UK prevailing in the end	Leaving the Common Fisheries Policy

Table 1. *Coding Scheme: collective action in the case of the EU-UK TCA negotiations*

4.3. Case Selection & Data Collection

Although the fishing industry in the UK is small, accounting only for about 0.1 percent of total economic output, fisheries quickly became a symbolic issue of disagreement in the Brexit negotiations (Billiet, 2019; Banks, 2020). The BBC reported several times about EU and UK negotiators clashing on each side about access to fishing waters and quota levels issues, and fisheries management was left as one of the last issues on the table near the end of the transition period on 31 December 2020 (Adler, 2020; 2020). As it is expected that the EU and UK had different preferences over fisheries, the Brexit negotiations can be considered as a typical case.

The unit of analysis are the negotiation positions over fisheries as published by the UK and the EU. To systematically outline the process where heterogeneity could have been of influence, the empirical analysis will start from the UK and EU opening positions on the future trading relationship in March 2018, and conclude with the delivery of the EU-UK Trade and Cooperation Agreement on 24 December 2020. It will also critically analyse the revised Political Declaration as agreed between the EU and the UK under Prime Minister Boris Johnson in October 2019, the EU and UK mandates ahead of the negotiations published in February 2020, and the two legal texts following the mandates. This totals seven data sources of about 1.580 pages combined, about 200 of them covering fisheries. The Brexit explainers from the UK's think thank Institute for Government present a useful reference to score my data against (Institute for Government, 2021).

Although a typical case might be able to prove a causal mechanism, an inherent problem that should be acknowledged is that it is difficult to sort out rival explanations. However, an intensive study of this single unit can contribute to the understanding of a larger class of units (Gerring, 2004). Given scarcity of time and financial resources, the analysis of a few cases increases likelihood of uncovering a causal mechanism. Moreover, the preferences as derived from the negotiating positions only show the end-results and lack substantive comprehension of the underlying motives to reach collective action. This can only be produced through interviews, as the interviewees share first-hand experience and can elaborate on their own perceptions. Due to the ongoing changing character of the negotiations and political sensitivity around Brexit, interviews have not proved to be a feasible approach. The empirical section therefore presents a short additional analysis of news articles and press releases to comment on the characteristics of the chicken game.

5. Empirical Analysis

As outlined in the hypotheses, the game theoretical model of the chicken game is expected to explain collective action during the Brexit negotiations despite the heterogenous preferences over fisheries from the EU and UK. This analysis first focuses on first two hypotheses, the presence of heterogenous preferences in relation to bargaining power and their involvement over time. After, it will turn attention to the shared common interest of avoiding a no-deal Brexit as costly common bad. Lastly, annual negotiations could derive from economic heterogeneity between the two EU and UK.

5.1. (Un)Stable Heterogenous Preferences

As elaborated on in the theoretical framework, Brexit caused the UK to shift it's position from a defender to challenger of Europe's status-quo on integration policies (Schimmelfennig, 2015). In turn, this could diminish the relative strength of the UK's bargaining position (Schimmelfennig, 2015). If this holds true, empirical evidence would show moderation or concessions from the UK to the EU.

In the UK's opening position, Theresa May vowed to leave the Common Fisheries Policy (CFP). This would ensure that the UK regains control over domestic fisheries management rules and access to its waters (May, 2018). At the same time, the UK wants to ensure open markets and a continuation of collaboration on management of shared stocks in a sustainable way 'as part of our economic partnership' (May, 2018). This includes an agreement on 'reciprocal access to waters' and 'a fairer allocation of fishing opportunities for the UK fishing industry' (May, 2018). By contrast, the EU's opening position reflect the aims of preserving the status quo. In its Guidelines, the European Council (2018) emphasizes that existing reciprocal access to fishing waters and resources should be maintained.

The European Commission (EC) met on 17 October 2019 to approve a revised political declaration, a non-binding text that sets out the aims for the future relationship as agreed at negotiator's level (EC, 2019). The UK again expresses its demand to leave the CFP while maintaining an economic partnership with the EU (EC, 2019). While the UK's preference over fisheries didn't change, the declaration presents areas for further cooperation. The political declaration emphasizes how 'The Parties should cooperate bilaterally and internationally to ensure fishing at sustainable levels, promote resource conservation, and foster a clean, healthy

and productive marine environment' (no. 71, EC 2019). This should happen while the EU recognises 'regulatory autonomy' of the UK as an independent coastal state (no. 71 & 72, EC, 2019).

