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The role of oil in international cooperation

Table of contents

Preface

This thesis has been written as a graduation assignment for the master Political Science with the track International Relations for Leiden University. In the beginning of 2012 I have done research for my bachelor thesis on the ‘resource curse’. This is the paradox that in countries in which economic growth is originated by oil and nonfuel mineral export is less or not democratic at all, while in other countries with economic growth this growth has a positive effect on the democracy. In that research I tried to answer the question: Does there seem to be a link between oil and authoritarianism in Latin America and is this caused by the three mechanisms that cause the ‘resource curse’? This research was a continuation on several researches that were done mainly on oil wealthy countries in the Middle East and North Africa in which was proven that oil wealth has a negative effect on democracy and economic development. Doing this research raised my interest in the effects that oil wealth could have on politics and while studying I came up with a new theory that I wanted to test in this thesis. Since most scientist that have done research in this topic have solely focused on the kind of effects oil wealth has on domestic politics I wondered if oil wealth would also have an effect on the international policies of oil wealthy countries. Is the oil curse just a curse for the country itself or does this curse also affect other countries? I noticed that in the media leaders of oil countries were strikingly more rebellious that leaders of other countries and I wondered if this was due to the oil wealth that gave these countries the power and independence to act less collaborative than other countries within the international community. That’s how I came to my research question, which is: ‘What is the relationship between oil wealth and international cooperation in collective goods problems?’ In this research I have specifically focused on collective goods problems. The question how countries can cooperate in collective

goods problems is the main question IR theorists deal with because, since collective goods problems are situations in which it is particularly hard to cooperate,

Finding an answer to this question enables one to analyze the incentives for cooperation of states. I truly enjoyed doing this research and writing my thesis and I hope that this thesis will be an interesting essay for the readers to read. Although I am pleased with the results of this study, the results only give a small insight in the possible mechanisms for the behavior of the state in collective goods problems. Nevertheless I hope that these results can be the starting points for further research to this phenomenon. Lastly I would like to thank my seminar teacher dr. Daniela Stockmann, who had been really helpful, for her contribution to this thesis.

Marcella Dominique Stenhuijs,

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Introduction

In international politics it often seems that the most controversial leaders are the leaders of oil rich countries. President Ahmadinejad of the Islamic republic of Iran soured relations with the West. In 2005 he claimed that the holocaust was a myth and in 2010 the stated that the whole 9/11 attack was a big lie of the U.S. as an intention to create legitimacy for the invasion in Afghanistan (BBC, 2005, CNN, 2010). Another controversial leader of an oil rich country is Hugo Chavez, the president of Venezuela who told American leaders to “go to hell in” 2007 (Washington post, 2007). He and Ahmadinejad see each other as allies in the fight against Western imperialism, and according to Chavez Venezuela had "a strong oil card to play on the geopolitical stage ... It is a card that we are going to play with toughness against the toughest country in the world, the United States (USA Today, 2007, Blum, 2005)."

These are not the only leaders of oil rich countries known for their controversy. Think of Saddam Hussein and Putin, and think of Khadafy. He closed all American and British bases after his coup and is known for backing other anti-Western leaders like Idi Amin, Charles Taylor, Milosevic and Bokassa. During his reign there were also incidents that strained relations with the West further like the bombarding of a Pan Am flight and the bombarding of a Western Berlin nightclub that was often visited by U.S. servicemen (Davis, 1990: 16, 183, The economist, 2007, Reuters, 1999, Rayner, 2010, Reagan, 1982).

All these acts and statements raise the question whether these leaders would be acting in the same way if they would not have such a great oil income. Does oil wealth give leaders the independence and the power to act in the ways they like, without having to consider the will of other countries? And if oil wealth does make countries more independent and powerful, does this mean that oil rich countries are less cooperative than countries that are not rich of oil?

From these questions we derived our research question that examines if countries that are richer by oil collaborate less in international collective goods problems than countries that are poorer by oil. The research question of this study is:

What is the relationship between oil wealth and international cooperation in collective goods problems?

The question why some state cooperate in collective goods problems while others do not has intrigued international relations (IR) scholars. Collective good problems are circumstances in which it is harder to cooperate than in any other circumstances. They arise when countries have to forgo their individual interests to serve the collective interests of the group (Goldstein and Pevehouse, 2008: 4, Cole, 2008: 5, Olstrom, 2010: 551, Olstrom, 1997: 1, Bruce et. al., 1971: 847, 848). One examples of a collective goods problem in the international community is overfishing. This occurs when fishing stocks are depleted because it is in many countries and fisheries their personal interest to fish because this is good for the economy but it is in the interest of the whole world to preserve the oceans ecosystems (Benjamin, 2001). Another example of a collective goods problem in the international community is deforestation. Deforestation occurs when forests are removed and when the land after the removal is being used for non forest use. The ground is afterwards often used for urban or agricultural use while the wood is being sold. Locally this is in the personal interest of the people involved but globally deforestation leads to extinction, climate change, desertification and displacement of populations (Sahney, Benton and Falcon-Lang, 2010). In a collective goods problem cooperation is thus less natural than in a situation where countries can all benefit through cooperation.

IR theorists have examined the behavior of states and other international actors by using models from an approach that is called the rational choice theory. Although the rational choice models are useful in explaining state behavior in most circumstances, the traditional rational choice models cannot explain state behavior in collective good problems because according to these models, cooperation in collective goods problems is irrational behavior (Scott, 2000: 132, 133, Olstrom, 1997: 1, 2). According to the rational choice theory rational actors make a cost-benefit analysis before they act, and they act according to the outcome that gives the highest benefit. Acting cooperative in collective goods problems is not rational because the benefits of cooperating do not outweigh the costs. In fact, by not cooperating a country would still gain the same benefits. If the traditional rational choice models were accurate they would not be any countries that would contribute to a collective good and the fact that countries do cooperate in collective goods problems means that there have to be something missing in traditional rational choice models (Scott, 2000: 132, 133, Olstrom, 1997: 1, 2).

IR theories have tried to explain how it is possible that some countries do cooperate in collective goods problems. Does this mean that countries act irrational or are there other explanations for the behavior of states? The question how nations can cooperate in collective goods problems is the main question IR theory revolves around (Goldstein and Pevehouse, 2008: 4, Wendt, 1994: 384). For this reason we have decided to examine this question further. In this research we are going to examine if oil wealth does have an influence on the cooperative nature of states or that there are other important factors that can explain state behavior in collective goods problems.

The idea of oil as an explanation of non-cooperative behavior of states can be derived from the realist school of thought, one of the main IR theories. Realists explain state behavior in terms of power. They believe states to be rational actors that act out of self interest. If states have the choice to cooperate if this is not in their self interest they will not unless they are

dominated by a more powerful state. If this is true less powerful states should be more cooperative than more powerful states. State power is seen by realists as the capability of a state to achieve its goals. Realists define power in terms of important resources like armed resources, the growth of a population and the gross national product (Goldstein and Pevehouse, 2008: 43, Baylis, Smith and Owens, 2008: 685, Donelly, 2000: 7, 8). The amount of fuel fossils that a state possesses is also an important recourse that gives a state the ability to influence others. This is because the revenues that countries derive out of oil export enables countries to buy powerful resources like military resources. It also leads to more independence from other countries since, on the one hand, oil wealthy countries have a constant stream of income from oil export while, on the other hand, other countries are more dependent on oil exporting countries because all countries need oil, which is becoming more and more a scarce good (IMF, 2011: 89). This gives oil wealthy countries a better negotiation position which makes it easier to be non-cooperative en to act in their self interest. From a realist perspective one would thus expect that states that have more oil are less cooperative than states that have less oil.

The research question of this study reaches the core of IR theory since many IR theorists have tried to provide theories for state behavior in collective goods problems. Nevertheless, no clear rule has been found that can explain when countries cooperate in collective action problems. There are many situations and for all situations different factors seem to play a role. Oil wealth has not been examined yet as an explanation even though there is a clear pattern of non-cooperative behavior from governments within oil states, both internally and, as we will show, externally. This research will demonstrate that oil wealth is an explanatory factor for cooperation in collective goods problems and this outcome would add to the realist theory that state behavior can be explained in terms of power.

This research also provides insights in the mechanisms that determine the effectiveness of international cooperation. Applying certain mechanisms that increase or decrease the fertility of international collaboration might be beneficial to facilitate future change to achieve more coherence between countries in collective goods problems like environmental, non proliferation, human rights and conflict issues. The results of this study might even provide clues for possible adjustments that can stimulate multilateralism, like the supporting of economic development in wealthy oil countries. The results of this research will show that oil wealth is related negatively to cooperation, but of course, there can be other variables that can also influence international cooperation (and are not taken into account in our theory). Therefore, we control for these alternative explanations in the empirical analysis. The insights that this research will bring on the effects of oil on international cooperation can be a starting point for further research to the behavior of oil wealthy states in other collective goods problems and to the mechanisms that cause the non-cooperative behavior of oil wealthy states.

We will start this thesis by describing our theory and expectations on how oil wealth can influence cooperation in collective goods problems. After that we will give more information about what other scholars have written about this topic. Thirdly, the research methods, data and case selection including our decision of the indicators will be explained after which we do the statistical analysis. In the conclusion one can find a conclusive summary including the theoretical, social and political implications of this research with recommendations for possible further research.

On Oil Wealth and International Cooperation

Collective Goods Problems and Rational Choice Theory

Collective goods problems are the dominating issues in world politics and one of the most important issues IR theory revolves around is the question: How can a group of nations serve its collective interests when forgoing their own interests (Goldstein and Pevehouse, 2008: 4, Wendt, 1994: 384, Cole, 2008: 5, Olstrom, 2010: 551). This problem is well reflected in the global warming issue where it is in every country its interest to stop global warming but at the same time each individual country has an interest to burn fossil fuels because this is important for their economy. Another example is that it is to the advantage of any country to have a strong military alliance but at the same time each country tends to minimize its own contribution to such an alliance. These issues are collective goods problems (Goldstein and Pevehouse, 2008: 4, Dixit, Skeith and Riley, 2009: 331-334, Sandler, 1998: 222, 223, Olstrom, 2010: 550, Olstrom, 1997: 1, 2, Bruce et. al., 1971: 849). Collective goods problems are situations in which cooperation is more difficult than in other cooperative situations. By examining cooperation in collective goods problems one enables itself to examine the incentives for cooperative behavior of the state. They arise when there is a ‘tangible or intangible good, created by members of a society, that is available to all group members regardless of their individual contributions; participants can gain by lowering their own contribution to the collective good, yet if too many participants do so, the good cannot be provided’ (Goldstein and Pevehouse, 2008: 509,). There are two typical characteristics of a collective good. The first one is that a collective good is non excludable, the good cannot be excluded for persons that do not cooperate. The second one is that its benefits are nonrival, This means that a person its benefits are not diminished when someone else also gets the

benefit (Dixit, Skeith and Riley, 2009: 446,557, Kaul and Mendoza, 2003: 80, Sandler, 1998: 222, Bruce et. al., 1971: 847, 848).

The collective goods problem is not an issue that only occurs in international affairs. It happens in all sorts of societies but in international affairs this issue is even more acute since all states are sovereign and there is no central authority like a world government that can enforce states to cooperate. Within a state there is a government that can enforce individuals to pay taxes and provide contributions for the common good. Internationally there is no authority that has that power. Therefore countries decide for themselves if they can cooperate or not. IR theorists try to explain what drives the behavior of states in these circumstances.

One approach that tries to explain cooperation among states is the rational choice theory. The rational choice theory is a theory build upon the idea that all action is fundamentally rational in character and that people make a cost-benefit analysis before they decide how to act (Scott, 2000: 126). The theory is an approach that constructs models that they derive from a set of a priori assumptions. The first assumption is methodological individualism, meant by this is that the unit of analysis is the individual and the outcomes of collective action are explained by individual action. The second a priori assumption is rational behavior and utility maximization, what is meant by this assumption is that people have goals and preferences and they act in order to reach these goals. With the models that are logically derive out of these assumptions rational choice theorists explain social and political phenomena (Shepsle and Bonchek, 1997:35, Scott, 2000: 126, 127).