Formal negotiations about the future relationship commenced on 2 March 2020. Both parties published their mandates on 25 February and 27 February 2020 (Institute for Government, 2020). The mandates expand on the political declaration of October 2019 and provide an insight in the updated positions of the UK and EU just before the negotiations took place. The position set out by the UK government remained unchanged to the political declaration. It only considers a fisheries agreement that takes back control of waters as independent coastal state (HM Government, 2020, p. 19). The UK would 'no longer accept the relative stability mechanism' under the CFP (HM Government, no. 3b, 2020). Moreover, the UK wants to open annual negotiations on fishing quotas, fishing opportunities, and access to UK and EU waters. With regards to fisheries management, any EU vessel would 'be required to comply with UK rules and would be subject to licensing requirements including reporting obligations' (HM Government, no. 3c, 2020). Responsible fisheries management remains high on the UK's agenda. It clearly expresses its wish to collaborate closely with the EU and Member States on 'sustainable management of shared stocks in line with international obligations through, for example, 'a creation of a forum for cooperation on wider fisheries matters outside of annual negotiations' (HM Government, no. 3d, 2020).

The EU's Addendum (negotiating directives) again represented a strong preference to maintain the status quo. There is a very clear split with the UK's position, as first and foremost the envisaged partnership should be 'in line with the relevant principles under international and Union law, notably those underpinning the Common Fisheries Policy' (Council of the EU, 2020). The EU puts emphasis on the 'traditional activity of the Union fleet', detailing how economic disruption for Union fishermen who have been fishing in UK waters for years should be minimised. To reach this, both parties should 'uphold continued reciprocal access, for all relevant species, by Union and United Kingdom vessels to the waters of the Union and the United Kingdom' (Council of the EU, no. 89, 2020). Moreover, the UK and EU should uphold stable quota shares that can only be altered with both parties' approval, and permissible catches should be determined yearly or multi-annual (Council of the EU, no. 89, 2020).

Following consultation, the European Commission published the draft text of the Agreement on the New Partnership with the United Kingdom on 18 March 2020. Table 2 summarizes the UK's position on fisheries over the course of the negotiations, allowing for comparison between

the UK's preferences and eventual outcome. The TCA implies that the UK will leave the CFP, which allows the UK to operate as an independent coastal state (European Commission, Article FISH. 1, 2020). Moreover, the TCA presents a new protocol on access to waters in Annex FISH 4 (European Commission, 2020). In theory, the UK would be able to fully reject EU boats after 2026 (European Commission, Article 2.2, 2020). The Agreement on fisheries will be discussed annually (European Commission, 2020).

Data	**UK position**
Political Declaration 2018	Leaving the Common Fisheries Policy; Annual negotiations;
Revised Political Declaration 2019	Leaving the Common Fisheries Policy; Collaboration on stock management with other coastal states; Collaboration on fishing sustainability;
UK mandate 2020	Opening up annual negotiations on fishing quotas and access; Rejection of the relative stability mechanism; Norway's zonal attachment; Collaboration on fishing sustainability;
	Outcome
Trade & Cooperation Agreement 2020	Left the Common Fisheries Policy; New protocol on access to waters; Promoting long-term sustainability and optimum utilisation of shared stocks; Annual negotiations

Table 2. *UK preferences and outcome mapped out in the content analysis (2018 – 2020)*

Although the analysis does not provide evidence in support of the first hypothesis, it tells more about the EU's bargaining strategy as formulated in the second hypothesis. Over the course of the negotiations, the EU expressed willingness to escape from a situation of non-cooperation, presenting areas of cooperation, while the EU recognised 'regulatory autonomy' of the UK as an independent coastal state (no. 71 & 72, EC, 2019). The EU is trapped in a chicken game. As the UK used the daring strategy in which it pushes its own preferences forward without concession, the EU could not use the same negotiating style. This would result in the worst optimum outcome of a no-deal scenario.

	UK Cooperates (C2)	UK Dares (D2)
EU Cooperates (C1)	R, R	**C, T**
EU Dares (D1)	T, C	P, P

Figure 2. Payoff Matrix for a Chicken Game applied to the EU-UK negotiations

5.2. Costly Common Bad

From the onset of the political declaration delivered by Theresa May in March 2018, both the UK and EU have been committed to discuss a future partnership together. A commitment strengthened by the many ties and shared values (May, 2018) to achieve a close as possible relationship with the UK in the future (Guideline 3, European Council, 2018).

Whereas the Common Fisheries Policy (CFP) safeguarded sustainability of shared fish stocks under a European framework, a no-deal Brexit would risk overexploitation of shared fish stocks (Billiet 2019). If the UK and other European nation states would set their quotas unilaterally, cod stocks would fall 75 percent below sustainable limits in the North Sea (Heath & Cook, 2020). In order to avoid overexploitation, the UK and EU will collaborate closely with other coastal states and in international fora, particularly on joint stock management (no. 73, EC, 2019). Moreover, the parties should make every effort to complete and ratify a new fisheries agreement about 'access to waters and quota shares' by 1 July 2020 (no. 73 & 74, EC, 2019). This deadline will be used to calculate fishing opportunities in time for the first year after the transition period. The political declaration also emphasizes how 'The Parties should cooperate bilaterally and internationally to ensure fishing at sustainable levels, promote resource conservation, and foster a clean, healthy and productive marine environment' (no. 71, EC 2019). The UK's negotiating position of February 2020 even suggest a forum for cooperation on wider fisheries matters outside of annual negotiations' (HM Government, no. 3d, 2020). These findings support the expectation of how a shared costly common bad establishes cohesiveness in fisheries management between the EU and UK.

5.3. Economic Heterogeneity

In a CPR scenario, collective action typically occurs if users seek to overcome the open access of the resource by deciding on an accord to govern it. Economic inequalities may facilitate an additional hurdle to collective action in CPR management, but the wealthy actor can still provide the collective good (Ruttan, 2008). If the EU offers a provision on fisheries management, where the UK can free-ride on additional benefits, it leads to expect a successful arrangement on fisheries management.

The small size of the negotiating parties make it is very difficult to free-ride without this behaviour getting noticed (Olson, 1965). However, the results provide some evidence in favour of the fourth hypotheses. If the opportunity to free-ride is high, the costs of non-cooperation are lower than the gain of collective action (Olson, 1965). The agreement on annual talks on the total permissible catch for shared stocks best illustrate this further. The costs for setting a fixed-term permissible catch for shared stocks would typically outweigh the costs of non-cooperation in order to fulfil the UK's preferences.

The UK calls for 'a fairer allocation of fishing opportunities for the UK fishing industry', as EU countries captured twelve times as more fish from UK North Sea waters, than the UK caught from non-UK sections of the North Sea under the CFP (May, 2018; Heath & Cook, 2020). As outlined in the theoretical framework, the EU has financial advantage over the UK. In the draft text of the Agreement in March 2020, the EU commits to granting vessels permission 'at a level and on conditions determined in annual consultations' (EC, Art. FISH. 8, 2020). While the EU is willing to give in on annual talks on the total permissible catch for shared stocks, fixed quota shares would remain similar to the ones currently applicable to the UK and EU27 (EC, Heading 5, 2020). It is likely that the EU gave in on annual negotiations, as it is in its best interest to diminish economic disruption for Union fishermen who have been fishing in UK waters for years, while it needs some exclusion mechanism in place as the UK leaves the CFP (Council of the EU, no. 89, 2020). As the exclusion mechanism of the new agreement on fisheries will sit under yearly review, it offers scope for the UK to enjoy access to shared water and challenge the limits of what is possible. This can be described as free-riding. While economic inequalities increased difficulty to reach collective action, the annual negotiations demonstrate how the common good can still be provided.

5.4. Game Characteristics

This analysis seeks to provide further empirical evidence for a game theoretical model of conflict called the chicken game, in which actors can achieve collective action despite their heterogenous preferences. While the negotiating stances and regulatory provisions offer factual information on the development of preferences over the course of the Brexit negotiations, it does not tell much about the characteristics of the chicken game itself. As outlined in the theoretical framework, chicken games are typically characterized by hard bargaining and brinkmanship. The observable implications of a chicken game with heterogenous preferences for the Brexit negotiations would constitute as follows. First, hard bargaining implies a narrative of near misses of failure as a consequence of disagreement over fisheries.