By requiring that acts of groups and organizations are reducible to statements about individual action, rational choice theorists have incorporated collective action into their theories. In this way business enterprises, countries, trade unions, political parties and other organizations could all figure as actors (Scott, 2000: 132). In rational choice theories one can speak of collective actors whenever the existence of a decision-making apparatus can be

demonstrated through which individual intentions are aggregated and agreed policies are formulated (Cook, O'Brien and Kollock, 1990, Hindess, 1988). Rational choice theorists have had great difficulty in providing an answer to the question why actors cooperate in collective goods problems because according to rational choice models cooperating in collective goods problems is non-rational behavior. It is rational that people or counties would engage in an organization or cooperate when this brings benefits that outweigh the costs, but why would people, organizations and in this case countries contribute to a collective good if they would get the same benefits also without contributing? This situation results in the free riding problem. (Scott, 2000: 132, Shepsle and Bonchek, 1997:238, Olstrom, 1997: 1, 2). The free riding problem occurs when the costs of participating are high while participating does not have a significant effect on the bargaining power of an actor. If this happens there is no individual incentive to participate for a rational actor because actors have almost nothing to gain from participation (Olstrom, 2010: 555). The paradox that arises in collective goods problems is that if each member would make this calculation, no one would contribute and the collective good could not exist because for every collective good there is a minimal amount of participation necessary for the good to exist. One example on a small scale is joining a trade union. Becoming active in a trade union is not rational according to simple rational choice models because joining a trade union does not necessarily give one more bargaining power that one would not have if he or she would not be active in the trade union. The benefits thus do not outweigh the costs (Scott, 2000: 132, 133, Shepsle and Bonchek, 1997:226, 227).

In real life people, organizations and countries do engage in collective goods. This means that something must be missing from the simple rational action model (Scott, 2000: 132, 133, Olstrom, 1997: 1, 2). Different authors have tried to explain the inconsistency in this theory. Olsen (1965) claims that collective action is sustained through 'selective incentives'. With this he means that for example unions might attract members if they can

ensure benefits for members from what they are able to negotiate. Actors will engage as long as they gain extra benefits for negotiating. These selective incentives then alter the costs and benefits in such a way that engaging is profitable and thus a rational choice (Olsen, 1965, Shepsle and Bonchek, 1997: 237-240, Scott, 2000: 132, 133, Bruce et. al., 1971: 851). Hechter (1987) elaborates this claim by stating that associations are formed as long as it is possible for an association to monopolize resources and to exclude non-members (See also Oliver *et al*. 1985: Oliver and Marwell 1988, Marwell *et al*. 1989). In both these explanations still the fundamental problem remains that collective goods associations also attract members, and that actors still contribute even when there are no extra benefits and when goods are not monopolized (Scott, 2000: 132, 133).

IR Solutions to Collective Goods Problems

In international relations rational choice theory is a commonly used approach to explain behavior of states and international actors. Also in international relations the collective goods problem occurs and IR theorists have tried to explain why some countries (or other actors) are cooperative in collective goods problems while others are not. Until now there has not been one major influence that could explain state behavior in collective goods problems. For any situation there seem to be other factors that determine how states act (Goldstein and Pevehouse, 2008: 17-19). There are three basic principles that provide possible solutions to the problem of common good provision. These are dominance, reciprocity and identity. The dominance principle creates a solution for the collective goods problem by establishing a power hierarchy in which the actors on top dominate the less powerful. One does not fight over resources but one fight over a position in the “status hierarchy”. This principle resolves social conflict always in favor of the higher-ranking actor (Goldstein and Pevehouse, 2008: 5,

6, Baylis, Smith and Owens, 2008:5, Donelly, 2000: 7, 8). This is the principle used by realists to explain state behavior.

Reciprocity is the second principle. This principle solves the collective goods problem by rewarding behavior that contributes to the group and by punishing self interest behavior that is in the disadvantage of the group its interests. The negative aspect of this solution to the collective goods problem is that it can lead to a downward spiral by punishing one another. This is the principle used by liberalists to explain state behavior. (Goldstein and Pevehouse, 2008: 6, 7, Keohane 1986: 1-4, Scott, 2000:133).

The third potential solution is identity. The identity principle does not rely on self interest but on the fact that members of a community care about one another and therefore they would sacrifice their own interests to the benefit of the interests of others. Actors have feelings of solidarity, community and loyalty and this does not make them irrational. This is because actors can identify with the fate of another. In IR this principle might be the explanation for the existence of development assistance, world health and UN peacekeeping missions. The identity principle is a principle used by realists and constructivists to explain state behavior. (Goldstein and Pevehouse, 2008: 7, Wendt, 1994: 385, 386, Scott, 2000:133).

In this research we too have tried to provide the solution to the question what makes countries cooperative or not cooperative in international collective goods problems. The solution in our theory is one that is derived from the realist approach, one of the three mayor approaches in IR theory. As almost all realist theories of state cooperation in collective goods problems, this approach is also based on the dominance principle. The explanation that is provided in this research towards the question what makes countries cooperative or non-cooperative in collective goods problems is the amount of oil wealth countries possess as a power instrument.

Oil as an Explanation for Non-Cooperative Behavior

In this research we will examine what the relationship is between oil wealth and international cooperation in collective goods problems. Oil wealth is an explanation for cooperation of states in collective goods problems that has not been examined yet. This explanation for cooperation in collective goods problems is a realist approach towards the question why countries cooperate. According to realists countries are rational actors. This means that countries act out of self interest (Goldstein and Pevehouse, 2008: 74). As we have seen in collective goods problems it is in the interest of the state not to cooperate. If realists are right this would thus mean that no country would cooperate but it is clear that a lot of countries do. How can this be explained? Realists claim that the only way countries can overcome collective goods problems is when they are dominated by more powerful actors. This makes non-cooperation for dominating actors rational while non-cooperation by dominated actors becomes irrational (Goldstein and Pevehouse, 2008: 5, 6, 43, Baylis, Smith and Owens, 2008: 5, Woerdman, 2004: 112, Donelly, 2000: 7, 8).

Realists explain all state behavior, as is state cooperation in collective action problems, in terms of power. Power is often defined as ‘the ability to get an actor to do what it otherwise would not do’ (Goldstein and Pevehouse, 2008: 45, Wendt, 1994: 384). Because it is hard to know what an actor would have done if another actor would not have power there is also another way of defining power and that is in terms of the capability of the state to influence others. Realists look at certain characteristics of a state that indicate the capability of a state to exercise power. Examples are size, military forces and levels of income (Goldstein and Pevehouse, 2008: 45, Baylis, Smith and Owens, 2008: 585, Donelly, 2000: 7, 8). If realists are right, this would also mean that countries that are richer by oil are more powerful. Wealth of oil is an indicator of power because it gives countries the capacity to influence others. Countries that are wealthy of oil are more independent because, since these countries derive

constant revenues from oil exports, other states have fewer abilities to make these states cooperate if it is not in their self interest. They are more powerful because they have more abilities to make other states act in a way that they otherwise would not have (Singer, 1978: 53). With oil wealth countries are better protected against sanctions than when they do not cooperate. The chance for sanctions is small because oil is a scarce good and other countries also need oil which gives oil wealthy countries good negotiation positions. Oil wealth also gives these countries a better position because they have the money and resources to bribe other countries or to turn their money into military power (Singer, 1978: 53)

According to our theory oil countries have more power and they thus have the abilities to act in their interests. If this is true than countries that are richer by oil should be less cooperative in collective action problems than countries that are less rich by oil. For these reasons oil or other natural resources give states the ability to act in their self interest, which is to be non-cooperative in collective goods problems. We therefore expect that oil wealth has a significant negative influence on the degree of cooperation between countries.

Even though oil is a variable that has not been examined yet as an explanation why states would not cooperate there seems to be a pattern of governments of oil countries that act non-cooperative both internally as externally. Resource rich countries have generally a less democratic level. This phenomenon is called the ‘resource curse’. The ‘resource curse’ is the paradox that countries in which economic growth is originated by oil (and nonfuel mineral) export are less or not democratic at all, while in other countries with economic growth this growth has a positive effect on the democracy (Ross, 2001:325). The term the resource curse can also refer to the fact that resource rich countries have worse development outcomes and less economic growth. It seems that resource rich countries cannot use their wealth to boost their economy (Auty, 1993). Oil rich countries tend to have more internal conflict and international conflict (Colgan, 2013). Besides that oil countries are more corrupt. While the

oil sector within the country becomes richer, the rest of the nation remains poor. In resource rich countries also less human rights are implemented (Friedman, 2006). All these elements are clues that oil might have a negative effect on cooperation in collective goods problems.

What we would like to research is what the effect is of oil on international cooperation in collective goods problems. Our theory is that oil wealth has a significant influence in the degree of cooperation between countries. We expect that countries with more oil are less cooperative than countries with less oil. From this theory we have derived the following hypothesis:

- Countries that produce more oil are less cooperative in collective goods problems than countries that produce less oil.

Alternative Approaches in International Relations

For an accurate research we will include different control variables that we will derive from the three main IR theories. These are liberalism, realism and constructivism (Baylis, Smith and Owens, 2008: 4). The first thinkers in the liberalist tradition called were idealists (This is how they were called by realists). Idealists believe in the good of human nature and according to idealists the international community has the potential to work together in order to overcome mutual problems. Besides to power, law, morality, and international organizations also play a large role in international events. According to idealists, basic principles of IR should be based on morality (Goldstein and Pevehouse, 2008: 43, 44). Realism came up after the two World Wars and was developed in a reaction to this school of thought. They explain international relations in terms of power and blamed idealists that their view of the world is idealistic and that they see the world in terms of how it should be instead of how it is (Goldstein and Pevehouse, 2008: 43, 44, Baylis, Smith and Owens, 2008: 4).

Our first three hypotheses are derived from the realist approach. As we have seen, realists explore indicators that indicate capabilities of states to exercise power. Therefore we will use these indicators for power as our control variables. We have three hypotheses for the realist approach. These are:

- Countries that have a larger GDP are less cooperative in collective goods problems than countries that have a smaller GDP.
- Countries that are larger are less cooperative in collective goods problems than countries that are smaller.
- Countries that have a larger military expenditure are less cooperative in collective goods problems than countries that have a smaller military expenditure.

Size, a large army and money are all seen as instruments that represent power. They give countries the ability to influence the behavior of other countries. Realists base this ability on specific tangible and intangible characteristics or possessions of states. Size, armed forces and GDP are classic examples. This is seen as power as a capability because measuring capability is easier as measuring influence. Until now GDP is seen as the best indicator of a state's power because GDP combines many indicators like overall size, technological levels and wealth (Goldstein and Pevehouse, 2008: 45, 46, Donelly, 2000: 7, 8).

Until now realism does not explain all reactions of nations to state behavior. There are two other main IR approaches that arose as a reaction to realism that also try to explain why countries do or do not cooperate in collective action problems. These are the liberalist and the constructivist approach. Liberalists try to explain how cooperation in collective goods problems is possible with explanations mostly drawn on the reciprocity and the identity principle. In contrast to realists, who see the laws of power politics as unchanging and timeless, liberalists see the rules of IR slowly evolving through time. Liberalists explain this evolution as a result of a gradual buildup of international organizations and cooperation. They also see a change in norms and public opinion. Liberalists belief in progress (Goldstein and

Pevehouse, 2008: 45, Baylis, Smith and Owens, 2008: 5, Wendt, 1994: 384). These changes make countries more cooperative in time, which brings more hope for the future than the realist approach. Liberalists believe that when countries become more embedded in an integration process the costs of withdrawing from cooperative ventures increases while the benefits of international cooperation become more positive (Dunne, 2008: 114). Liberal explanations for cooperation are: the character of the state, for example the type of government, democratic content and norms. These explanations are based on the identity principle. They also see regimes, institutions, international trade and economic interdependence as explanations for cooperation. These are explanations based on the reciprocity principle on an interstate level of analysis. Neo liberalism concedes to realists that states are unitary actors, that they're pursuing their self interests, and that the world is a system of anarchy. They are not as pessimistic as realists and still believe that states can cooperate because this is in their self interest. Through institutions countries can learn to cooperate (Goldstein and Pevehouse, 2008: 18, 84-86, Crane & Amawi 1997: 107-109). Because liberalists also try to explain cooperative behavior we have also derived two hypotheses for the liberalist approach for our control variables. These are:

- Countries that export more in US dollars are more cooperative in collective goods problems than countries that export less in US dollars.
- Countries that are more democratic are more cooperative in collective goods problems than countries that are less democratic.