Several news articles and press releases reveal further evidence for hard bargaining and brinkmanship. From the onset of the negotiations, the UK and EU have both been committed to discuss a future partnership together. Although that 'we [the EU and UK] both need to face the fact that this is a negotiation and neither of us can have exactly what we want' (May 2018). Despite this commitment, negotiations over access to Britain's fisheries had reached a point of deadlock by 27 November 2020 (Wood, 2020). As the transition period was to end on 1 January 2021, concerns grew about the impossibility to break the deadlock (Amaro, 2020). The European Commission (EC) already published detailed information on contingency work in the event of a no deal scenario in November 2018 (EC, 2018). However, on 10 December 2020 it calls on all stakeholders in the fishing industry to prepare for a no-deal scenario on 1 January 2021 because of significant uncertainty whether a deal will be possible at all (EC, 2020). This demonstrates a narrative of failure as consequence of disagreement over fisheries.

Second, as negotiating parties move closer to the end of the transition period on 31 December 2020, the EU and UK send each other signs of incapacity or irrationality. Two examples illustrate this further. The European Council underlined its willingness to negotiate an agreement insofar there are sufficient guarantees for a level playing field' (Guideline 8, European Council, 2018) and minimisation of disruption to the economy Council of the EU, no. 89, 2020). In this context, the European Council reiterated in particular that there can be no 'cherry picking' of participation in the Single Market (Guideline 7, European Council, 2018). 'If this is cherry-picking, then every trade arrangement is cherry-picking' stated the UK while drawing comparisons between other FTAs that take a tailored approach on varying levels of market access (May, 2018). Near the end of the negotiations, the EU demonstrated strong

incapacity with the presentation of its contingency plans as ‘disruption will happen with or without an agreement between the EU and the UK on their future relationship’ (EC, 2020). In turn, PM Boris Johnson repeatedly claimed that the likelihood of an agreement is determined by the EU, not by the UK (Wood, 2020).

6. Conclusion

This master thesis analysed the conditions under which actor heterogeneity influences the likelihood of successful collective action in common-pool resource (CPR) management. The Brexit negotiations and the delivery of the EU-UK Trade & Cooperation Agreement present an interesting research puzzle, as academic tradition assumes collective action in CPR management only to succeed when actors have homogenous preferences (Johnson & Libecap, 1982; Ostrom, 1992; Kanbur, 1992; Singleton & Taylor, 1992; McGinnis & Ostrom, 1992; Ostrom, 2010). Nobel Prize winner Elinor Ostrom was one of the first and arguably most important scholars to challenge any predictions of collective action with rational choice theory as a single game theoretical model (Ostrom, 2010). Instead, Ostrom (1992) formalized a list of structural variables that increase likelihood of successful collective action.

This study provides as a counter voice to the academic debate about success factors for collective action. The position of reduction in European policy integration on fisheries is unique to the case of the UK-EU TCA negotiations. However, the theory of disintegration and perceived effects on diminished bargaining power (Schimmelfennig, 2015) is not able to account for the fact that the UK did not moderate its demand over the course of the negotiations. This study zooms in on the gap in literature about the perceived causal effect of heterogenous preferences in CPR management. A case study on negotiating stances over fisheries in the North Sea show that heterogenous preferences did not obstruct collective action, as the EU put strong pressure on escaping from a situation of non-cooperation at all cost and adjusted it’s negotiation strategy accordingly. Moreover, the importance of avoiding a costly common bad transcended heterogenous preferences, in turn establishing cohesiveness between the EU and UK.

The heterogenous preference constellation resulted in a chicken game situation characterized by a strong joint preference to avert a no deal Brexit. As a no-deal Brexit would risk overexploitation and ruin of shared fish stocks in the North Sea it symbolizes a potential modern-day scenario of a Tragedy of the Commons (Hardin, 1968). Although overexploitation of shared fish stocks was to be avoided at all cost, the chicken game situation made it hard to

predict who would back down first from a no deal exit in the end. Supposedly, this uncertainty has been a key motivator in reaching an agreement.