The idea behind the first hypothesis originates in Immanuel Kant's work on peace and cooperation. According to Kant trade promotes peace. This happens because trade increases wealth, cooperation and global well-being. International conflict in will disrupt any process that is good for the economy and governments will prevent this. Therefore with more international trade, international conflict will become less likely in the long term (Goldstein

and Pevehouse, 2008: 85, Kant, 1795). Keohane and Nye elaborated this theory. They claim that economic interdependence arises between countries as a result of international trade. This economic interdependence leads to more cooperation and less conflict (Crane & Amawi 1997: 107-109, Keohane and Nye, 1997). The second hypothesis has its origins in the idea that democracies are more peaceful and cooperative in nature, at least among each other. This generalization is also called the 'democratic peace theory', first argued by Kant (Kant, 1795). Kant argued that democracies would be more peaceful in general but this did not turn out to be true, democracies do fight but until now they have almost never fought each other. Liberalists believe that among democracies trade relations have created strong interdependence and states cooperate because citizens of democratic states consider other democracies as friends. This approach is based on the identity principle (Goldstein and Pevehouse, 2008: 91-93, Dunne, 2008: 112).

The last important approach in IR theory that tries to explain state behavior is constructivism. Constructivism is an approach that examines the nature of norms, identity and social interaction. According to constructivists the national interests of the state are not just a given, like realists see them, but they are constructed in a context of broader social relations, what they call a social structure, and not by human nature or domestic politics. In this context states their interests and identities are intertwined and shaped, through a process of socialization, by interactions with other states. Constructivist explanations for state behavior are based on the identity principle. The factors that shape identities of states are given as explanations for state behavior and cooperation in collective goods problems. Examples are: shared history, alliances and norms with other states, institutions, regimes, identities, reputation and religion. Constructivists believe that cooperation in collective goods problems can exist because of the feelings of the shared identity, community and loyalty that actors can have due to their social identity. These feelings discourage free riding, especially by

increasing reciprocity en when the group is willing to bear costs (Goldstein and Pevehouse, 2008: 85, 93, 94, Baylis, Smith and Owens, 2008: 6, Wendt, 1994: 385, 386). Rational Choice theorists believe in the logic of consequences. This means that actors act to the anticipated cost and benefits of their actions. Constructivists in contrast make a distinction between the logic of consequences and the logic of appropriateness. Actors do not only act according to their cost-benefit analysis but they also emphasize how actors follow rules and keep the legitimacy of their actions in mind. The normative structure shapes the outcomes in rational choice models (Barnett, 2008: 163, 167). Since constructivists also try to explain why states do or do not cooperate in collective goods problems we have derived the last hypothesis for the control variables from the constructivist approach. This hypothesis is:

- Religion has a significant effect on international cooperation in collective goods problems.

Religion is included as a variable because a religion is a factor that sets out the norms and values for a country to believe. A countries identity is often intertwined with its religion and therefore a classic explanation for behavior in the constructivist theory.

How Oil Wealth as Explanation for State Behavior can Contribute to IR Theories

The question what makes countries do or do not cooperate in collective action problems seems to be the mayor question IR scholars try to answer (Goldstein and Pevehouse, 2008: 4, Wendt, 1994: 384). Many theories have been made and many explanations have been given on what makes states act cooperative or not. Until now it seems that there are different explanations for different situations. Scholars have looked at different explanations on different levels of analysis. Realists look at power capabilities at the interstate level like wealth, size and military power. Liberalists looked at explanations at the domestic and the

interstate level like international trade, democracy and regime types. Constructivists also look at explanations at the domestic level like religion and regime types. Thus far there has not been one mayor explanation discovered for state behavior in collective action problems.

The results of this research will explain if oil wealth is or is not an important factor when trying to explain why states do or do not cooperate in collective goods problems. If we can find evidence for the hypothesis and oil is an important factor for explaining cooperation this might provide partially the answer for the main question in IR theory, which is: 'Why do states cooperate in collective goods problems?'. It will also add to the IR theory of power as an explanation for state behavior since oil wealth is an indicator for power (as is money, since oil can be directly traded for money). Until now there has not been a clear rule found to explain cooperation of countries in collective action problems. For different situations different factors seem to play a role. Oil wealth has not been examined yet as an explanation even though there seems to be a clear pattern of both internal and external non-cooperative behavior from governments within oil states. If evidence cannot be found for our hypothesis this could mean that oil is not an explaining factor for cooperation in collective goods problems and that there are other explaining factors. This might mean that the explanation for cooperation in collective action problems cannot be explained by the realist theory but by a different IR theory like liberalism or constructivism. It can also mean that oil can be an explaining factor for cooperation but not in the situations examined in our case selection. Until now scholars have found different explanations for different circumstances. Maybe there is no universal explanation for state cooperation in collective good problems. There might be a distinction in the kind of collective goods problems there are. In this case a pattern might be found for different variables that can explain behavior in different kind of collective goods problems. It could also mean that every case is different and that there is no pattern of variables that explain state behavior. To get better insight in the question if oil is the main

factor to influence state behavior in collective goods problems we will examine this question in this thesis. We will start by giving more information about the research methods, data and case selection.

Research Methods, Data and Case Selection

To examine the relationship between oil wealth and international cooperation in collective goods problems we will explore the correlation between oil wealth and the degree of cooperation between countries in international collective goods problems. (The analysis will be deductive. According to Babbie, deduction means that there is a ‘logical model in which specific expectations of hypotheses are developed on the basis of general principles (Babbie, 2010: 23). We will conduct a comparative case study based on statistical analysis. We have chosen to use statistical analysis because statistical analysis gives one the ability to observe and measure a larger range of data and to hereby get results that come closer to representing the real world than if we would not have used statistical analysis. Doing statistical analysis enables us to make models that we can use to make predictions about a real-world phenomenon, in this case cooperation in collective goods problems. Statistical analysis helps us to make these predictions as accurate as possible (Field, 2005: 1, 2).

This research examines two cases representing collective goods problems and the units of analysis are countries. We will use all countries that are members of the United Nations in the research. We do this to make this research as accurate as possible. Almost all existing countries are included as members of the UN and all members have agreed to contribute to global warming and UN peace operations. UN data gives a clear view of the amount of the contribution and because our sample is so inclusive we are able to get as close to the truth as possible.

Case Selection

To examine the relationship between oil wealth and international cooperation we have decided to research situations that demonstrated state behavior towards issues that can be seen as true collective goods problems.

The first case will be the countries contribution towards the global warming issue. The global warming issue is one that concerns every country and it is in everyone's benefit to reduce global warming. Nevertheless, on a national level it is also in one's interest to burn fossil fuels to keep the economy going. Besides, if the rest does make a contribution the climate will change also (Olstrom, 2010: 550). This makes it tempting for states to free ride because it would be in their self interest not to contribute since this is better for their economy. When the costs of participating are high and there are no particularly extra benefits that one cannot have when not contributing this results in members having the tendency to cooperate as little as possible while still enjoying the benefits of the cooperation of others (Sandler, 1998: 225). On the other hand, if all countries would act this way everybody would be even worse off than when one would have contributed. The fact that the outcome of collective action is in the interest of every country but contributing to this outcome is not in the individual interest of the involved countries makes this issue a classic example of a collective goods problem (Sandler, 1998: 222, 223). This sort of collective goods problem is also called the 'tragedy of the commons'. This means that there is a 'collective goods dilemma that is created when common environmental assets, in this case it is the atmosphere, are depleted or degraded through the failure of states cooperating effectively (Goldstein and Pevehouse, 2008: 520)'. Because all countries have the incentives to act individually and out of self interest, by burning fossil fuels, the air will be polluted and the earth will warm up. Only with cooperation this problem can be resolved (Dixit, Skeith and Riley, 2009: 331-334, Vogler, 2005: 204).

The second case will be the contribution states make towards military alliances. This also is a classic case of a collective goods problem since there is a good that is created by members of a society, In this case the military alliance. This good is available to every member and they all benefit regardless of their individual contributions; participants can gain

by lowering their own contribution to the collective good, yet if too many participants do so, the good cannot be provided (Goldstein and Pevehouse, 2008: 509, Bruce et. al., 1971: 849, 857). Having a strong military alliance is in the benefit of every state involved but it is also in the benefit of individual states to contribute as least as possible in terms of money and military personnel. If everyone would minimize their own contributions all involved countries would be worse off when a security issue occurs. This form of a collective goods problem is also called a collective action problem which occurs when multiple individuals would all benefit from a certain action, but this action has an associated cost making it implausible that individuals can or will undertake and solve it alone. Individuals will have to make this solution a collective action in which the costs are shared. This also happens with military alliances. By making a good a collective good there is always the incentive for individuals to free ride, especially in a large group (Dixit, Skeith and Riley, 2009: 446, 447, Todd, 2004: 40, 41).

In both situations international cooperation of countries will be examined in two situations that seem different in nature. One situation is how much states contribute towards global warming and the other situation is how much states contribute in a military alliance. Even though these two situations seem dissimilar, they have in common that they are both classic examples of collective goods problems. The reason why we have chosen for these seemingly different cases is to strengthen our confidence that oil is not issue specific. When the cases would be cooperating behavior in two collective goods problems in one issue area instead of two there is a chance that states will act the same in both cases because they have certain interests according to this specific issue. If both cases are collective goods problems in two different areas and states act the same in both cases one can prove that regardless the issue states are or are not cooperative. The results can thus give indications about the

incentives for cooperation of the state in general and not about the behavior of the state in a certain issue area.

Indicators for Dependent Variables, Concepts and Measurement

As an indicator for the first dependent variable, which is the contribution to climate change, we will use the carbon dioxide emissions per capita per country (Millennium Development Goals Indicators). This is one of the UN millennium development goals. All 193 UN member states have agreed on achieving these goals but there is a clear difference in the amount of contribution of every state. We will use the most recent data which is data of the year 2009. Carbon dioxide emissions per capita per country is a good indicator for a collective good problem because member states know that they can still benefit even though their contribution is lower than that of the other member states (Olstrom, 2010: 550). Carbon dioxide, also called co2, is a gas that is naturally part of the atmosphere and circulates naturally among the atmosphere, plants oceans, soil and animals, a process that is also called the carbon cycle. It is the gas responsible for the warm climate on the earth. Humans add to the natural concentration of carbon dioxide by burning fossil fuels. When fuel fossils are burned more carbon dioxide is being released what causes the atmosphere to gradually warm up. The warming of the atmosphere will have negative effects on society and ecosystems in many ways (EPA, Root et. al., 2002, Vitousek, 1993: 1862, 1863). Climate change can for example increase or decrease rainfall, influence agricultural crop yields, affect human health, cause changes to forests and other ecosystems, or can have a negative impact our energy supply. It will affect many world regions and economies and therefore the emissions of carbon dioxide have to be reduced. The best way to reduce carbon dioxide emissions is by reducing the consumption of fuel fossils and many countries and international organizations have came up

with strategies to achieve this (EPA, Root et. al., 2002, Vitousek, 1993: 1862, 1863). The reason why we have chosen to use the carbon dioxide emissions per capita instead of the total is because otherwise countries cannot be compared since it is impossible for large countries to keep up with smaller countries.

As an indicator for the second dependent variable, which is the military alliance, we will use the amount of military and police contributions to UN operations (UN Ranking of Military and Police Contributions to UN Operations, January 2013). The UN makes a monthly ranking of military and police contributions to UN operations. We will use the most recent data which is data of the month of January 2013. Also here there is a big difference in the amount of military and police personnel all 193 member states contribute. A UN military alliance is a good indicator for a collective goods problem because member states benefit even when their contribution of military and police personnel is lower than that of the other member states (Bruce et. al., 1971: 849, 857). We believe that the contribution of military and police personnel in UN peacekeeping operations is a good indicator for contributing towards military alliances since countries are often reluctant to relinquish control over their armed forces since they are concerned about costs, deflection from other commitments and casualties (White, Little and Smith, 2005: 130, 131). This makes this indicator even better than using contributed money as an indicator, also because there is a large variation in the amount of money every country is able to spend.

Indicators for Independent Variables, Concepts and Measurement

As an indicator for the independent variable, which is oil wealth, we will use the oil production per capita (CIA The World Factbook). The reason why we have chosen for oil production per capita instead of the total oil production is because we believe that this is a better measurement for the wealth of a state that can be used for the government as a power

instrument. When the oil production is high but the oil production per capita is low this means that relatively more of the oil revenues have to be used to spend on the population (CIA The World Factbook).

It is almost impossible to use all explanations on all levels of analysis that IR scholars have ever used to explain state behavior in the given time period. Because we do examine which internal factors correlate with cooperation we will derive the control variables from the explanations the three main IR theories have given for state cooperation. Realists explained state cooperation in terms of power. Their explanations are based on dominance. Because countries that have more power can dominate less powerful countries they can act more in their self interest while dominated countries have less abilities to act in their self interest. Therefore realists expect more powerful countries to be less cooperative than less powerful countries. Realists see power as the ability to influence others. Because influence is hard to measure realists look at certain characteristics of the state that are indicators for power. We have used three control variables derived from the realist approach that are all three indicators of power (Goldstein and Pevehouse, 2008: 45, Baylis, Smith and Owens, 2008: 585, Donelly, 2000: 7, 8). The first control variable, derived from the realist approach, is wealth. As an indicator for wealth we will use the gross domestic product (GDP) of the countries. The GDP is the sum of all officially recognized final goods and services produced within a country in a given period of time and the indicator that is most often used by economists to measure the welfare of a country (CIA The World Factbook). The second control variable, derived from the realist approach, is the size of a country. As an indicator for size we will use the amounts of square kilometers a country consists of. It is the sum of all land and water areas delimited by international boundaries and/or coastlines (CIA The World Factbook). The third control variable, derived from the realist approach, will be the military power of a country. As an

indicator for military power we will use the amounts of military expenditures a country has in US dollars (CIA The World Factbook).

Liberalists looked at explanations for cooperation of countries in collective goods problems that are based on reciprocity and identity like international trade and democracy. They believe that the rules of IR can change in time and that countries become more cooperative because they get more embedded in international institutions and regimes and more interdependent with other countries through international trade. This changes the cost-benefit analyses of international cooperation in collective goods problems which can result in more cooperative behavior (Dunne, 2008: 114, Goldstein and Pevehouse, 2008: 18, 84-86, Crane & Amawi 1997: 107-109). We have used two control variables that are derived from the liberalist approach. Our fourth control variable, derived from the liberalist approach, is the amount of international trade a country drives. As an indicator for international trade we will use the total export in US dollars (CIA The World Factbook). The fifth control variable, derived from the liberalist approach, is the democracy within a country. As an indicator for democracy we have used the scale of the freedom house. This scale gave every country two grades ranging from 1 to 7, one grade for political rights and one for civil liberties. The countries that scored the best got the lowest grades while the countries that scored the worst got the highest. We summed up these two grades to make a scale from 1 to 14 in order to make a total scale that could indicate the democratic freedom within a country (Freedom house).

Constructivists also look at explanations for cooperation of countries based on identity like religion and shared history. Constructivists believe that the interests of the state are constructed in a social structure where the states interests and identities are shaped through a process of socialization (Goldstein and Pevehouse, 2008: 85, 93, 94, Baylis, Smith and Owens, 2008: 6, Wendt, 1994: 385, 386). We have used one control variable that is derived

from the constructivist approach. The sixth and last control variable, which is derived from the constructivist approach, is religion. As an indicator for religion we will use the largest religious group within a country (CIA The World Factbook). For all the variables we will examine the most recent data that is available.

Use of the Data and Research Method

All data we have described in the former section we will compare through statistical analysis in a linear regression analysis. According to Field a regression model is a 'linear model in which one variable or outcome is predicted (dependent) from a predictor variable (independent)' (Field, 2005: 744). In our case the independent variable is oil production and the outcome or the dependent variable contribution towards environmental health by the amount of carbon dioxide emissions countries have or the contribution towards a military alliance by the amount of military and police personnel countries contribute towards UN peacekeeping operations. The model thus tells us the correlations of variables. If there is a positive relationship between the independent variable and the dependent variable the regression model should be linear, this means that in a graph there will be a straight upward line. A regression analysis gives us the course of this line (Field, 2005: 144). We will analyze the test results by looking at the statistical results of the regression analysis and the linearity of the line in the curve estimation of the regression scatter plot. A regression analysis is a method that virtually lies on the base of all statistics. It is often used to discover certain trends because of their predicting abilities. It also gives one the opportunity to control for different variables. For these reasons we have chosen to use a regression analysis as the research method (Field, 2005: 215). The kind of regression analysis I will use is an ordinary least-squares (OLS) regression. OLS regression is a linear modeling technique that is used to

model single response variables at least an interval scale. The technique can than be applied to single or multiple explanatory variables as well as categorical explanatory variables. This method is used for estimating unknown parameters in the linear regression model. Since it is relatively easy to check the assumptions of the model in OLS regression, like linearity, constant variance and the effect of outliers by using simple graphical methods, OLS regression is the most useful statistical technique for this research (Hutcheson and Sofroniou, 1999, Hutcheson, 2011: 224, 228).

We will also include all control variables in the regression analysis. Using control variables does not only enables me to see which other factors play a role in the cooperative behavior of countries in collective goods problems and how strong those roles are, it also gives us better insights in the relationship between the independent and the dependent variable. Control variables show us if an observed relationship between a dependent and an independent variable is solid even when controlling for other variables. By doing this one could reduce the possibility that a found relationship is just a statistical accident and see if the relationship is directly or indirectly affected by another variable (Field, 2005: 134-136). By using control variables our observations will thus be more accurate.

Limitations of the Research Method

There are many indicators IR students use to explain behavior. Only seven of these indicators are taken into account in this research because otherwise this research would become too large and therefore not feasible within the given time period. The results of the regression analysis in this research will show if there is a correlation between oil and non-cooperative behavior in collective goods problems but they will not prove that there can be other variables that can also influence international cooperation in collective goods problems and are not included in this research. The research outcome will show if oil production and the indicators of our

control variables correlate with state behavior in collective goods problems and need to be taken into account when explaining cooperation.

Statistical analysis enables us to observe and measure a larger range of data and helps us to make models that get as close as possible to representing the real world. This helps is to make accurate predictions. Although we believe that statistical analysis therefore is the most suitable for our research, it does have some limitations. A one mayor limitation of statistical analysis, which is particularly important in this research, is, that is does not study qualitative phenomena (Holland, 1986: 945). For our research this means that even if we find evidence for our main hypothesis, which is: countries that produce more oil are less cooperative in collective goods problems than countries that produce less oil, we will not know by this research what are the exact causes and mechanisms that lead to oil countries cooperating less.

Oil wealth and State Cooperation in Collective Goods Problems

The goal of this research is examining if oil has an influence on cooperation between countries in collective goods problems. The research question we try to answer in this research is: What is the relationship between oil wealth and international cooperation in collective goods problems? According to our theory we expect a relation and we expect this relation to be negative. Due to the power and independence oil countries derive out of oil revenues we expect that countries with more oil are less cooperative than countries with less oil. We are going to test our theory in two different cases, cases that represent two typical collective goods problems. The first case is global warming and the second case is contributing towards a military alliance. In our cases there is a variation in the contribution of each county and we will examine if oil plays a role in this variation.

Case 1: Oil Wealth and Climate Change Contributions

Carbon dioxide emissions are a very important indicator for climate change contributions. Global warming is nowadays the most urgent issue of all environmental issues. This problem is caused by the ‘enhanced greenhouse effect’. What is meant by the greenhouse effect is the way in which the warmth on earth is maintained by carbon dioxide, methane and nitrous oxide in the air (Vogler, 2005: 198, Sandler, 1998: 225, Vitousek, 1993: 1862, 1863). Since the industrial revolution the concentration of these gasses is being increased, especially the concentration of carbon dioxide which is caused by humans burning fossil fuels. According to a majority of the scientists this leads to an ‘enhanced greenhouse effect’ where the temperature on earth is slowly increasing (Vogler, 2005: 198, Vitousek, 1993: 1862, 1863). There is evidence that this is occurring but there is still uncertainty about the magnitude of change and the consequences of this phenomenon (Vogler, 2005: 198, Cole, 2008: 4,

Vitousek, 1993: 1862, 1863). There are no exact answers but one of the likely global consequences of global warming is the rise in mean sea levels through thermal expansion and the melting of polar ice caps. Also there is expected to be greater climate turbulence and shifts in the climate in various world regions. The general term for this phenomenon is ‘Global Environmental Change’ or simply global change (Vogler, 2005: 198, Cole, 2008: 4, Vitousek, 1993: 1862, 1863).

Dealing with this issue has proven to be very difficult (Sandler, 1998: 221). Because the issue is not seen as tangible and immediate it is hard for it to appear on political agendas. This is also due to the uncertainty of the effects of polluting, in most cases the effects are not known before it is too late to prevent the damage. The effects of global warming will not become visible before the end of the twenty first century but we already know that small increases in the temperature can be enough to have radiant effects on agricultural production, diseases and the habitability of land. It will also cause inundation of many low-lying areas which include many of the world’s major cities as well as the small islands of the pacific (Vogler, 2005: 199. 200, Vitousek, 1993: 1862, 1863).

One of the main issues the international community is dealing with when trying to reduce greenhouse gasses is the fact that sustaining the environment has to be reconciled with other human aspirations, especially in the field of economic growth. Carbon dioxide emissions is not only an indicator for climate change contributions but also a key indicator to production. Poverty reduction seems to be an indispensible counterpart to reducing global warming if developing countries are bound to follow the same track as industrialized countries have followed (Vogler, 2005: 202, 203). In this problem also coordination is problematic. There is no overarching political authority and the current authority lies with around 200 states. If there is no short term regulation states get the incentive to exploit common resources which causes long term degradation and collapse. This issue is a typical

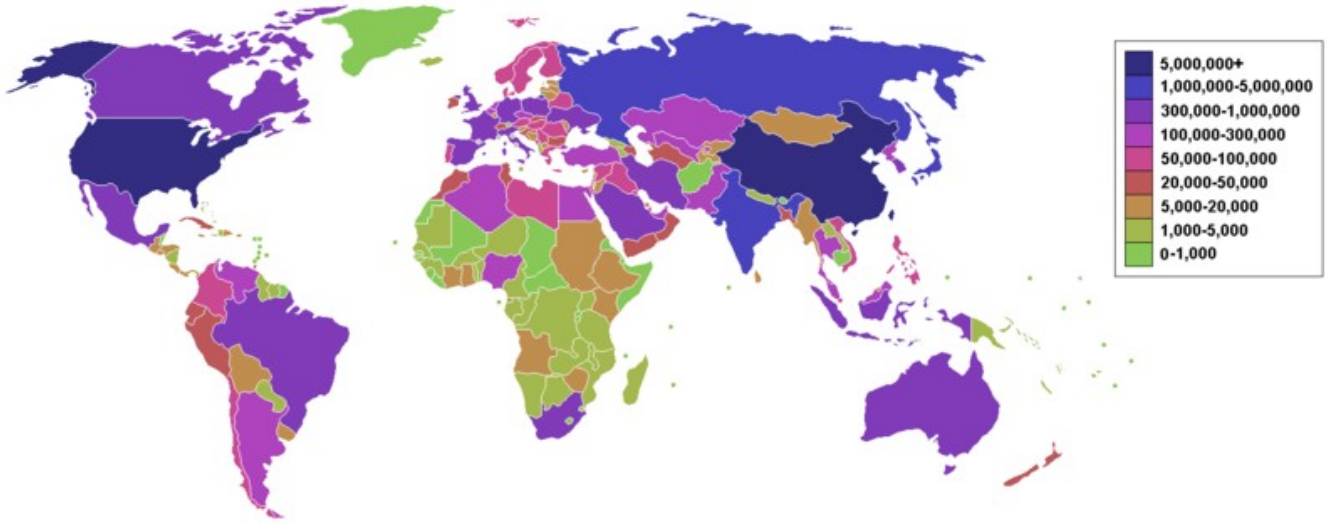
collective goods problem which is also called the ‘tragedy of the commons’. Although difficult but not impossible, international cooperation is necessary to prevent these tragedies to ensure (Vogler, 2005: 204, Dixit, Skeith and Riley, 2009: 331-334).

In the first conference of the United Nations Framework Convention on Climate Change in 1995 in a UN based caucus there was a clear division between all 77 developing states and the interests and threads of the issue. The oil-producing states refused accepting restrictions on the use of fossil fuels. In the climate change negotiations the United States, Australia and some other developed countries were opposed against stringent measures to reduce carbon dioxide emissions because this might hurt their economic performance. The EU was more progressive and managed to reduce their carbon dioxide emissions collectively (Vogler, 2005: 200).