As fisheries has been such a heavily debated and well-known issue in the negotiations, it was expected to find heterogenous preferences for the EU and UK on this matter. Further research is needed to examine whether fisheries is merely a typical case, or whether heterogenous preferences have also been of influence in other policy areas of the negotiations over the EU-UK TCA. More broadly, research could turn to other chicken game situations within or out of the European Union. Although Brexit demonstrates the first and so far only case of leaving the EU, the growing number of referenda and Eurosceptic public opinions put pressure on the level and scope of further European integration (Hooge & Marks, 2009). This research can help negotiators and policy makers make smart choices in complex situations where nations states operate strategically in order to control their preferences. Findings in this thesis could also be applied more broadly to comment on the probability of international economic collaboration outside established intergovernmental organisations.

Reference List

Adler, K. (2020, May 15). Stand-off or stalemate: EU-UK Brexit trade talks in trouble. Available at: https://www.bbc.com/news/world-europe-52686959 (accessed 10-06-2021)

Adler, K. (2020, December 19). Brexit: UK-EU Trade talks enter critical 48-hour period. Available at: https://www.bbc.com/news/uk-politics-55364470 (accessed 10-06-2021).

Amaro, S. (2020, December 9). UK-EU leaders set Sunday deadline for Brexit talks, after meeting fails to break the deadlock. Available at: https://www.cnbc.com/2020/12/09/boris-johnson-uk-and-eu-leaders-fail-to-break-brexit-deadlock.html (accessed 14-05-2021)

Banks, S. (2020, June 10). UK chief Brexit negotiator says EU's approach to fisheries 'manifestly unbalanced'. Available at: UK chief Brexit negotiator says EU's approach to fisheries 'manifestly unbalanced' (theparliamentmagazine.eu) (accessed 14-06-2021).

Billiet, S. (2019). Brexit and fisheries: fish and chips aplenty?. *The Political Quarterly*, *90*(4), 611-619

Brando, N., Boonen, C., Cogolati, S., Hagen, R., Vanstappen, N., & Wouters, J. (2019). Governing as commons or as global public goods: Two tales of power. *International Journal of the Commons*, *13*(1), 553–577.

Cerny, P. G. (1995). Globalization and the changing logic of collective action. *International organization*, 595-625.

Council of the European Union, 2019. *COUNCIL DECISION authorising the opening of negotiations with the United States of America for an agreement on the elimination of tariffs for industrial goods.* Available at: https://www.consilium.europa.eu/media/39180/st06052-en19.pdf (accessed 22-03-2021).

De Moor, T. (2011). From common pastures to global commons: a historical perspective on interdisciplinary approaches to commons. *Natures Sciences Sociétés 19*(4), 422-431.

European Commission (2020). *Comprehensive economic and trade agreement (CETA).* Available at: https://ec.europa.eu/trade/policy/in-focus/ceta/ (accessed 22-03-2021).

European Commission (2020). *Common fisheries policy (CFP).* Available at: https://ec.europa.eu/oceans-and-fisheries/policy/common-fisheries-policy-cfp_en (accessed 13-06-2021).

European Commission (2021). *The EU-UK trade and cooperation Agreement.* Available at: https://ec.europa.eu/info/relations-united-kingdom/eu-uk-trade-and-cooperation-agreement_en (accessed 10-06-2021).

Eur-lex.europa.eu (2017). *Treaty establishing the European Coal and Steel Community, ECSC Treaty*. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=legissum:xy0022 (accessed 21-03-2021).

Eurostat (2020). *International trade in goods 2019.* Available at: https://ec.europa.eu/eurostat/news/themes-in-the-spotlight/trade-in-goods-2019 (accessed 15-05-2021).

Gallo P. & McClintock, C. (1965). Cooperative and competitive behavior in mixed-motive games. *Journal of Conflict Resolution*, *9*(1), 68-78.

Gerring, J. (2004). What is a case study and what is it good for?. *American political science review*, 341-354.

Haas, E. B. (1980). Why collaborate?: Issue-linkage and international regimes. *World Politics: A quarterly journal of international relations*, 357-405.

Hardin, G. (1968). The tragedy of the commons. *Science 162,* 1243–1248.

Heath, M. & Cook, R. (2020). Risks to North Sea fish stocks and wildlife if post-Brexit fishery negotiations fail to reach agreement on quotas and access to UK waters: Extended technical report.

Hoffmann, S. (1966) Obstinate or obsolete? The fate of the nation state and the future of Western Europe. *Daedalus*, *95*(4), 861– 98.