In 1997 the Kyoto protocol to the United Nations Framework Convention on Climate Change offered a collective reduction in the greenhouse gas emissions. The protocol required that all developed countries would cut their greenhouse gas emissions by 5 per cent by the period of 2008-2012. Besides that it contained ‘mechanisms’ to assist developing countries in the process of reducing emissions. 191 countries as well as the European Union are parties to the protocol but Andorra, Canada, South Sudan and the United States are not. The United States chose to sign the protocol but refused to ratify it and Canada withdrew from it in 2011. This is due to a reluctance to make immediate economic and political sacrifices in order to deal with a long-range threat (UN website, Vogler, 2005: 196, 200, 201, Cole 2010: 20, 21). Because almost all countries have agreed on collectively achieving this goal one would expect that all countries would contribute towards achieving this goal but this is not the case. Some countries contribute more as others and some countries still do not seem to contribute at all (PBL Netherlands Environmental Assessment Agency, 2011). The carbon dioxide emissions per capita can be seen in illustration 1. In this statistical analysis we will examine if oil

countries contribute less towards a healthy environment in terms of carbon dioxide emissions than other countries.

Illustration 1. Map of Carbon Dioxide Emissions per Capita



Country Examples: Qatar and Yemen

Qatar is the country with the largest oil production per capita that, in relation to the rest of the countries seems to have massive carbon dioxide emissions per capita for the last two decades, about 60% more than the second highest per capita emitting country which is Kuwait and twice as much as in the United States (World Bank). To get a better insight in the causal mechanisms that cause oil countries not to contribute towards global warming it is interesting to take a closer look at Qatar and their reasons for such large carbon dioxide emissions. The given reason for Qatar for having such high emissions per capita is air conditioning, natural gas processing, water desalination and electricity production. One of the main reasons for high energy use by the population is the fact that Qataris do not have to pay for their water

and electricity supplies. Besides that fuel prices are also low. All these government services would not have been possible if Qatar would not receive such high revenues out of oil (World Recources Institude, Pearce, 2010).

In contrast to Qatar, Yemen, a country from the same Middle East area, has very small oil reserves, which are expected to be depleted in 2017 (Fontaine and Exum, 2010). Yemen is a country that is seriously concerned about the climate change. The country has a weak economy with a large agricultural section which is dependent on certain climatic conditions. This makes it vulnerable to temperature rises and draught caused by the climate change. Over the last decade small rises in the temperature have already caused food shortages and famine as well as destruction of infrastructure and livelihood. With a coastline of 2300 km Yemen will also be affected by the rises in sea level and besides that there is an increase of the spread of malaria and a loss of biodiversity observed. Yemen is thus highly vulnerable to climate change. Yemen has almost 43 times less the amount of carbon dioxide emissions as Qatar and this amount is negligible compared to the emissions from the developed countries. At this point Yemen hasn’t been able to contribute a lot to carbon dioxide emissions due to its poor economy but despite that Yemen has initiated some fundamental steps to integrate climate change considerations at policy levels with external support. Even though Yemen is a LDC (Least Developed Country) that had only limited resources and capabilities to contribute towards climate change, until now Yemen has had a cooperative and willing attitude towards climate change conventions and it has done effort to fulfill its commitments towards the UNFCCC (United Nations Framework Convention on Climate Change) (Yemen's Second National Communication under the United Nations Framework Convention on Climate Change).

Statistical Analysis

To measure if oil has a significant effect on carbon dioxide emissions we started our research with an OLS regression analysis. A regression analysis enables us to test if there is a significant relationship and to see how strong this relationship is. The independent variable and the control variables were all included in the test to make the analysis as accurate as possible.

In table 1 we can see the results of the regression analysis. The table illustrates the B coefficients followed by the standard errors of each included independent variable. The asterisks (*) indicate the levels of significance as is specified under the table. Different important conclusions could be derived from the results of the test (table 1.). According to our regression analysis the overall model is significant and 58,4% (Rsquare) of the carbon dioxide emissions can be explained be oil production and the control variables. Oil does have a significant effect on carbon dioxide emissions and of all significant relationships the relationship between oil and carbon dioxide emissions is the strongest of all relationships.

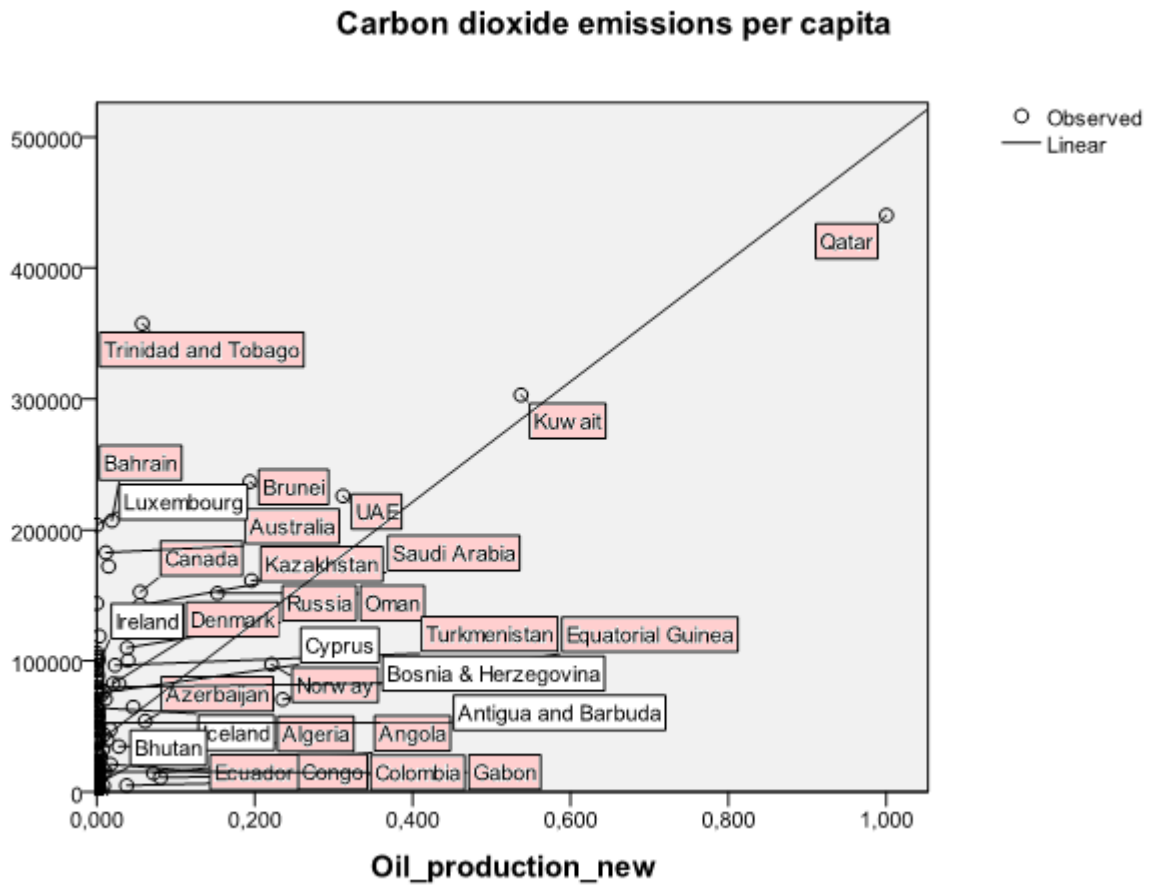
Table 1 *OLS Regression Results for Carbon Dioxide Emissions per Capita.*

Independent variables:	**Dependent variable:** ***Carbon Dioxide emissions*** Unstandardized coefficients
Democracy	-54703,018 *
	(15029,770)
Christian	3862,268
	(17424,719)
Muslim	13428,880
	(17515,301)
Buddhist	1495,668
	(21393,683)
Hindu	-6007,665
	(27169,954)
GDP	-202125,757 **
	(99727,559)
Oil production	463870,109 *
	(36229,279)
Size	55492,849
	(34776,884)
Military expenditures	141056,154 ***
	(78054,925)
Total exports	184628,467 **
	(61843,924)
Constant	52157,756 ***
	(19341,760)
N	193
R-squared	,584

*p < 0.01; **p < 0.05; ***p < 0.1.

Since we have found a strong significant relationship between oil and carbon dioxide emissions it is important to run a scatter plot with curve estimation to check if the relationship is a linear relationship. By doing this we can see how well the previous model fits the data.

Figure 1: *Oil production and carbon dioxide emissions*



Oil producing countries

The scatter plot with the curve estimation is presented in figure 1. The scatter plot lays out the amount of carbon dioxide emissions that every country has compared to the oil production of every country. The x-axis displays the oil production per capita while the y-axis displays the carbon dioxide emissions per capita. This scatter plot with curve estimation shows that there is a linear relationship. Especially for the higher producing oil countries there seems to be a trend that more production leads to more carbon dioxide emissions.

For the analysis of the test results we have used a significance level of p=0,05. These test results show us that there is a significant relationship between oil production and carbon dioxide emissions. This means that we can accept our main hypothesis. According to this test we can conclude that oil production does have a strong significant effect on carbon dioxide emissions and countries with more oil are less cooperative and have more emissions than countries with less oil.

As we can see in the scatter plot there is one outlier that has relatively large carbon dioxide emissions. This is Trinidad and Tobago. This is remarkable since Trinidad and Tobago are islands that can be largely affected by rising sea levels caused by global warming. As a reason for their high greenhouse gas emissions they state that even though they are a small island with a hydro-carbon economy. This, in combination with their small population, makes their per capita emissions massive even though in reality it is minuscule compared to the emissions from larger developing countries. The fact that most greenhouse gasses come from petrochemical and power generating sectors that are owned by foreigners makes this problem more complex. They claim that they will work on finding sustainable solutions to this problem for the future (The Energy Chamber of Trinidad and Tobago).

Test Results for the Control Variables

In our analysis also our control variables were included. There were three control variables that had a significant effect on carbon dioxide emissions. These variables were: Democracy, GDP and total exports. Of all control variables the most significant one was democracy. The least significant variable in this model was being Buddhist. Of the significant relationships the strongest relationship is found between GDP and carbon dioxide emissions but this relationship is negative while we have expected a positive relationship in our hypothesis. The second strongest relationship is between export and carbon dioxide emissions and the third and last strongest significant relationship is between democracy and carbon dioxide emissions. This relationship is negative but this is what we expected in our hypothesis.

According to this analysis we can accept hypotheses 5 and 6. Countries that are democratic have less carbon dioxide emissions while countries that export more have more carbon dioxide emissions. We have to reject hypotheses 3, 4 and 7. There has not been a significant relationship found between size, military expenditures and religion and carbon dioxide emissions. We also have to reject hypothesis two because although the GDP has a significant effect on carbon dioxide emissions this effect is was negative while we had predicted a positive correlation.

Conclusion on Oil Wealth and Climate Change Contributions

(What have we found out according to our research question? Our research question was: ‘What is the relationship between oil wealth and international cooperation in collective goods problems?’). In our theory and hypothesis related to the research question we expected a negative relationship between oil wealth and carbon dioxide emissions because in our theory

we have stated that oil countries are more powerful and independent and with the power that these countries derive out of their oil income oil wealthy countries have the ability to influence other countries while it is harder for other states to influence oil wealthy countries. Collective goods problems make cooperating extra hard since collective goods problems create circumstances in which it is in the personal interest of every country not to cooperate. In our first case we have found evidence for such a relationship. It seems that countries that produce more oil have more carbon dioxide emissions per capita. According to our statistical analysis the concluding answer for the research question is that there is a strong and significant linear relationship between oil wealth and international cooperation in collective goods problems and this relationship is negative. The results of our first case show that oil wealthy countries are less cooperative in the contribution towards global warming.

Case 2: Oil Wealth and Contributions to Military Alliances

In our second case we are measuring state behavior when contributing towards military alliances. As well as climate change contributions this is also a typical collective goods problem (Bruce et. al., 1971: 849).

The contribution of military and police personnel towards UN peacekeeping operations is a good indicator for contribution towards a military alliance because the UN forms a military alliance all UN member states are part of. Military alliances already existed in ancient times but the United Nations differ slightly from other alliances in the fact that it is a global alliance. Having more countries involved makes it even more difficult to cooperate. The original plan of a United Nations military alliance was that all countries set up an army that could be used against aggressors that threaten global peace in order to maintain global peace. The founders of the UN envisioned financial benefits and pooling defense resources in combination with having a global security structure that could maintain world peace (Pugh,

2005: 125). The idea behind peacekeeping is that there is no enemy except for conflict itself. This makes the UN military alliance a system that is even harder to maintain than other military alliances.

One of the problems of this concept is that it is almost impossible for all members to commit to such an alliance since one cannot know what the future aggressors will be that the UN has to fight against. What if one of these aggressors turns out to be a close ally, an important trading partner or a country that is capable of collecting a huge military force (Pugh, 2005: 126).

A second problem is the fact that states are afraid to submerge their power in a centralized system and reluctant to relinquish control over their armed forces and to make commitments to multinational operations. This is especially the case in operations that involves combat. This is the reason why the UN army has remained small. Some countries, including the US have refused to put their troops under a non-national commander. Most countries that do supply troops for UN peacekeeping operations are afraid for casualties and concerned about costs and deflection from other commitments. One example in which the reluctance of states to contribute to UN peacekeeping operations is very clear is the fact that in 2004-2005 the US budget for UN peacekeeping operations was 2,8 billion dollar while the annual expenditure if the New York fire and police departments was more (Pugh, 2005: 130, 133, Bruce et. al., 1971: 857, Sandler, 2004: 41, Mendez, 1999: 401). These problems make this alliance an excellent case for our analysis because even though cooperation is difficult, some states are contributing relatively more than others. In our following analysis we will examine if oil is the main factor for not contributing towards military and police personnel in UN peacekeeping operations.

Statistical Analysis

To measure if oil has a significant effect on the amount of police and military personnel that every country contributes towards UN peace keeping operations we started the research of our second case again with an OLS regression analysis to examine if there is a significant relationship and to see how strong this relationship is (table 2). To get the most accurate results also here we have included all control variables next to the independent variable.

In table 2 we can see the results of the regression analysis. The table illustrates the B coefficients followed by the standard errors of each included independent variable. The asterisks (*) indicate the levels of significance as is specified under the table. The following conclusions could be derived from the results of the test. The overall regression model is significant and according to this regression analysis 19,1% (Rsquare) of the contribution towards military and police personnel in UN peace keeping operations is being explained by oil production and the control variables. According to this model oil production is a variable of which the relationship is not particularly strong or weak nor significant. This means that we cannot accept our main hypothesis. According to this test we can conclude that oil production does not have a strong significant effect on contributions of military and police personnel and countries with more oil are not necessarily significantly less cooperative then countries with less oil. For the analysis of the test results we have again used a significance level of p=0,05.

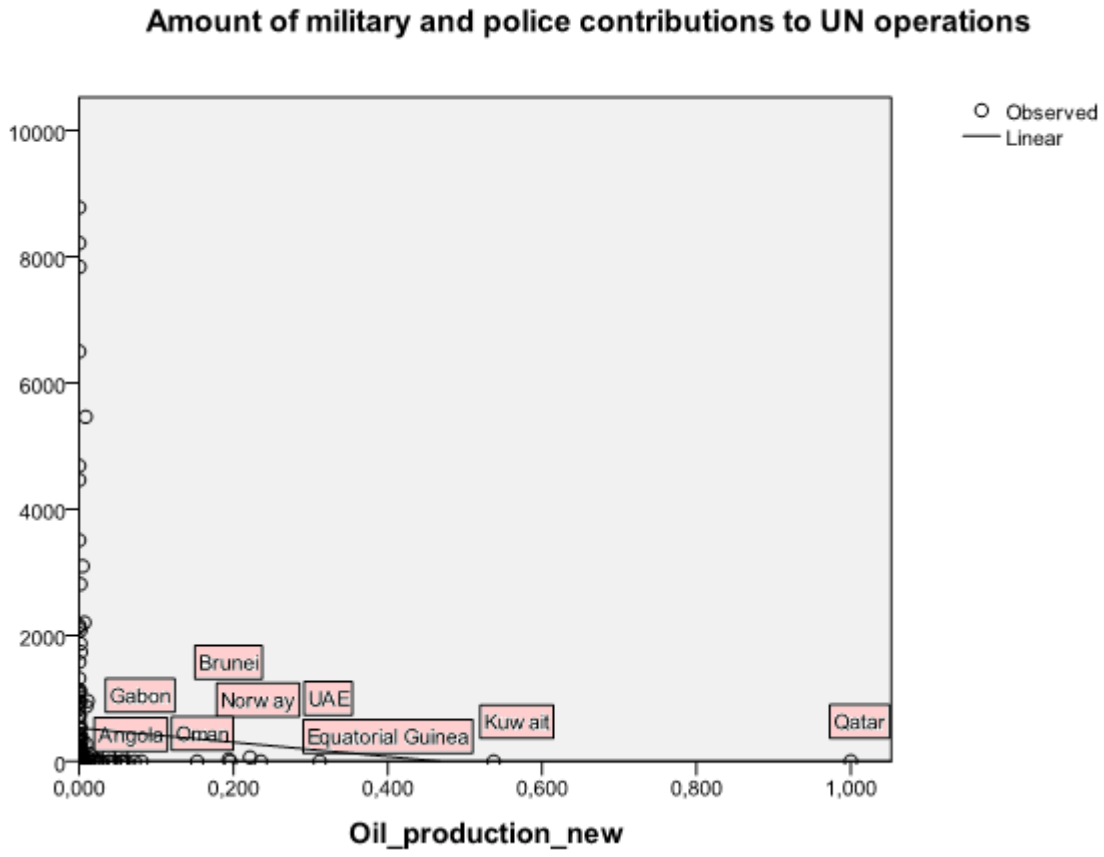
Table 2. *OLS Regression Results for Military and Police Personnel Contributed to UN Peacekeeping Operations.*

	Dependent variable: ***Police and military personnel contributed***
Independent variables:	Coefficients (s. e.)
Democracy	-215,001
	(459,814)
Christian	645,462
	(532,989)
Muslim	1195,536**
	(535,865)
Buddhist	676,626
	(654,525)
Hindu	2695,343*
	(831,226)
GDP	11058,742*
	(3050,560)
Oil production	-1073,384
	(1108,410)
Size	171,141
	(1063,780)
Military expenditures	-7758,765*
	(2387,975)
Total exports	-4629,274**
	(1891,285)
Constant	-187,649
	(591,718)
N	193
R-squared	,191

*p < 0.01; **p < 0.05; ***p < 0.1.

Even though we have not found a significant relationship between oil production and military and police contributions in UN peace keeping operations it is important to take a closer look at how the data is distributed in a scatter plot. Since we are examining what the effect is of oil wealth on cooperation in collective goods problems running a scatter plot with curve estimation gives us the opportunity to get a better idea of the linearity of the relationship.

Figure 1: *Oil production and military and police personnel contributed to UN peacekeeping operations.*



Oil producing countries

The scatter plot with the curve estimation is presented in figure 2. The scatter plot lays out the amount of military and police personnel that every country contributes to UN peacekeeping operations compared to the oil production of every country. The x-axis displays the oil production per capita while the y-axis displays the contributions of military and police personnel to UN peacekeeping operations. This scatter plot with curve estimation demonstrates that there is a linear relationship between oil production and military and police personnel contributions to UN peacekeeping operations. As can be seen in this scatter plot all the wealthier oil countries give minimal to no contribution of military and police personnel to UN peace keeping operations. This scatter plot changes the perspective of our first findings we had derived from the regression analysis. Even though in the regression analysis the relationship between oil production and contributions of military and police personnel to UN peacekeeping operations was not significant this scatter plot does clearly show us that all countries that produce substantive amounts of oil do not contribute military and police personnel, without exceptions.

When looking at the scatter plot with the curve estimation we can see that there is a linear relationship and it can be derived clearly from the scatter plot that all countries that produce substantive amounts of oil do not cooperate while the countries with no or minimal amounts of oil range from giving no contributions to contributing almost 9000 persons of military and police personnel to UN peacekeeping operations. This means that according to this test in which we plotted a scatter plot we still can accept our main hypothesis that says that countries that produce more oil are less cooperative in collective goods problems than countries that produce less oil.

Test Results for the Control Variables

In the regression analysis also the control variables were measured. There were five control variables that were significant. Being Muslim, being Hindu, GDP, military expenditures and total exports are independent variables that have a significant effect on the contribution of military and police personnel in UN peace keeping operations. Of all significant variables the most significant variables are military expenditures and being Hindu and the least significant variable is size. The strongest significant relationship that is found in this regression model is between GDP and military and police contributions in UN peacekeeping operations. This relationship is positive while we expected a negative relationship in our hypothesis. The second strongest significant relationship is between military expenditures and military and police contributions to the UN. The third strongest significant relationship is between export and military and police contributions. The fourth strongest significant relationship is between being Hindu and UN military and police contributions. This relationship was positive which means that Hindu countries contribute more that non-Hindu countries. The fifth and last significant relationship is between being Muslim and military and police contributions. This relationship was also positive which means that countries that are Muslim contribute more than countries that are not Muslim.

These results of the regression analysis show us that the only variables that can explain the independent variables are: Being Muslim, Being Hindu, GDP, military expenditures and total exports. According to these test results we can thus accept hypotheses 4, 5 and 7. Countries that have a larger military expenditure are less cooperative in collective goods problems, while countries that are more democratic are more cooperative in collective goods problems. Religion has a significant effect on international cooperation in collective goods problems because countries that are Hindu and countries that are Muslim contribute more towards the military alliance than countries with other religions. Hypotheses 3 and 6 have to

be rejected. In these tests significant relationships have not been found between size and cooperation in collective goods problems and democracy and cooperation in collective goods problems. Hypothesis 2 also has to be rejected because even though the GDP has an significant effect on the contribution of military and police personnel in UN peace keeping operations, this effect is was negative while we had predicted a positive correlation in our hypothesis.

Conclusion on Oil Wealth and Contributions to Military and Police Personnel in UN Peacekeeping Operations

After deriving the results from the tests in our second case, how do these results provide an answer to our research question? The research question is: 'What is the relationship between oil wealth and international cooperation in collective goods problems?'. Our expectation in the hypothesis was that this relationship should be negative because our theory says that oil countries are more powerful since they derive power from oil revenues that they can use to influence other countries. For other states the power that these countries have makes it harder to influence oil wealthy countries. When dealing with collective goods problems cooperating is even harder than in other situations where cooperation is needed since it is in every country's personal interest not to cooperate. We expected the most powerful countries to be less cooperative and in our theory these are the countries with more oil.

In our second case we started off with a regression analysis. Out of the results from the regression analysis we could not find evidence for the main hypothesis. There was no significant evidence for a relation between oil production and the contribution of countries of military and police personnel in UN peace keeping operations. For further examination on the research question we ran a scatter plot with curve estimation to take a closer look at the

distribution of the data. Even though the relation in the regression analysis is not significant, this does not have to mean that countries with more oil are equally cooperative as countries with less oil. The scatter plot showed us that oil wealth does have a major effect on cooperation when it comes to contributing military and police personnel in UN peacekeeping operations. Although there is no significant correlation, the results of the scatter plot provide evidence that the contribution of all the wealthier oil countries is minimal to none. After having reached relatively small amounts of oil production per capita countries stop cooperating in the military alliance while a lot of countries with minimal to no oil production per capita do contribute. This means that the main hypothesis has been met in the statistical analysis of our second case and that we can answer our research question by saying that in the second case, in which we measured contribution towards a military alliance, oil relates negatively with international cooperation in collective goods problems.

Oil Wealth and State Cooperation in Collective Goods Problems: Overall Conclusion

In this statistical analysis we tried to provide an answer to research question which was: What is the relationship between oil wealth and international cooperation in collective goods problems? We expected oil wealth to have an influence and we expected this influence to be negative since oil gives countries more power and independence to be non-cooperative. This idea is a realist approach towards explaining state behavior since realists explain state behavior in terms of power. Our main hypothesis was:

Hypothesis 1: Countries that produce more oil are less cooperative in collective goods problems than countries that produce less oil.