Hobolt, S. (2016). The Brexit vote: a divided nation, a divided continent. *Journal of European Public Policy*, *23*(9), 1259 - 1277.

Hooghe, L., & Marks, G. (2009). A postfunctionalist theory of European integration: From permissive consensus to constraining. *British journal of political science*, 1-23.

House of Commons Library (2020, November 10). Briefing Paper. Statistics on UK-EU Trade. Available at: https://commonslibrary.parliament.uk/research-briefings/cbp7851/#:~:text=In%202019%2C%20UK%20exports%20to,2002%20to%2043%25%20 in%202019. (accessed 15-05-2021).

Johnson, B. (2020, September 12). Let's make the EU take their threats off the table and pass this bill. Available at: https://www.telegraph.co.uk/politics/2020/09/12/make-eu-take-theirthreats-table-pass-bill/ (accessed 14-06-2021).

Johnson, R. & Libecap, G. (1982). Contracting problems and regulation: the case of the fishery. *The American Economic Review*, *72*(5), 1005-1022.

Kanbur, R. (1992). *Heterogeneity, distribution, and cooperation in common property resource management* (Vol. 844). Washington, DC: World Bank

Keohane, R., & Ostrom, E. (1994). Local commons and global interdependence-heterogeneity and cooperation in 2 domains-introduction. *Journal of Theoretical Politics.*, *6*(4), 403-428.

Lelieveldt, H. & Princen, S. (2011). *The politics of the European Union.* Cambridge University Press.

Krippendorff, K. (2004). Reliability in content analysis: Some common misconceptions and recommendations. *Human communication research*, *30*(3), 411-433.

Kroll, D., & Leuffen, D. (2016). Ties that bind, can also strangle: the Brexit threat and the hardships of reforming the EU. *Journal of European Public Policy*, *23*(9), 1311-1320.

Martin, L. (1994). Heterogeneity, linkage and commons problems. *Journal of Theoretical Politics*, *6*(4), 473-493.

McGinnis, M. and Ostrom, E. (1992). Design principles for local and global commons. *The International Political Economy and International Institutions 2*, 465–493.

Moravcsik, A. (1993). Preferences and power in the European Community: a liberal intergovernmentalist approach. *Journal of Common Market Studies 31*(4), 473– 524.

Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups*. Cambridge, MA: Harvard University Press.

Oliver, P. (1993). Formal models of collective action. *Annual Review of Sociology, 19,* 271-300.

Ostrom, E. (1992). Institutions and common-pool resources. *Journal of Theoretical Politics 4*(3), 239–270.

Ostrom, E. (1998). A behavioral approach to the rational choice theory of collective action: Presidential address, American Political Science Association, 1997. *American political science review*, 1-22.

Ostrom, E. (2000). Collective action and the evolution of social norms. *Journal of Economic Perspectives 14*(3), 137–158.

Ostrom, E. (2010). Analyzing collective action. *Agricultural economics*, 41, 155- 166.

Poteete, A. & Ostrom, E. (2004). Heterogeneity, group size and collective action: The role of institutions in forest management. *Development and change*, *35*(3), 435-461.

Phillipson, J., & Symes, D. (2018). 'A sea of troubles': Brexit and the fisheries question. *Marine Policy*, *90*, 168-173.

Rapoport, A., & Chammah, A. (1966). The game of chicken. *American Behavioral Scientist*, *10*(3), 10-28.

Ruttan, L. (2008). Economic heterogeneity and the commons: Effects on collective action and collective goods provisioning. *World Development*, *36*(5), 969-985.

Sampson, T. (2017). Brexit: the economics of international disintegration. *Journal of Economic perspectives*, *31*(4), 163-84.

Schimmelfennig, F. (2015). Liberal intergovernmentalism and the euro area crisis. *Journal of European Public Policy*, *22*(2), 177-195.

Schimmelfennig, F. (2018). Liberal intergovernmentalism and the crises of the European Union. *JCMS: Journal of Common Market Studies*, *56*(7), 1578-1594.

Schimmelfennig, F. (2018). Brexit: differentiated disintegration in the European Union. *Journal of European public policy*, *25*(8), 1154-1173.