We have tested this hypothesis in two different cases which were both collective goods problems. The first one was the contribution towards a healthy environment and the second

case was the contribution towards a military alliance. Our main hypothesis could be accepted in both cases and with this given oil wealth seems a credible explanation for state behavior in collective goods problems. Besides that a significant relationship has been found, this relationship also turned out to be quite strong, especially in the case of the contribution towards climate change but also in the case of non-cooperative behavior in the military alliance as we have seen in the scatter plot. The scatter plot showed us that there were not any exceptions of countries that produce substantive amounts of oil and did contribute military and police personnel to UN peacekeeping operations. Do our results mean a victory for our realist theory? To understand the importance of the relationship between oil wealth and cooperative behavior in collective goods problems our test results had to be compared with the test results of the control variables derived from different IR theories. We have included six control variables which had to ensure us that the analysis would be as accurate as possible. These control variables were explanations for state behavior in collective goods problems derived from the three main IR theories, this were realism, liberalism and constructivism. All three approaches try to explain state behavior in collective goods problems and in order to get an idea which explanations might actually be of influence all explanations needed to be compared.

The second hypothesis had to be rejected in both cases. GDP does seem to have a significant influence on cooperation in collective goods problems but countries with a larger GDP seem to contribute more instead of less as realists expected. Further research might find which causal mechanisms cause this relationship. Hypothesis 3 had to be rejected in both cases. Size does not have a significant effect on cooperation in these collective goods problems. Hypothesis 4 could only be accepted in the second case. The amount of military expenditures does not have a significant effect on climate change contributions in our first case but countries with larger military expenditures do contribute significantly less towards

the military alliance that was measured in our second case. The 5th hypothesis could be accepted in both cases. Countries that export more cooperate more in collective goods problems. This makes international trade a credible explanation for cooperation. Hypothesis 6 could only be accepted in our first case. According to our analysis countries that are more democratic do contribute significantly more the global warming issue but not towards military alliances. Hypothesis 7 could only be accepted in our second case. Our analysis showed that religion does have a significant effect on the contribution in military alliances but not towards global warming contributions.

As we can thus conclude, only two explanations for state cooperation in collective goods problems withstand when analyzing both cases. These two explanations are international trade as having a positive effect on cooperating behavior in collective goods problems and oil wealth as having a negative effect on cooperating behavior in collective goods problems. In the first case oil production had the strongest significant relationship of all variables and in the second case a scatter plot showed that all substantial producing oil countries give a minimal to no contribution. According to our analysis a final answer to our research question after interpreting the results of our statistical analysis will thus be: There is a negative relationship between oil wealth and cooperation in collective goods problems. Countries with a larger oil production are less cooperative in collective goods problems than countries with a smaller oil production. From all realist theories our theory of oil as an explanation of non-cooperative behavior in collective goods problems was the only explanation that withstood both tests. The other explanation that withstood both analyses was international trade, an explanation from the liberalist approach for cooperative behavior in collective goods problems. The constructivist explanation did not pass any test. Because both theories that withstood the tests explain cooperative and non-cooperative behavior they do not have to exclude each other and they can actually complement each other. Further research is needed to get a better impression

of the importance of these explanations and of the causal mechanisms, which can bring more evidence for the realist and liberalist theories on cooperation of states in collective goods problems. For now the test results already give an interesting view on how oil might play an important role in the incentives for cooperation, especially in collective goods problems. Even though time and further research has to tell, oil could possibly be the most important factor to influence cooperative behavior in collective goods problems in a negative way. If we can examine this further we might get closer to a solution for a more cooperative world in the future.

Conclusion

It is striking how many controversial leaders in the world seem to be the leaders of oil rich countries. Ahmadinejad, Hugo Chavez, Saddam Hussein, Putin and Khadafy all were or still are people that have often refused to cooperate in the international community. They also are the leaders of some of the richest oil countries in the world. Is this a coincidence? Or is there a reason for the seemingly non-cooperative international behavior of oil rich countries? This is what we wanted to examine in this research. The research question of this study was:

What is the relationship between oil wealth and international cooperation in collective goods problems?

There is explicitly chosen to research state behavior in collective goods problems because collective goods problems occur in circumstances in which cooperation is difficult. Collective goods problems arise when a public good is created by the members of a group or a society. Public goods are available to every individual member regardless of the individual contributions of those members. This creates a situation in which, according to rational choice models, cooperating is irrational behavior. The benefits of cooperating do not outweigh the costs and as a result there is always an incentive by members to free ride or to contribute less. The free riding problem refers to the situation that occurs when the costs of participating are high while participating does not have significant extra benefits. If this happens there is no individual incentive to participate for a rational actor because actors have almost nothing to gain from participation (Olstrom, 2010: 555). In a situation like this it is rational not to participate and to free ride by enjoying the benefits gained by the participative behavior of others. If all countries would think in this manner expensive collective goods could not exist, but even though these particular circumstances make cooperation harder, collective goods do

exist and groups of nations serve their collective interests when forgoing their own interests (Olstrom, 2010: 551). This means that something has to be missing from the traditional rational choice models that explain state behavior.

The question why countries do or do not cooperate in collective goods problems has intrigued IR scholars because in contrast to domestic politics, where the state has the means to force socialization within society with a common good, the international system is anarchic and there is no overarching government that has the power to enforce countries to cooperate in collective goods problems. Does the fact that countries do cooperate mean that they act irrational, or are there other incentives that can explain why some countries do cooperate while others do not? Since collective goods problems are making circumstances really hard to cooperate, especially in international relations, examining how cooperative countries are in collective goods problems gives one the ability to study the incentives of countries for cooperation. Therefore this question is one of the most important questions in IR theory.

IR scholars have given different explanations for state behavior in collective goods problems but until now no specific theory has been found for why certain countries do or do not cooperate that could withstand in all collective goods problems. For every situation there seem to be other reasons why states cooperate or not. Our theory, which says that oil is the main factor that can explain cooperation in collective goods problems, is a theory that has not been examined yet. Oil gives countries a certain form of power because countries with more oil are more independent and have more opportunities to act in their self interest without having to consider the will of other countries. Oil rich countries receive constant revenues from oil export and this money gives them more abilities not to cooperate while it is easier to make others cooperate. This theory can be classified as a realist approach towards the question why countries do or do not cooperate in collective goods problems.

Realism is the oldest and one of the three most important IR approaches. Realists see countries as rational actors that act out of self interest. According to rational choice models non-cooperative behavior is rational in collective goods problems. The realist explanation for the question why some countries do cooperate while others do not is because countries will cooperate when they are dominated by more powerful actors. Scholars from the realist school of thought describe state behavior in collective goods problems in terms of power. A state has certain characteristics that indicate the state's capacity to exercise power and influence others. These indicators can be, for example, wealth, military power, or size of the state. Oil wealth can also be seen as a form of power because oil wealth leads to a large constant income which makes these countries less dependent on other countries and gives countries the ability to buy powerful resources like military resources. Oil wealth gives countries also better negotiation positions because other countries also need natural resources which make them more dependent on oil rich countries. For these reasons having oil wealth can make it easier not to cooperate in international collective goods problems.

To test if this theory was true we have used two typical examples of collective goods problems in this thesis. The first one was contributing to the global warming issue and the second one was contributing to a military alliance. Stopping global warming is a collective goods problem because, on the one hand, each individual country has an interest to burn fossil fuels because this is important for their economy while, on the other hand, it is in the interest of the whole group to stop global warming. As in all collective goods problems there is an incentive for countries to free ride since every country can still benefit from the reduction of global warming even if they will not contribute as long as the other countries contribute since the good is available to all members of the group. The same counts for a military alliance. Every member of the group wants a strong military alliance but also here each individual country benefits the most by contributing as little as possible since contributing towards a

military alliance is expensive and bad for the economy. As long as all other countries contribute the military alliance will exist and every member of the group can benefit.

We have chosen six control variables derived from explanations from the three main IR theories which are realism, liberalism and constructivism. We did this to better test the accuracy of the results and to get a clearer insight in into the factors that are influential for cooperation in collective goods problems. In the analyses of both the cases oil turns out to have a strong negative effect on international cooperation. Rich oil countries do not cooperate in collective goods problems. In both cases the realist explanation of oil wealth as a reason for non-cooperative behavior in collective goods problems is the only variable that withstands in our analysis along with the liberalist explanation of international trade as a reason for cooperative behavior in collective goods problems. Of these two variables the strongest and most significant relationship is between oil production and carbon dioxide emissions, this relationship is more than twice as strong as the relationship between total exports, which is the indicator for international trade, and carbon dioxide emissions. Total exports is significantly related to the contribution of military and police personnel to UN peacekeeping operations. In the regression analysis this relationship is not particularly strong nor weak compared to the relationships between the other significant variables in the analysis and military and police personnel contributions to UN peacekeeping operations. In the results of the regression analysis the relationship between oil on the contribution of military and police personnel to UN peacekeeping operations is not significant but the linearity of this relationship could be observed in the scatter plot where one can see that all countries that produce substantive amounts of oil do not contribute military and police personnel at all. Both variables thus seem important. In the first case oil production is clearly more important while in the second case the variables are harder to compare to decide which variable is superior over the other when explaining cooperation.

Oil wealth turns out to be an important factor to explain non-cooperative behavior. Does this mean that our theory is accurate? We cannot say that our theory is accurate because statistical analysis is limited to quantitative research. The results of our analysis provide no information about the causes and mechanisms that drive oil rich countries to act less cooperative than other countries. To understanding these causal mechanisms further qualitative data is needed.

Implications for IR Theory

IR theorists have attempted to provide answers to the questions why countries do or do not cooperate in collective goods problems, if countries act irrational when they do cooperate and what are the incentives for cooperative behavior in collective goods problems. On these questions this research has also tried to provide an answer.

In our theory we expected that oil wealth was the main incentive to influence cooperation negatively based on the assumption that oil is an important indicator of power. We expected the realist answer to the first question, (which was: why do or do countries not cooperate?) based on the dominance principle, to be the accurate. Realists claim that there is a power hierarchy in which the actors on top dominate the less powerful. The answer why states cooperate in collective goods problems is, according to realists, because they are dominated by more powerful countries. If countries are more powerful they will thus be less cooperative then when they are less powerful. In our examination we have found evidence in our two cases that oil countries are less cooperative than countries without oil. If oil truly is such a strong indicator of power, as we expected in our theory, the results of this research might be evidence for the realist theory that the power hierarchy and dominance are the main incentives for cooperation of countries in collective goods problems. Does this mean that the other IR approaches have inaccurate theories? Not necessarily, we have not found evidence for the

liberalist and constructivist explanations based on the identity principle. According to this theory members of a community act irrational because they care about one another and are therefore willing to sacrifice their own interests to the benefit of the interests of others. More research is needed to decide if evidence can be found for this explanation. For the reciprocity principle, mainly used by liberalists, we have found evidence. The liberalist theory of reciprocity states that actors cooperate because contributing behavior is rewarded while self interested behavior is punished. The idea that more trade is related to cooperation in collective goods problems is based on this principle.

International trade is a variable that is derived from the liberalist idea that international trade is an explanation for cooperation in collective goods problems. The idea behind this explanation originated in Immanuel Kant's work on peace and cooperation. He stated that trade promotes peace because it increases wealth, cooperation and global well-being while international conflict will become less likely in the long term since this will disrupt any process that is good for the economy and governments will prevent this (Goldstein and Pevehouse, 2008: 85, Kant, 1795). Other authors that have extended this theory are Keohane and Nye who claim that the economic interdependence that arises between countries as a result of international trade leads to more cooperation and less conflict (Crane & Amawi 1997: 107-109, Keohane and Nye, 1997).

Oil wealth and international trade, the two explanations and incentives for cooperation that we have found evidence for, do not necessarily exclude each other but can supplement each other. Power and independence derived out of oil wealth can be an explanation for non-cooperative behavior in collective goods problems. Countries with more oil have the power to be non-cooperative because they dominate less powerful countries. Non-cooperative behavior barely affects their cost-benefit analyses and the benefits of being non-cooperative will always outweigh the costs. International trade, in contrast, can be a stimulator for

cooperation. Countries that do not have natural resources but that get their revenues from international trade are more dependent on other countries (Crane & Amawi 1997: 107-109, Keohane and Nye, 1997). Non-cooperative behavior can directly have negative effects on international trade. The costs become higher than the benefits and therefore it is better to be cooperative. In both explanations countries are still rational actors. They make a cost-benefit analysis but the outcomes of the analysis are different for countries that drive a lot of international trade or for countries that get their revenues from oil export.

If we can find evidence in more cases that oil wealth does play an important factor in cooperation in collective goods problems and if we can discover a certain trend this could bring us closer to answering one of the most important question in IR theory, which is: 'Why do countries cooperate in collective goods problems?' The arguments of realists (who state that power is the main driving force behind state behavior and states with more power and independence derived out of oil wealth have more abilities to act out of self interest and to thus not cooperate) are then better supported by evidence. It could also mean that oil at the moment is being underestimated and might be one of the most important indicators for power.

Social and Political Implications

Hopefully the results of this research can be a starting point for further research of this phenomenon because this research can have positive social and political implications. Knowing that oil wealth is an incentive for states to cooperate or not is important for the international community because, even though it needs further research, this could possibly be an important factor that determines the effectiveness of international cooperation in the future.

To facilitate future change for more coherence between countries in collective goods problems, like environmental, non proliferation, human rights and conflict issues, it might be beneficial to appoint the mechanisms that increase or decrease the productiveness of

international collaboration. If we do this it is easier to determine how the situation can be improved. Knowing that oil wealth is a factor that leads to non-cooperative behavior can lead to possible steps to stimulate multilateralism, for example by stimulating international trade or other factors that stimulate cooperative behavior (possibly economic or political development). If international trade does turn out to be an important factor in further research for the cooperative behavior of states in collective goods problems, as it was in the examination of our two cases, international trade with oil wealthy countries in other areas than natural resources can be stimulated to make oil wealthy countries not only dependent on their oil export, but also on other economic activity. This might eventually change the outcomes of the cost-benefit analyses oil countries make to decide if they will cooperate or not, and this might make the benefits of cooperation larger than the costs. By improving cooperation in collective goods problems important collective goods issues in world politics could possibly be resolved. This could lead to a more healthy and peaceful world, a collective good where all humans would benefit from.

Recommendations for Further Research

In this research two cases are examined and although the results are striking we are in a too early stage to state that we have discovered a trend. There is a possibility that the importance of oil wealth in these two collective goods problems is a coincidence and that in other cases this theory does not withstand. There can also be other variables that were not taken into account in this examination that can explain cooperative behavior better than oil wealth. More cases of cooperation in collective goods problems need to be examined to see if oil wealth is equally important across cases of collective goods provision in IR. Also more variables, like embedding in international organizations (liberalism), shared history (constructivism) and population (realism), can be taken into account to see if there are other variables that are

important factors for state cooperation in collective goods problems. Future studies could investigate the mechanisms that determine the cooperative behavior of oil wealthy countries in collective goods problems. Since states with more exports turned out to be more cooperative than states with fewer exports we think that international trade also is an explanation that needs to be examined in more collective goods problems cases.

Bibliography

Amawi, A., Crane, G. T. (1997) *The Theoretical evolution of international political economy: a reader*. New York: Oxford University Press.

Auty, R. M. (1993). *Sustaining Development in Mineral Economies: Te resource Curse Thesis*. Londen: Routledge.

Babbie, E. (2010) *The practice of social research.* Belmont, Wadsworth.

Barnett, M. (2008) 'Social constructivism', in Baylis, J., Smith, S. and Owens, P. *The Globalization of World Politics.* Oxford: Oxford University Press.

Baylis, J., Smith, S. and Owens, P. (2008) *The Globalization of World Politics.* Oxford: Oxford University Press.

Benjamin, Daniel K (2001). "Fisheries are Classic Example of the Tragedy of the Commons". *PERC Reports* (19). Archived from the original on 2005-02-19.

Blum, Justin (22 November 2005). "Chavez Pushes Petro-Diplomacy". *Washington Post*.

Bruce, M. et. al. (1971) "Collective Goods and International Organization". International Organization. 25: 4.

Brunnschweiler, C. N. & Bulte, E. H. (2008). "Linking Natural Resources to Slow Growth and More Conflict". *Science* 320 (5876): 616–617.

Cole, D.H., 2008. Climate change and collective action. Current Legal Problems 61, 229–264.

Colgan, J.(2013) *Petro-Aggression: When Oil Causes War*. Cambridge, Cambridge University Press.

Chavez to U.S. Officials: 'Go to Hell', *The Washington Post*, 22 January 2007.

CIA The World Factbook. Available at <https://www.cia.gov/library/publications/the-world-factbook/> (1 June 2013).

"CO2 emissions (metric tons per capita)". Data.worldbank.org. Retrieved 2013-01-07.

Cook, K. S., J. O'Brien, and P. Kollock. 1990. 'Exchange Theory: A Blueprint For Structure and Process'. In *Frontiers of Social Theory*. Edited by G. Ritzer. New York: Columbia University Press, 1990.

Davis, B. L. (1990). *Qaddafi, terrorism, and the origins of the U.S. attack on Libya*.

Democracy Index 2011. Avalable at <http://www.sida.se/Global/About%20Sida/S%C3%A5%20arbetar%20vi/EIU_Democracy_Index_Dec2011.pdf> (1 June 2013).

Dixit, A., Skeath, S. Reiley, D. H. (2009) Games of Strategy. New York, W.W. Norton & Company.

Donelly, (2000) *Realism and International Relations.* Cambridge: Cambridge University Press.

Dunne, T. (2008) 'Liberalism', in Baylis, J., Smith, S. and Owens, P. *The Globalization of World Politics.* Oxford: Oxford University Press.

The Energy Chamber of Trinidad and Tobago. Available at <http://www.energy.tt/index.php?categoryid=298&p2001_articleid=925> (1 June 2013).

EPA, United States Environmental Protection Agency, http://www.epa.gov/.

FAQ's about the Human Development Index, UN Human Development Reports.

Field, A.(2005). *Discovering Statistics Using SPSS*. London, Sage Publications.

Fontaine, R. and Exum, A. (5 January 2010). "Yemen's coming disaster; Its oil is expected to run out in 2017, but Yemen hasn't planned for its young, poverty-ridden population's post-oil future". *Los Angeles Times*.

Freedom house.

Friedman, Thomas L. (2006). "The First Law of Petropolitics". *Foreign Policy*. 2009-06-29.

Goldstein, J. S., Pevehouse, J.C. (2008) *International Relations*. New York: Pearson Longman.

Holland, P. W. (1986) “Statistics and Causal Inference”. Journal of the American Statistical Association. 81: 396.

Hutcheson, G. D. (2011). Ordinary Least-Squares Regression. In L. Moutinho and G. D. Hutcheson, The SAGE Dictionary of Quantitative Management Research. Pages 224-228.

Hutcheson, G. D. and Sofroniou, N. (1999). *The Multivariate Social Scientist.* London: Sage Publications.

Oliver, P. E., Marwell, G.and Teixeira, R. (1985) 'Interdependence, Group Heterogeneity and the Production of Collective Goods: A Theory of the Critical Mass, I'. *American Journal of Sociology*, 90: 522-556.

Olstrom, E. (2010) “Polycentric systems for coping with collective action and global environmental change”. *Global Environmental Change*. 20, 4: 550-557.

Hindess, B. 1988. *Choice, Rationality and Social Theory*. London: Unwin Hyman.

"How the mighty are falling". *The Economist*. 5 July 2007. Retrieved 17 July 2007.

International Monetary Fund (2011) World Economic Outlook: Tensions from the Two-Speed Recovery.

Iran and Venezuela plan anti-U.S. fund, *USA Today*, 14 January 2007.

Iranian leader denies Holocaust, *BBC News*, 22 December 2005.

Iranian president: 9/11 was 'big lie', *CNN*, 7 March 2010.

Kant, I. (1795) *Perpetual Peace.* Edited by Lewis White Beck. Bobbs-Merrill, 1957.

Russett, Bruce, and John Oneal. *Triangulating Peace: Democracy, Interdependence, and International Organizations.* Norton, 2000.

Kaul, I and Mendoza, R. U. (2003) "Advancing the Concept of Public Goods". In Kaul, I. et. al., Providing Public Goods, Managing Globalization. Oxford, Oxford University Press.

Keohane, R.O. & Nye, J.S. 1997. "Interdependence in World Politics." In Crane, G.T. & Amawi, A., *The Theoretical evolution of international political economy: a reader*. New York: Oxford University Press.

Keohane, R. O. (1986). "Reciprocity in international relations", in *International Organization*, Vol.40, No.1.

Keohane, R. O., Nye, J. S. (2001). *Power and Interdependence*. New York: Longman.

Mahdavy, H. (1970) "The Patterns and Problems of Economic Development in Rentier States: The Case of Iran," in M. A. Cook, ed., *Studies in Economic History of the Middle East* London: Oxford University Press, 428.

Mendez, R. P. (1999) "Peace as a Global Public Good", in Kaul, I. Grunberg, I. and Stern, M. A. *Global public goods*. Oxford, Oxford University Press.

Millennium Development Goals Indicators.

Olson, M. 1965. *The Logic of Collective Action*. Cambridge, Mass.: Harvard University Press.

PBL Netherlands Environmental Assessment Agency (2011) Long-term Trend in Global CO2 emissions 2011.

Pearce, Fred (14 January 2010). "Qatar to use biofuels? What about the country's energy consumption?". *The Guardian*.

Pugh, M. (2005) 'Peacekeeping and Humanitarian Intervention' in White, B, Little, R and Smith, M. *'issues in World Politics'*. New York: Palgrave McMillan, pp. 118-136.

Rayner, Gordon (28 August 2010). "Yvonne Fletcher killer may be brought to justice". *The Daily Telegraph* (London).

Reagan , R (10 March 1982). "Proclamation 4907 – Imports of Petroleum". US Office of the Federal Register. Available at <http://www.reagan.utexas.edu/archives/speeches/1982/31082a.htm> (1 June 2013).

Reuters, P. "Gaddafi Given Yugoslavia's Top Medal By Milosevic". 26 October 1999.

Root et. al., (2002) "Fingerprints of global warming on wild animals and plants", Nature. 421, 51-60.

Ross, M. (2001). "Does Oil Hinder Democracy?", *World Politics*, 53, 3: 325-361.

Ross, M. (2004). "Does Taxation Lead to Representation", *British Journal of Political Science*, 34: 229-249.

Ross, M. (2006). "A Closer Look at Oil, Diamonds, and Civil War". *Annual Review of Political Science*. 9: 265–300.

Sandler, T (1998) "Global and Regional Public Goods: A Prognosis for Collective Action". Fiscal studies. 19, 3: 221-247.

Sandler, T. (2004) *Global Collective Action*. Cambridge: Cambridge University Press.

Sahney, S., Benton, M.J. & Falcon-Lang, H.J. (2010). "Rainforest collapse triggered Pennsylvanian tetrapod diversification in Euramerica". *Geology* 38 (12): 1079–1082.

Scott, J. (2000). 'Rational Choice Theory' in Browning, G., Halcli, A. and Webster, F. *Understanding Contemporaty Society, Theories of the Present.* Trowbridge, Cromwell Press. Pp. 126-136.

Shepsle, K. A. and Bonchek, M. S. (1997) *Analyzing Politics*, *Rationality, Behavior, and Institutions*. New York, Norton.

Sterling-Folker, J. (2006). *Making Sense of International Relations Theory*. Boulder, Lienne Riener Publishers.

Stijn, J. P. C. (2005). "Natural resource abundance and and economic growth revisited". *Resources Policy*, 30, 2: 107-130.

Todd, S. (2004). *Global collective action.* Cambridge, Cambridge University Press.

UN Human Development Index 2011. Available from: <http://www.un.org/en/> (1 June 2013).

UN Ranking of Military and Police Contributions to UN Operations, Available at <http://www.un.org/en/peacekeeping/contributors/2013/jan13_2.pdf.> (1 June 2013).

UN Website. Available from: <http://www.un.org/en/> (1 June 2013).

Vitousek, P. M. (1994) "Beyond Global Warming: Ecology and Global Change". *Ecology.* 75, 7: pp. 1861-1876.

Vogler, J. (2005) 'Environment' in White, B, Little, R and Smith, M. *'Issues in World Politics'*. New York: Palgrave McMillan, pp. 195-214.

Wendt, A. (1994). Collective Identity Formation and the International. *American Political Science Review*, vol. 88, no. 2, pp. 384-396.

Woerdman, E. (2004). *Politiek en politicologie*. Houten, Wolters-Noordhoff.

World Development Indicators database. Available from: <http://data.worldbank.org/data-catalog/world-development-indicators> (1 June 2013).

World Resources Institute (2007). Available at <www.wri.org>. (3 November 2009).

Yemen's Second National Communication under the United Nations Framework Convention on Climate Change. Available at http://unfccc.int/national_reports/items/1408.php> (1 June 2013).