Schreier, M. (2013). Qualitative Content Analysis. In U. Flick (Ed.), *The SAGE Handbook of Qualitative Data Analysis*. London: Sage Publications.

Stein, A. (1982). Coordination and collaboration: regimes in an anarchic world. *International organization*, 299-324.

Steins, N. & Edwards, V. (1999). Collective action in common-pool resource management: The contribution of a social constructivist perspective to existing theory. *Society & Natural Resources*, *12*(6), 539-557.

Singleton, S. & Taylor, M. (1992). Common property, collective action and community. *Journal of theoretical politics*, *4*(3), 309-324.

Taylor, M. & Singleton, S. (1993). The communal resource: Transaction costs and the solution of collective action problems. *Politics & Society*, *21*(2), 195-214.

The Institute for Government. Brexit deal: how do the UK and EU opening positions on the future trading relationship compare? Available at: https://www.instituteforgovernment.org.uk/explainers/brexit-deal-uk-eu-positions-future- trading-relationship (accessed 16-05-2021).

The Institute for Government. Brexit deal: Political Declaration on future UK-EU relationship. Available at: https://www.instituteforgovernment.org.uk/explainers/brexit-deal-political-declaration (accessed 16-05-2021).

The Institute for Government. UK-EU Future relationship: UK and EU mandates. Available at: https://www.instituteforgovernment.org.uk/explainers/future-relationship-uk-eu-mandates (accessed 16-05-2021).

The Institute for Government. UK-EU future relationship negotiations: key flashpoints. Available at: https://www.instituteforgovernment.org.uk/explainers/future-relationship-negotiations-key-flashpoints (accessed 16-05-2021).

Waltz, K. N. (1979). *Theory of international politics*. Waveland Press.

Weiss, S. & Blockmans, S. (2016). The EU deal to avoid Brexit: take it or leave. *CEPS Special Report 131*, Brussels: Centre for European Policy Studies.

Whitman, R. G. (2019). The UK's European diplomatic strategy for Brexit and beyond. *International Affairs*, *95*(2), 383-404.

Wood, P. (2020, 27 November). Hooked: UK and EU stuck in Brexit deadlock over fisheries. Available at: https://www.cityam.com/hooked-uk-and-eu-stuck-in-brexit-deadlock-over-fisheries/ (accessed 14-05-2021).

Appendix A: Sources Content Analysis

1. Prime Minister's Office. Prime Minister Theresa May's speech on our future economic partnership with the European Union (2 March 2018). Available at: https://www.gov.uk/government/speeches/pm-speech-on-our-future-economic-partnership-with-the-european-union

2. Press Release by the European Commission. Brexit: European Commission intensifies preparedness work and outlines contingency action plan in the event of a no deal scenario with the UK (13 November 2018). Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_18_6403

3. The European Council. European Council (Art. 50) (23 March 2018) – Guidelines. Available at: https://www.consilium.europa.eu/media/33458/23-euco-art50-guidelines.pdf

4. The European Commission. Revised Political Declaration (17 October 2019). Available at: https://www.consilium.europa.eu/media/33458/23-euco-art50-guidelines.pdf

5. HM Government. Policy Paper. Our approach to the Future Relationship with the EU (27 February 2020). Available at: https://www.gov.uk/government/publications/our-approach-to-the-future-relationship-with-the-eu?utm_source=bb41700f-fc08-4e99-8a7d-17c6ff46fd69&utm_medium=email&utm_campaign=govuk-notifications&utm_content=immediate

6. The Council of the European Union. ANNEX to COUNCIL DECISION authorising the opening of negotiations with the United Kingdom of Great Britain and Northern Ireland for a new partnership agreement (25 February 2020). Available at: https://www.consilium.europa.eu/media/42736/st05870-ad01re03-en20.pdf

7. The European Commission. Draft text of the Agreement on the New Partnership with the United Kingdom (18 March 2020). Available at: https://ec.europa.eu/info/publications/draft-text-agreement-new-partnership-united-kingdom_en

8. Press Release by the European Commission. Relations with the UK: Commission proposes targeted contingency measures to prepare for possible “no-deal” scenario (10 December 2020). Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2368

9. The European Commission. The EU-UK Trade and Cooperation Agreement (31 December 2020). Available at: https://ec.europa.eu/info/relations-united-kingdom/eu-uk-trade-and-cooperation-agreement_en